

How aerators and anglers keep Washington's highland lakes breathing

Lake aeration in north central Washington has become much more than a piece of equipment, it's a model of community-powered habitat stewardship.



[The Washington Department of Fish and Wildlife](#)

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Aeration in progress at Sidley Lake. Photo: Kevin Myrick

Keeping lakes healthy in north central Washington is a community success story: a small group of volunteers, local anglers, and nonprofits working together to support aeration systems in highland lakes throughout the region. The systems help to ensure that air can circulate through soil and water, ensuring healthy year-round habitats for fish.

How the aerators work and why they matter

Beneath the surface of these shallow highland lakes, decaying grass and other plant matter consume oxygen and release toxic gases. While this is a natural process, without intervention, those gases build up under winter ice, leading to dangerous low-oxygen conditions and sometimes large fish kills. Aeration systems pump air into the lake,

driving bubbles upward that mix the water column and, because aerators keep portions of lakes from freezing over, vent trapped gases at the surface.

That circulation does two important things: it releases harmful gases to the atmosphere, and it maintains open water where sunlight and UV rays can pass through, supporting natural oxygen production and providing critical breathing space for fish and overwintering waterfowl. The result is better year-round habitat, stronger fish populations and fisheries, and a healthier food web for everything from aquatic insects to birds.

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Lake Sidley. Credit: Justin Haug

History and tradition

Lake aeration in the north central Washington highlands dates to the 1950s, when WDFW installed Washington's first aerator project at Sidley Lake. In 1973, a local family stepped in to help operate and care for the Sidley aerator, beginning a multi-generation volunteer tradition that continues today.

Community volunteers continue to carry on that tradition. Volunteers monitor the equipment, adjust aerator run times, and even head out onto the ice after storms to restart systems when power is lost. This neighborhood-style effort is informal but highly organized in practice, with clear roles and a shared goal: keeping the lakes alive and productive for fish, wildlife, and people.

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Ice fishing in Okanogan County. Credit: Kevin Myrick

Year-round operation with winter as the focus

Highland lakes face stress in both winter and summer, and the aerators are managed accordingly. In winter, the priority is preventing full ice cover and oxygen crashes, so systems run to maintain open spots and movement under the ice.

In summer, aeration helps relieve heat and stratification by circulating cooler, deeper water and boosting oxygen levels during warm spells. Volunteers make seasonal adjustments by turning systems up, down, on, or off using years of experience and monitoring conditions on the lake.

Funding and support

The Highlands Community Support Coalition (HCSC), a local nonprofit, underwrites the Sidley and Molson lake aerators as part of its environmental support work. The [Okanogan County Fly Fishing Club](#) and donations received from community members funded a complete rebuild of the aging Sidley Lake aerator. Improvements included replacing a failing 50-year-old unit with a fully refurbished system originally used at Ell Lake and rebuilt in Spokane.

For decades, aerator operation depended on small community donations to cover maintenance and power costs. With HCSC's support, funding has become more transparent, allowing volunteers to focus on operation and on-the-ground stewardship.

Anglers also contribute valuable “sweat equity.” The fly fishing club supports this work by recording catch-and-release data on the lakes, helping track fish health and trends over time, and providing another line of evidence that aeration is working.

WDFW supports the use of aerators on our public access sites and stocked lakes when they're used to improve fish habitat and water quality. WDFW recognizes that these systems can be vital for preventing winter fish kills and maintaining stable oxygen levels in shallow, high elevation lakes such as Sidley and Molson. By allowing aeration equipment on managed waters, WDFW provides local communities and partners the flexibility to safeguard valuable recreational fisheries while ensuring that installations meet safety and environmental standards.

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Ice fishing derby on Sidley Lake. Credit: Kevin Myrick

Community, fishing, and open water

The benefits of aeration are easy to see on a cold winter morning at Sidley Lake. Open lanes of dark water slice through the ice, and those leads become magnets for ducks, geese, and other waterfowl that depend on unfrozen surface water to survive. For residents and

visitors, those same open areas tell a story about a living lake (one that still supports trout, birds, and an invested community).

The annual ice fishing derby at Lake Sidley is an example of how recreation and conservation meet on the ice. Families, anglers, and curious newcomers gather in the snow, drilling holes, swapping stories, and fishing over a lake that stays productive thanks in part to the bubbling systems a few yards away.

Behind the scenes is a neighborhood volunteer program: people willing to check gauges, shovel drifts, watch weather forecasts, and occasionally crawl out in the dark to restart a tripped breaker. With HCSC's financial backing, angler science support from groups like the Okanogan County Fly Fishing Club, and support from WDFW, lake aeration in north central Washington has become much more than a piece of equipment, it's a model of community-powered habitat stewardship.

Media inquires can be directed to Nicole Jordan, North Central WA Communication Specialist, at nicole.jordan@dfw.wa.gov.