

# GRAVEL TO GRAVEL KEYSTONE INITIATIVE

## FOR PEOPLE, SALMON, AND THE LAND

Since time immemorial, the Yukon, Kuskokwim, and Norton Sound region has sustained people, fish, birds, and other wildlife, supporting strong and resilient communities and ways of life. Traditional foods – including salmon, caribou, moose, and migratory birds – have been vital to food security and Indigenous cultures for the more than 100 Tribes who have stewarded the region’s lands and set up fish camp in its watersheds for thousands of years.

In recent years, these communities and the ecosystems they depend upon have suffered as climate change is impacting the Arctic four times faster than other parts of North America. One stark example of these impacts is the decline of Pacific salmon populations, leading to subsistence salmon fishing closures and empty smokehouses for people who have relied on salmon for more than 10,000 years. In recent consultations, congressional field hearings, and other forums, Department of the Interior leaders heard directly from Alaska Native Tribes and subsistence users about these ecosystem changes, their impacts on communities and cultures, and the need for immediate and lasting “gravel to gravel” action by the federal government.

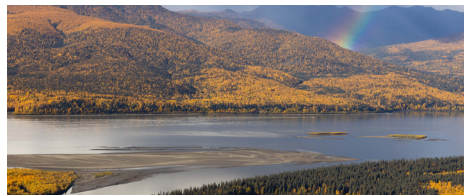
To answer these calls the Department—coordinated through the U.S. Fish and Wildlife Service and Bureau of Land Management – is partnering with Tribes, Indigenous leaders, other agencies, and community partners to launch Gravel to Gravel, designed to enhance the resilience of the region’s ecosystems and communities through transformational federal, philanthropic, and other investments. Through Gravel to Gravel, federal agencies, Tribe, and others will work together to build a strong foundation for co-stewardship, where both Indigenous Knowledge and western science are brought to the table to inform plans for collective action to support resilient ecosystems and communities in the region. Gravel to Gravel will make immediate investments in the foundational science and projects needed to respond to the salmon crisis and invests in projects to heal the broader ecosystem.

## GRAVEL TO GRAVEL INVESTS IN



### Projects to Help Pacific Salmon

Gravel to Gravel will make immediate investments in projects that will enhance resiliency of wild Pacific salmon and their habitats in the Yukon, Kuskokwim, and Norton Sound region. Project investments with Tribal, local governments, and others will help to better understand salmon populations, habitats, threats in the region, and conserve and restore salmon habitat.



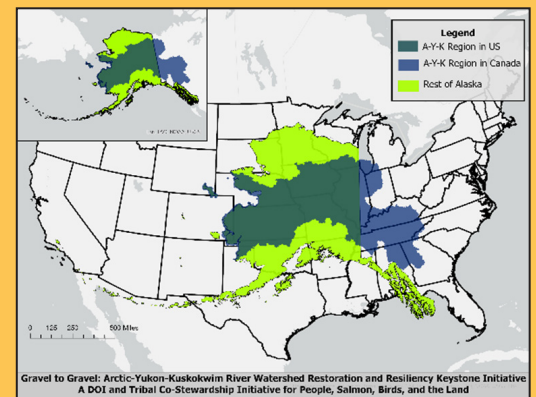
### Co-stewardship

Gravel to Gravel brings Tribes and federal agencies together in a new co-stewardship project, building the relationships, trust, and transparency that are essential to the success and durability of this effort. Through co-stewardship, we will share knowledge, set priorities, and invest in projects that conserve and restore cultural heritage and ecosystems.



### The gravel is home, where life begins and ends.

Set in motion at birth, the fate of Pacific salmon is like clockwork: each year a new generation returns from sea to spawn where their ancestors’ lives began. Females grind their tails into the gravel, hoping their nests, and the eggs within, will withstand the scour of ice and spring floods. The gravel is home, where life begins and ends. It moves toward sea like the baby salmon do, but the river’s constant movement across the floodplain over the ages will bring more gravel, and the salmon return.



The Yukon, Kuskokwim, Norton Sound (sometimes referred to as the Arctic-Yukon-Kuskokwim) region is a large geographic area covering 419,274 square miles.

The Yukon River, the longest river in Alaska and the third longest in the United States, flows through this region for 1,980 miles. The Kuskokwim River flows for 702 miles. Alaska Native peoples living in this region include Iñupiat, Yupik, and Athabaskan (Dine’).



### Responses to Ecosystem Threats to Food Security

Gravel to Gravel invests in partnerships and strategies to address threats to traditional foods, including the migratory birds that breed within these watersheds. These include investments in collaborative forums for habitat restoration and resiliency, tools to share knowledge, and co-developed monitoring and assessment plans.

# Together, with Tribes centered, we unite to care for salmon, from gravel to gravel

**Gravel to Gravel-funded projects build upon previous work and partnerships, while catalyzing the future of our service in Alaska – leveraging new funding, and strengthening fresh relationships**

## **Invest in Co-stewardship with Tribes**

Gravel to Gravel's investments in co-stewardship are necessary to: 1) strengthen existing conservation and management activities to sustain salmon and other natural resources; 2) give equal voice to Tribes in conservation decisions and research affecting subsistence resources; 3) pool resources and expertise, using both Indigenous Knowledge and western science, to implement priority fish and wildlife habitat assessment, monitoring, and restoration activities; and 4) take collective action to ensure resiliency of the freshwater ecosystems of this region.

## **Restore Degraded Streams and Floodplains**

Restoration will improve fish passage and reverse negative impacts from past development, including historic mining operations. Projects include continuing to reestablish natural hydrologic conditions in Cripple Creek and other historic Chinook Salmon spawning grounds including the Salcha, Chena, and Salmon Rivers; restoring connectivity and addressing flow disruptions from tailings blocking fish access to tributary habitat; and applying stream reclamation techniques to projects across the larger Keystone Initiative area. Desired outcomes include improving riverscape health, fostering partnerships focused on restoration monitoring, and incorporating Indigenous Knowledge.

## **Salmon Habitat Condition & Impact Assessments**

The U.S. Fish and Wildlife Service and Tribes in the Norton Sound, Yukon, and Kuskokwim region will assess salmon habitat for past mining activity and other human disturbance. The aim of this "State of our Watershed" plan is to identify the highest priority and most cost-effective habitat restoration actions needed to recover salmon populations in selected tributaries. Information from local knowledge holders in communities adjacent to impacted tributaries will be incorporated.

The Bureau of Land Management will assess habitat conditions and trends of wadeable streams across the Norton Sound-Yukon-Kuskokwim regions using its Aquatic Assessment, Inventory, and Monitoring (AIM) strategy as well as address data gaps identified in partnership with the Alaska Department of Environmental Conservation and University of Alaska Anchorage.

## **Native Seed Bank and Revegetation**

The health of Pacific salmon is directly tied to riparian vegetation and the connections between streams, floodplains, and wetlands. Where the Yukon River flows through Ruby, Alaska, Yukon River Drainage Fisheries Association-partnered projects will replant and restore riparian flora using native vegetation and seed mixes. Seed mixes and plugs that have a higher likelihood of success than seeds currently sourced from outside locations will be collected, grown out, and distributed for a reliable Interior source and post-construction and restoration.

## **Study Salmon Productivity, Health, and Survival**

Additional research opportunities, in partnership with the Kuskokwim River Inter-Tribal Fish Commission and others, include the Kuskokwim River Smolt Out-Migration Partner Project and annual in-season management and fishery monitoring. Other efforts include a Yukon River Ichthyophonus disease impact study, and a pilot Southern Bering Sea survey to understand marine juvenile salmon survival and ecology.

## **Invasive Species Prevention, Early Detection, and Rapid Response**

A network of U.S. Fish and Wildlife Service genetic laboratories, including one in Anchorage, will increase capacity to help with early detection and rapid response efforts. Watercraft inspections at the Alcan Port of Entry will continue in an effort to prevent invasive species from entering Alaska. The Service will fund a coordinator based in Fairbanks in partnership with organizations within the Cooperative Invasive Species Management Area to help prevent the introduction of harmful species into the Gravel to Gravel geography. The use of Hazard Analysis and Critical Control Point (HACCP) planning and other biosecurity practices will increase and exhibits will be installed at the Tok Alaska Public Lands Information Center to improve public awareness about invasive species and how to prevent their introduction and spread.



*In Alaska we are shared stewards of world renowned natural resources and our nation's last true wild places. The lands and waters of this place we call home nourish a vast and unique array of fish, wildlife and people. We cultivate a reverent awareness and respect for all things, from Alaska's smallest plants and most iconic animals to its diverse communities and cultures. Our hope is that each generation has the opportunity to live with, live from, discover and enjoy the wildness of this awe-inspiring land and the people who love and depend on it.*