

Kristen Reece

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Research Interests

Indigenous-led fisheries monitoring; environmental DNA (eDNA) in Arctic systems; salmon ecology and predator-prey dynamics; tribal youth engagement; co-produced science and tribal data sovereignty.

EDUCATION

M.S. in Earth System Science (Sustainability Concentration)

University of Alaska Fairbanks (UAF) Troth Yeddha' Campus

Expected thesis defense: Spring 2028

Committee: Dr. J. Andrés López, Dr. Erik Schoen, & Dr. Katie Spellman

B.S. in Interdisciplinary Studies - Minors: Environmental Change & Fisheries

University of Alaska Fairbanks (UAF) Troth Yeddha' Campus - Graduated May 2025

A.S. in Allied Health - Iñisaġvik College, Utqiagvik, AK - Graduated May 2022

Honors: Summa Cum Laude & Iñisaġvik College President's List

RESEARCH EXPERIENCE

Graduate Research Assistant - International Arctic Research Center (IARC), UAF

Aug 2025 - Present

Supervisors: Dr. Andrés López and Dr. Erik Schoen

- Conduct interdisciplinary research on predator-salmon dynamics in the Yukon River, integrating Indigenous knowledge with ecological study.
- Develop protocols and support IRB processes for ethical Indigenous data stewardship.
- Dissect predatory fishes (sheefish, whitefish, northern pike, burbot, Arctic grayling); identify prey and collect tissue/fin samples for DNA.
- Maintain meticulous datasets; collaborate with local fishermen and community partners.

Caleb Scholars Intern - Kawerak

Summer 2025

Supervisor: Dr. Erik Schoen

- Collected and processed eDNA samples from the Chena River for aquatic biodiversity monitoring.
- Conducted live fish capture using seines, fyke/hoop nets, minnow traps, and rod-and-reel with minimal stress.
- Performed gastric lavage to obtain diet samples; focused on salmon presence/consumption.
- Standardized sampling protocols and ensured field safety and data integrity.

Research Scholar (BLaST) - UAF, IARC & Alaska Climate Adaptation Science Center (CASC)

Aug 2024 - May 2025

Supervisors: Dr. Andrés López and Dr. Erik Schoen

- Designed novel field protocols to optimize DNA extraction from filters; enabled rapid, on-site PCR in remote Arctic settings.

- Led community workshops on eDNA sampling and molecular techniques for Indigenous and rural communities.
- Advanced equity by expanding access to genetic tools and co-producing data for stewardship.

Research Scholar (BLaST & UAF Center ICE) - UAF, IARC & College of Fisheries and Ocean Sciences (CFOS)

Aug 2023 - Aug 2024

Supervisors: Dr. Andrés López and Dr. Erik Schoen

- Developed curriculum and hands-on training for eDNA via the SALMONg program.
- Supported equitable access to genetic tools and co-produced monitoring data with Arctic communities.
- Assisted eDNA monitoring of declining salmon runs across AYK region, collaborating with Kuskokwim River Intertribal Fish Commission and ADF&G.

Research Assistant - UAF, IARC & CFOS

Aug 2023 - Aug 2024

Supervisors: Dr. Andrés López and Dr. Erik Schoen

- Supported eDNA monitoring of salmon runs in the Arctic-Yukon-Kuskokwim region.
- Performed filter sub-sampling and DNA extractions; partnered with regional tribal and state agencies.

Undergraduate Research Scholar - UAF, Ichthyology and Molecular Genetics Laboratory

Aug 2022 - May 2023

Supervisor: Dr. Andrés López

- Investigated Arctic Grayling abundance and distribution using eDNA across seven Chena River sites.
- Collected environmental samples and metadata; archived samples at UAF Museum of the North.
- Extracted DNA and quantified abundance via qPCR to support conservation.

Undergraduate Research Scholar - UAF, Ichthyology and Molecular Genetics Laboratory

Jan 2022 - Aug 2022

Supervisor: Dr. Andrés López

- Conducted field sampling across Chena and Yukon Rivers to monitor salmon populations using eDNA.
- Performed DNA extractions, PCR, gel electrophoresis, and qPCR to assess Chinook salmon abundance and variation.
- Collaborated with ADF&G, Tanana Chiefs Conference, and USFWS to integrate data into monitoring programs.
- Analyzed environmental context (temperature, flow) across two field seasons.

PROFESSIONAL EXPERIENCE

Navigating the New Arctic (NNA) Research Experience Program - University of Colorado Boulder - AAOKH

Mar - Apr 2025

- Integrated Indigenous community-based environmental observations into the AAOKH database.
- Presented at NNA Student Research Symposium and participated in the NNA Annual Community Meeting at ASSW.

Laboratory Technician - UAF, Ichthyology and Molecular Genetics Laboratory

May 2023 - May 2025

Supervisor: Dr. Andrés López

- Performed high-throughput DNA extractions from eDNA samples for qPCR detection and monitoring.
- Supported research evaluating eDNA for enumerating salmon populations across Yukon tributaries.
- Maintained contamination prevention and QC; managed sample prep and reagents.
- Trained students and visiting professionals in molecular workflows and lab safety.
- Assisted with data management, workflow coordination, and protocol troubleshooting.

Laboratory Research Assistant - Iñisagvik College

Jan 2021 - Jun 2022

Supervisor: Dr. Linda Nicholas-Figueroa

- Collected and processed snow samples from Utqiagvik and North Pole; analyzed ions via ion chromatography.
- Collaborated with University of Michigan and UAF; maintained meticulous records for reporting.

LEADERSHIP

Kawerak Tribal Research Priorities Gathering - Nome, AK

Jan 26-29, 2026

- Facilitator, Indigenous Researcher, and Panelist; led discussions and coordinated collaborative sessions.
- Advanced culturally responsive research priorities among tribal leaders, academics, and policymakers.

NNA REU Graduate Student Panel

Jan 7, 2026

- Mentored REU students; shared insights on research pathways and graduate school.

NNA-CO Learn & Connect: Gen Z Voices on Climate & Mental Health

Oct 23, 2025

- Panelist representing Gen Z perspectives on climate and mental health; contributed research-informed insights.

YRDFA Bio-Technician Fisheries Training Program - Eagle, AK

Jul 18-28, 2025

- Facilitated training on eDNA sampling and Indigenous-led monitoring; emphasized tribal data sovereignty.

eDNA Workshop / Alaska Marine Science Symposium - Anchorage, AK

Jan 27-31, 2025

- Coordinated and led hands-on eDNA training for tribal members; developed QAPP and arranged lab tours (ADF&G, USFWS).

George River Internship (GRI) - Aniak / George River, AK

Jul 18-28, 2024

- Delivered eDNA and molecular genetics curriculum for high school students in remote field settings.

Orutsararmiut Native Council Science and Culture Camp - Bethel, AK

Jul 17-25, 2024

- Designed and delivered eDNA curriculum for middle and high school students.

Climate Change & My Community Workshop - Fairbanks, AK

Jun 12-14, 2024

- Co-developed eDNA curriculum with NASA GLOBE & IARC; adapted for remote classrooms.
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ACADEMIC HONORS

- 2026 - Chancellor's List, UAF (Fall).
 - 2024-2025 - Sequoyah Fellowship, AISES.
 - 2024-2025 - Chancellor's List, UAF (Fall & Spring).
 - 2023-2024 - ANSEP Approach Award, UAF.
 - 2023 - Student of the Month, Native Forward Scholars Fund.
 - 2023 - Chancellor's List, UAF (Fall).
 - 2022-2023 - President's List, Iñisaġvik College (Summa Cum Laude, Spring).
 - 2022 - Registrar's List, Iñisaġvik College (Fall).
 - 2019-2022 - Registrar's List, Iñisaġvik College (Fall & Spring).
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PUBLICATIONS

Harings, M. A. B., Hill, J., **Reece, K.**, Kamermans Cron, B. R., López, J. A., & Schoen, E. (2024). A simple protocol for sampling environmental DNA from flowing waters at remote field sites. *protocols.io*. <https://dx.doi.org/10.17504/protocols.io.q26g7mrykgwz/v1>

PRESENTATIONS

Harings, M. A. B., Schoen, E., **Reece, K.**, Kamermans, B. C., Falke, J., López, J. A. (2026). Evaluating spatial and temporal patterns in environmental DNA concentrations during historically low salmon runs in a Yukon River tributary, Alaska. Alaska Chapter AFS Annual Meeting, Fairbanks, AK (Mar 23-27); AFS Western Division 2026, Portland, OR (May 4-7).

Reece, K., Hauser, D., Glenn, R. (Apr 24, 2025). Community Observations during Spring Whaling in Utqiagvik, AK. NNA Student Research Symposium (oral).

Reece, K., Kamermans, B., Schoen, E. R., López, J. A., Goodwin, M., Harings, M. A. B. (Apr 1, 2025). Inclusive genetics curriculum for high school students in the Kuskokwim Basin, Alaska. UAF RCA Day (poster).

(Oct 3-5, 2024) AISES National Conference, San Antonio, TX - Undergraduate Research Oral Presentation Competition, Second Place.

(Sep 15-19, 2024) AFS Annual Meeting, Honolulu, HI - Multiple presentations on citizen and community-based salmon monitoring and eDNA assessment of Yukon River salmon.

****Reece, K.**** (2024). SALMONG: Sovereignty and Autonomy for Long-term Monitoring of Non-human Genes. AISES Region One, WAISC Nome (Community Stewardship Award), and other venues (oral).

****Reece, K.****, López, J. A., Harings, M. A. B. (2023). Assessing Arctic Grayling Relative Abundance and Distribution Through Environmental DNA Analysis. ASLO Student Symposium (Palma de Mallorca, Spain); NAFWS National Conference (Anchorage, AK - Second Place poster); ANSEP University (Fairbanks, AK); UAF RCA Day (Dean's Choice - Honorable Mention); AFS Alaska (Best Overall Poster); One Health, One Future Conference (Fairbanks, AK).

ACADEMIC SERVICE

- Graduate Success Scholar, Alaska Native Science and Engineering Program (ANSEP) UAF Chapter - Aug 2025 to Present.
- President, American Indian Science and Engineering Society (AISES) UAF Chapter - 2023-2024.
- Climate Scholar, UAF Honors College - Jan 2023 to May 2025.
- University Success Scholar, ANSEP UAF Chapter - Aug 2022 to May 2025.

TRAINING & CERTIFICATIONS

- Reproducible Approaches to Arctic Research using R (Arctic Data Center) - Mar 2-6, 2026.
- Wilderness First Aid (UAF Outdoor Adventures) - Feb 21-22, 2026 (certified).
- R Workshop (NLM All of Us/AISES) - Oct 1, 2025.
- Alaska Water Wise Boating Safety - Jul 24, 2025 (certified).
- Adult EFR/CPR/AED (Emergency First Response) - Jul 21, 2025 (certified).
- IARC Media Training - Jun 4, 2025.
- UAF Shotgun Safety - May 20, 2025 (certified).
- UAF Handgun Safety - May 19, 2025 (certified).
- American Red Cross: Adult CPR/AED - Feb 11, 2025 (certified).
- Know Before You Go Field Safety (UAF EHSRM) - Mar 6, 2025.
- Green Dot Bystander Intervention - Mar 5, 2025.
- Human Research, Social & Behavioral (CITI) - Feb 11, 2024.
- QuantStudio 5 qPCR Training (ThermoFisher + UAF Genetics Core) - Nov 6, 2024.
- Youth Mental Health First Aid - Nov 2, 2024 (certified).
- Officer Training for Student Clubs (UAF SLI) - Sep 12, 2023.
- Social & Behavioral Responsible Conduct of Research (CITI) - Mar 26, 2022.
- Biomedical Responsible Conduct of Research (CITI) - Mar 26, 2022.
- Snowmachine Safety (UIC Science, LLC) - Apr 1, 2022.
- Utqiagvik Field Training (UIC Science, LLC) - Apr 1, 2022.

WORKSHOPS

- Tribal Governance Symposium (UAF Dept. of Tribal Governance) - Oct 28-30, 2025, Fairbanks, AK.

- Building Connections to Strengthen Guardians & Indigenous-led Stewardship (Northwest Boreal Partnership & partners) - Jan 20-22, 2026, Fairbanks, AK.
- Fairbanks Streambank Rehabilitation (ADF&G) - Jul 16, 2025, Fairbanks, AK.
- Effective restoration toolbox (BLM) - Jun 24, 2025, Nome Creek, AK.
- Food and Climate Symposium (USDA NextGen) - Feb 19, 2025.
- Science and Mariculture (The Kelp Values Project) - Jan 30, 2025, Anchorage, AK.
- IGNITE Workshop (Alaska EPSCoR) - Jan 8, 2025, Fairbanks, AK.
- Indigenous Law of the Sea (Ocean Conservancy) - Nov 21-22, 2024, Fairbanks, AK.
- Deepening Cultural Humility (UAF Moving Forward Together) - Oct 25-26, 2023, Fairbanks, AK.
- Implicit Bias (UAF Equity & Compliance, NDAC) - Oct 22, 2024.
- Lateral Kindness (SILA) - Aug 22, 2024.
- Land & Peoples Relationship Model (Northern Latitudes Partnerships et al.) - Aug 5-6, 2024, Anchorage, AK.
- Two-Eyed Seeing in Fisheries (Chugach Regional Resources Commission) - Mar 25, 2024, Seward, AK.
- Co-Stewardship Symposium (UAF Tribal Governance, Northern Latitudes Partnerships, etc.) - Jan 16-19, 2024, Fairbanks, AK.
- Arctic Climate Change & Community Collaborations (NNA Community; Arctic & Earth STEM; IARC; AINE) - Jan 8-12, 2024, Fairbanks, AK.
- BLaST: IACUC & IRB - Nov 7, 2023, Fairbanks, AK.
- Stronger Together (NOAA, SeaGrant, CASS) - Oct 25, 2023, Portland, OR.
- R for Health Science (NIH-All of Us, AISES) - Oct 18, 2023, Spokane, WA.
- Working in Indigenous Communities - Sep 19, 2023, Fairbanks, AK.
- Evaluating Equitable Arctic Research & Indigenous Leadership - Sep 18, 2023, Fairbanks, AK.
- NW Tribal Clean Energy Summit - Jun 17, 2023, Tulalip, WA.
- Early-career aquatic scientists funding - Jun 7, 2023, Palma de Mallorca, Spain.
- Tribal Climate Resilience (NAFWS) - Apr 24, 2023, Anchorage, AK.
- Battling Imposter Syndrome (ASLO) - Mar 31, 2023.

OUTREACH

- International Arctic Research Center: Grounded in Place (2025).
- Alaska Climate Adaptation Science Center: Meet AK CASC Fellow (2025).
- Alaska Native Science and Engineering Program: Student Spotlight (Spring 2025).
- The American Indian Graduate: April Student of the Month (Spring 2023).
- Oncorhynchus: Using eDNA to Count Salmon in the Yukon River Basin (Spring 2023).
- Aurora: Diving into Alaska's DNA (Fall 2022).
- Tributary: WDAFS Small Project Grants (Winter 2022).

VOLUNTEER EXPERIENCE

- Alaska Chapter American Fisheries Society Meeting (Mar 23-27, 2026): Student facilitator for RAE Committee Affinity Groups; Dependent Caregiver, BIPOC, & Mental Health and Disabilities - Fairbanks, AK.

- Tanana Chiefs Conference - Elder Program (2025): Prepared and packed food boxes; volunteered at Elders Lunch.
- University Park Child Care Center Planning Committee: Participated in strategic planning and decision-making.
- Interior Alaska Science Fair (FNSBSD): Overview Judge across grade levels and disciplines.
- AFS Alaska Chapter, DEI Committee: Mentorship, travel awards, and community-building initiatives.
- BLM - Cripple Creek Restoration Project: Habitat restoration (invasive removal, stabilization, native planting).
- Inspiring Girls* Expedition - Girls* on Ice (Jun 28-29, 2025): Supported gear retrieval/transport from Gulkana Glacier field site.
- AISES Region One Conference (2024): Organized sessions, managed registration, liaised with elders, coordinated closing potlatch.
- AFS Alaska DEI Committee (2024): Student facilitator and session chair for Community & Tribal Fisheries Knowledge, Management, and Research.
- Interior Alaska Science Fair (2024): Overview judge (Indigenous regalia; climate science); presented UAF Climate Scholars awards.
- IARC, UAF (2023): Community-oriented environmental & climate outreach - Pearl Creek Elementary; UAF Arctic Research Open House.
- ANSEP: Registration, guest check-in, and event logistics for University Success Gala and celebrations.
- UAF College of Engineering & Mines Open House: STEM outreach via AISES UAF Chapter.
- Festival of Native Arts, UAF: Fundraising for the UAF Native Games Club.
- WINHEC: On-the-ground logistical support; wayfinding and session navigation across UAF campus.
- AFS Alaska DEI Committee (2023): Student facilitator for Dependent Caregivers Affinity Group.
- Ichthyology & Molecular Genetics Laboratory, UAF Museum of the North (2022-2023): eDNA demonstrations for youth and community.
- Fairbanks North Star Borough School District (2012-Present): Classroom support, small-group instruction, field trip supervision.