Al Martin HCTF Conservation Scholarship
Recipient 2026

John Gray

John Gray is a PhD student at the University of British Columbia (UBC) studying how rising water temperatures are affecting Threatened Nechako River Chinook salmon in north-central British Columbia. His research examines how Chinook salmon use thermal habitats across life stages, and how climate change and water management practices may reshape these habitats in the future.

Raised in a rural community near Kamloops, BC, John grew up surrounded by fish, wildlife, and their habitats, spending his time canoeing, kayaking, fishing, hiking, and skiing. That early appreciation for ecological systems grew into a career dedicated to conservation. After completing a BSc (Honours) in Animal Biology at Thompson Rivers University, John spent several years with Fisheries and Oceans Canada (DFO) conducting Chinook and Coho salmon stock assessments throughout the Fraser River watershed. He went on to complete a MSc at UBC on Endangered Nooksack dace and the role of habitat restoration in their recovery, then returned to DFO as an aquatic biologist where his work was focused on evaluating drivers impacting the recovery of Threatened Interior Fraser Coho salmon. It was through these experiences that John witnessed how vulnerable fishes are to rapid temperature rise and motivated him to pursue and conduct actionable research.

Chinook salmon are ecologically, culturally, and economically vital yet, their abundance has declined rapidly throughout their range due to an accumulation of factors. On the Nechako River, water impoundment, land-use change, and climate warming have altered flow and temperature regimes. Summer water temperatures now routinely exceed preferred and optimal temperatures selected by Chinook salmon at different life-stages. John's research asks: Can juvenile Chinook salmon thermoregulate during summer rearing or are temperatures exceeding their limits? How do the condition and pathogen burden of adults affect pre-spawning mortality and spawning success? And what features drive where Chinook salmon choose to spawn?

To answer these questions, John combines laboratory trials of juvenile thermal tolerance with field-based temperature monitoring, drone thermal imagery, and adult monitoring. These data will feed hydrological models that simulate river temperatures under future climate and water management scenarios, helping to identify thermal bottlenecks that could impair recovery.

Collaboration is central to John's work, with continued commitment to engaging Indigenous Nations, researchers, managers, and local experts to ensure research is collaborative and meaningful. He also established an annual riparian planting event with the Metro Vancouver Regional Parks Foundation that brings community members, students, and resource managers together to restore habitat in the Fraser Valley of BC. Upon completing his research, John will work with Indigenous Nations, fisheries managers, and dam operators to develop best practices that support Chinook salmon recovery, with findings relevant to other flow-regulated rivers across the Pacific Northwest. Beyond his PhD, John aspires for a career in academic research that informs effective, science-based conservation of fish and aquatic habitats throughout BC.

HABITAT CONSERVATION TRUST FOUNDATION