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# Headwaters

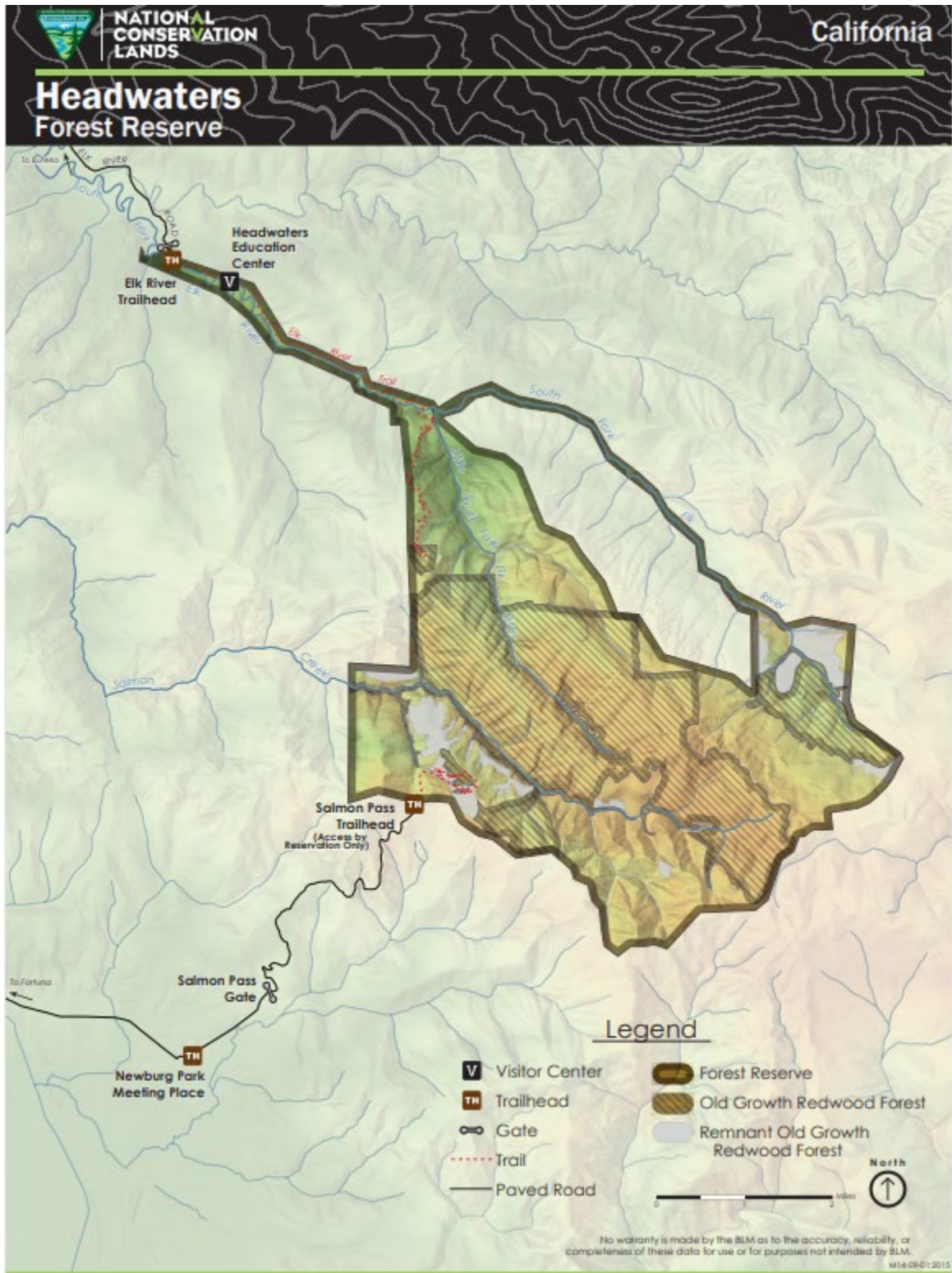
Forest Reserve

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# Map



# Accomplishments

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The Headwaters Forest Reserve had another successful year in 2022. The Reserve has sustained the spike in visitation levels associated with the 2020 COVID-19 pandemic. Visitors have enjoyed and utilized the Elk River Trail, improved Elk River Trailhead and kiosk, parking lot expansion, and the seasonal South Side Trail. Docents with Bureau of Land Management (BLM) partner organization Friends of Headwaters (FOH), and BLM recreation and interpretive staff have continued regular guided field trips and special events in the Reserve. Regular, twice weekly maintenance of popular facilities was conducted.



Riparian forest restoration was conducted on 46 acres adjacent to the Elk River, including instream placement of cut trees to improve woody debris recruitment. An additional 55 acres are under contract in the Alicia Pass area to reduce hazardous fuels and improve forest health. The Reserve joined a pilot study that will allow researchers to remove Barred Owls and protect the Northern Spotted Owl.

# Challenges

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FOH is an informal, partner Friends group that provides essential interpretation and public access services to the public in the Reserve. In collaboration with the BLM interpretive staff, FOH provides trained docents to lead the public across private timberlands to the Salmon Pass Trailhead and on through protected old growth forest via the Salmon Pass Trail. FOH also provides seasonal staffing to the Headwaters Education Center, a reconstructed historical train barn, and works with BLM interpretive staff to help organize and facilitate special public events. FOH does not yet have the capacity to become a formal NGO and lacks a mechanism to raise self-supporting funds, thus requires BLM support, mentoring, training, and networking with other Friends groups to maintain ongoing inspiration and enthusiasm.

Wildlife monitoring has continued to find a declining population of Northern Spotted Owls (NSO) as the Barred Owl population continues to expand and encroach on NSO habitat. After years of declines, a research project will be implemented in 2023 to address this challenge.

# Visitors

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Headwaters Forest Reserve visitation has continued to increase. In FY 2022 an estimated 106,000 total visits, with approximately 180 visitors per day. This data, collected with vehicle counter data at the Elk River Trailhead, represents a 25% increase over FY2020 visitation numbers.

Elk River Trailhead is the primary trailhead for Headwaters Forest Reserve, located near the town of Eureka, CA. Many of the daily visitors are from the surrounding population of 25,000 people. During the summer months, visitation increases. Most of those visitors are from the greater San Francisco Bay Area.





Use of the Salmon Pass Trail is via a docent-led, reservation only hiking tour offered during the months of May 15 through November 15. BLM interpretive and FOH staff were able to recruit and train two additional docents in 2022, bringing the total number of active docents to four. The reservation system, accessed from the BLM Salmon Pass Trailhead website, has been successful and the BLM-FOH partnership was able to provide 19 Salmon Pass Trail interpretive tours serving a total of 175 people in 2022.





# Partnerships

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The Arcata Field Office (AFO) continues to successfully work with a number of partners in managing the Headwaters Reserve.

FOH operates under individual volunteer agreement status and is hoping to one day have 501(c)(3) non-profit status of its own. FOH is critical in providing docents for a reservation only hiking tour that runs May 15 through November 15 on the south side of the Reserve. These volunteers also maintain weekly openings of the Headwaters Education Center through the summer months and help BLM host or facilitate special events such as community outreach hikes, workshops, classes, and thematic performances. In April of 2022, Linda West, FOH lead, attended the Conservation Lands Foundation Workshop in Albuquerque New Mexico. She was able to network with other Friends groups to explore the capacity, process and requirements of becoming a 501(c)(3) organization and maintaining that status.



The AFO hosted two members of the AmeriCorps-California Conservation Corps Watershed Stewards Program (WSP). The WSP members taught watershed-based curriculum in elementary school classrooms and led students along the Elk River trail at

Headwaters to see spawning salmon and learn about their life cycle. The members also conducted watershed and fish monitoring that improved the BLM's understanding of river and fish population health.

Cal Poly Humboldt has been providing safe storage for archaeological collections that were made during cultural resources work at Headwaters Forest Reserve during the years of 2000 to 2014. Museum collections are very useful for the purposes of research, but also provide information that is useful for educational and interpretative products that benefit the public. In 2022, the BLM began discussion about the possibility of Cal Poly Humboldt students assisting with the preparation of the collection for curation in a federally approved curation facility.

Maintenance and recreation staff worked tirelessly to keep the popular Headwaters hiking trails open. Keeping up with damage from powerful winter storms is not unusual, but always proves to be a challenge. Recent graduates of the AFO Chainsaw Training were able to put their new skills to work clearing some large diameter trees from the Elk River Trail, following a windstorm. The seasonal opening of the newer Southside Trail was postponed due to a failing bridge abutment. Quick action and ingenuity from the small workforce reopened the trail by repairing the bridge with an additional cantilever section so that the trail could safely be enjoyed by visitors once again.







BLM has been working with Save the Redwoods League since 2015 on an 88-acre Land and Water Conservation Fund acquisition project known as the 'Westfall Acquisition' (shown below) adjacent to the north end of the Headwaters Forest Reserve that would provide additional opportunities for watershed restoration and recreation public access. The acquisition project has been complex involving encumbrances needing resolved, as well as an existing house needing to be 'carved out' of the lands intended for transfer to the BLM that necessitated a fresh cadastral survey which was completed in 2022.

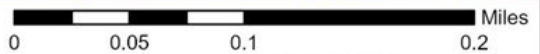


# Westfall Acquisition



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-  Arcata Field Office
-  Westfall Acquisition
-  Bureau of Land Management
- Rivers**
-  Perennial



Scale: 1:4,500  
Coordinate System: NAD 1983 UTM Zone 10N





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# Science

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## Wildlife

Monitoring for NSO continued in 2022 with Barred Owl presence continuing to limit NSO recovery within the Reserve. Only two individual Spotted Owls were detected this year.

Barred Owl



Northern Spotted Owl



In 2022 funding was obtained to conduct a research project that will experiment with removal of Barred Owls within the Reserve. An Environmental Assessment was completed and a research team from the University of Wisconsin-Madison was identified to complete the experimental removal. The National Fish and Wildlife Foundation will provide oversight for this U.S. Fish and Wildlife Service permitted removal. The first removal is scheduled for early spring of 2023.

A small mammal research project initiated by Cal Poly Humboldt in 2019 was completed in 2022. The results identified species present in both the old growth and previously harvested areas within the Reserve and compared different trapping methods used.



## Fish

In the summer of 2022 BLM implemented Phase II of the 'accelerated recruitment' stream restoration project in South Fork Elk River. The project used the densely stocked riparian forests as a source of large wood to promote complex habitat forming processes for threatened coho salmon and steelhead. In total, approximately 300 trees were added to the stream, which more than quadrupled the amount of large wood in the 1.5-mile project reach.



2022 marked the sixth year of spawner surveys for salmon and steelhead in Headwaters using standards outlined by California Department of Fish and Wildlife. The BLM Arcata fisheries team surveyed all reaches in the South Fork Elk River known to support spawning and conducted snorkel surveys in the same reaches for juvenile salmon and steelhead. Monitoring the South Fork Elk River in Headwaters is vital because the river is

an anchor for recovery of imperiled coho salmon, and the monitoring information informs instream restoration projects.



## Cultural Heritage

The AFO prepared a nomination to place the Falk Archaeological District on the National Register of Historic Places. Over the past few years, the nomination has been vigorously reviewed by the BLM California State Office and the California Office of Historic Preservation. BLM notified elected officials in Humboldt County about the nomination and invited the officials to review the nomination package and provide any comments. The nomination is now with the BLM's Federal Preservation Officer to review and certify, and then officially submit to the Keeper of the Register in Washington D.C.

A heritage site steward, Rusty Goodlive, routinely monitors cultural heritage areas within the Headwaters Forest Reserve, at times in conjunction with the AFO Archaeologist. California BLM greatly relies on volunteer site stewards and is actively involved in supporting and promoting the California Archaeological Site Stewardship Program (or CASSP).



# Climate Impacts

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Many climate models show the north coast area relatively buffered from the impacts of climate change. However, a long-term trend of overall warmer temperatures continues to contribute to drought conditions in the soils of northern California, at least seasonally, despite years with normal rainfall.

A recent 2022 study published in *Forest Ecology and Management* and led by Cal Poly Humboldt Professor Stephen Sillett, investigated how redwoods across their range are responding to the changing climate, and what these responses mean for long-term carbon sequestration and biodiversity. His team found that although redwoods in the north are less drought-sensitive than those in the south, drought sensitivity is increasing even without changes in precipitation in their range due to warming. Drying power of air increases exponentially with temperature, and this has important consequences for trees. In time, warmer temperatures may lead to death of treetops, and reduced radial growth in the Reserve. At the same time, old-growth and secondary forest trees would tilt production toward an increase in rot resistance through increased fungicide production and away from growing new heartwood because of an increase in excess sugars. From a long-term, carbon sequestration perspective, accelerating secondary forests toward larger, old-growth trees would be a positive in the Reserve. From a biodiversity perspective, decay-resistant heartwood creates durable habitat for canopy diversity.

As Northern California continues to see an anomalously high number of wildfires, redwood trees, with their thick fire-resistant bark and capacity for clonal reproduction, are best positioned to survive wildfire best in an uncertain climatological future. Despite this biological characteristic, historical records suggest that the redwood forests in northern California near the Reserve have missed several fire-return intervals thus increasing the potential for wildfire. Therefore, wildfire remains a significant concern for forest management in the era of climate change.

# Climate Resiliency

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Headwaters resource managers have been taking steps in recent years to increase the climate resiliency of the resources inside the reserve. Many of the second-growth stands inside the reserve require extensive management to accelerate the return of old-growth or late seral stage forest conditions. Working with fire and fuels specialists, foresters in charge of managing the reserve have gone away from traditional thinning practices that often involved 'lop-and-scatter' treatments that left thinning residues to slowly decay.

More recent treatments have involved the use of masticators and chippers to promote forest development objectives while simultaneously reducing hazardous fuels. Old-growth, coast redwood forests store more carbon per acre than any other forest type. Forest managers are utilizing advanced modeling to quantify carbon sequestration from forest health treatments. Forest thinning to accelerate development of late seral stands in the Reserve results in significant carbon capture and will likely continue to be competitive for funding for projects designed to reduce the amount of carbon in the atmosphere. Forestry treatments are being developed by an interdisciplinary team of resource specialists to prioritize areas most in need of increased resiliency to climate effects, including the increased risk of wildfire, drought, and pests and pathogens, in order to protect critical resources and improve carbon sequestration.





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# Social and Environmental Justice

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The Headwaters Forest Reserve continues to be a location that promotes social and environmental justice and recreation equity by providing environmental education opportunities that span a wide range of social classes, mobility levels, and languages. Even through the peak of the COVID-19 pandemic, the Headwaters Forest Reserve has been open and free to access for local visitors as well as tourists from across the country. Enhancements to recreation facilities in recent years have increased access and recreation capacity in the Reserve while continuing to provide free access for the public. Events coordinated by recreation and interpretation staff have resumed that include environmental education field trips to students across a wide range of socio-economic classes.

## Events

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FOH scheduled events throughout the summer of 2022 including a spring bird walk with a BLM wildlife biologist, a native plant walk with a BLM botanist, a nature writing workshop with a local environmental writer, a guided cultural/natural history walk on the newly developed South Side Trail, and several bilingual family days, bringing the participant count to over 100 visitors. Throughout the year, the BLM Headwaters Park Ranger/ Interpretive Specialist led 12 formalized environmental education hikes on the Elk River Trail with over 220 participants. Participation in the hikes ranged from elementary school-age field trips to the Osher Lifelong Learning Institute, a partnership for aging adults through Cal Poly Humboldt. Interpretation and educational topics in the hikes included cultural heritage, salmon ecology, watershed restoration and forest health information.



**NATIONAL  
CONSERVATION  
LANDS**

## **Headwaters Forest Reserve**

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**Report compiled by: Arcata Field Office staff**

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