

10,000 YEARS INSTITUTE

2019 Year-End Summary



RESEARCH

3 Ecological studies

- Reed canarygrass
- Scotch broom
- eDNA Olympic mudminnow

1 Biochar pilot project



RESTORE

4,334 Acres surveyed & treated

2 Miles streambank planted

20 Full-time positions

8 Contractors



EDUCATE

13 Presentations

14 Invasive plant control demonstrations

8 Field tours

6 Trainings

Invasive Reed Canarygrass Impacts on Coldwater Habitats

As climate change alters the temperature regimes of aquatic habitats, small tributaries will become more critical to the survival of salmonid species and other organisms requiring cold water habitat. In 2019, 10KYI partnered with the Coast Salmon Foundation to develop and implement a pilot study investigating the effect of reed canarygrass (*Phalaris arundinacea*) on water velocity, water temperature, dissolved oxygen, and sediment accumulation in a Bogachiel River tributary.

Scotch Broom Biochar Pilot Study

Scotch broom (*Cytisus scoparius*) biochar can remediate soils damaged by the plant, storing carbon and restoring riparian and forest ecosystem services critical for climate resiliency, forest products industries, salmon habitat maintenance, and healthy forage for livestock and wildlife. 10KYI is partnering with local biochar experts to investigate and determine the best methods to convert invasive Scotch broom biomass to biochar.

Restoring Local Economies & Watersheds

Supporting local economies is integral to successful watershed restoration. Purchasing gear and supplies from local businesses reinvests funds into that economy while decreasing 10KYI's carbon footprint. Hiring locally capitalizes on local knowledge and connections, provokes a sense of place and understanding about the challenges facing their watershed, and provides skills and knowledge for future jobs.

In 2019, 10KYI employed local contractors and full-time restoration technicians to implement restoration projects spanning six watersheds across three coastal counties. Pulling together, crews surveyed and treated invasive, non-native plants along:

- 64.6 miles of rivers and streams
- 335 miles of roads

Preventing the spread of invasive plants promotes the growth of native vegetation and protects resource industries. With the help of local community members and businesses, we support watersheds and local economies.

Building Community Resilience

The challenges we face (e.g., the spread of invasive species, flooding, temperature and precipitation changes, sea level rise) are not isolated by property lines. In order to address these issues and increase the resiliency of our communities and environment, we must work together, listen and learn from each other, and create a network that transcends political and governmental boundaries. 10KYI develops partnerships and collaborates with community members, resource managers, governmental agencies, Native American tribes and nations, and other nonprofit organizations to develop educational, management, and regulatory approaches to promote sustainable land use practices and increase coastal resiliency.

10,000 Years Institute

is a 501(c)(3) nonprofit that evaluates the ecological effects of human activities on natural environments and promotes the maintenance and restoration of ecological integrity through the integration of reliable scientific information, sound resource management strategies, and education.

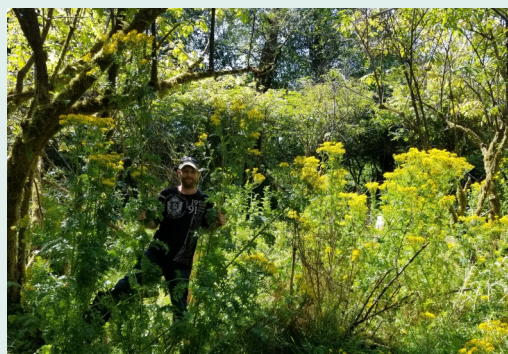
Scotch Broom Impact Study



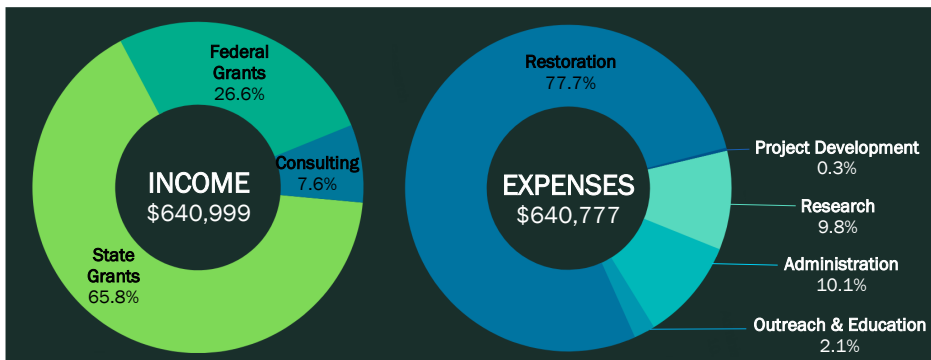
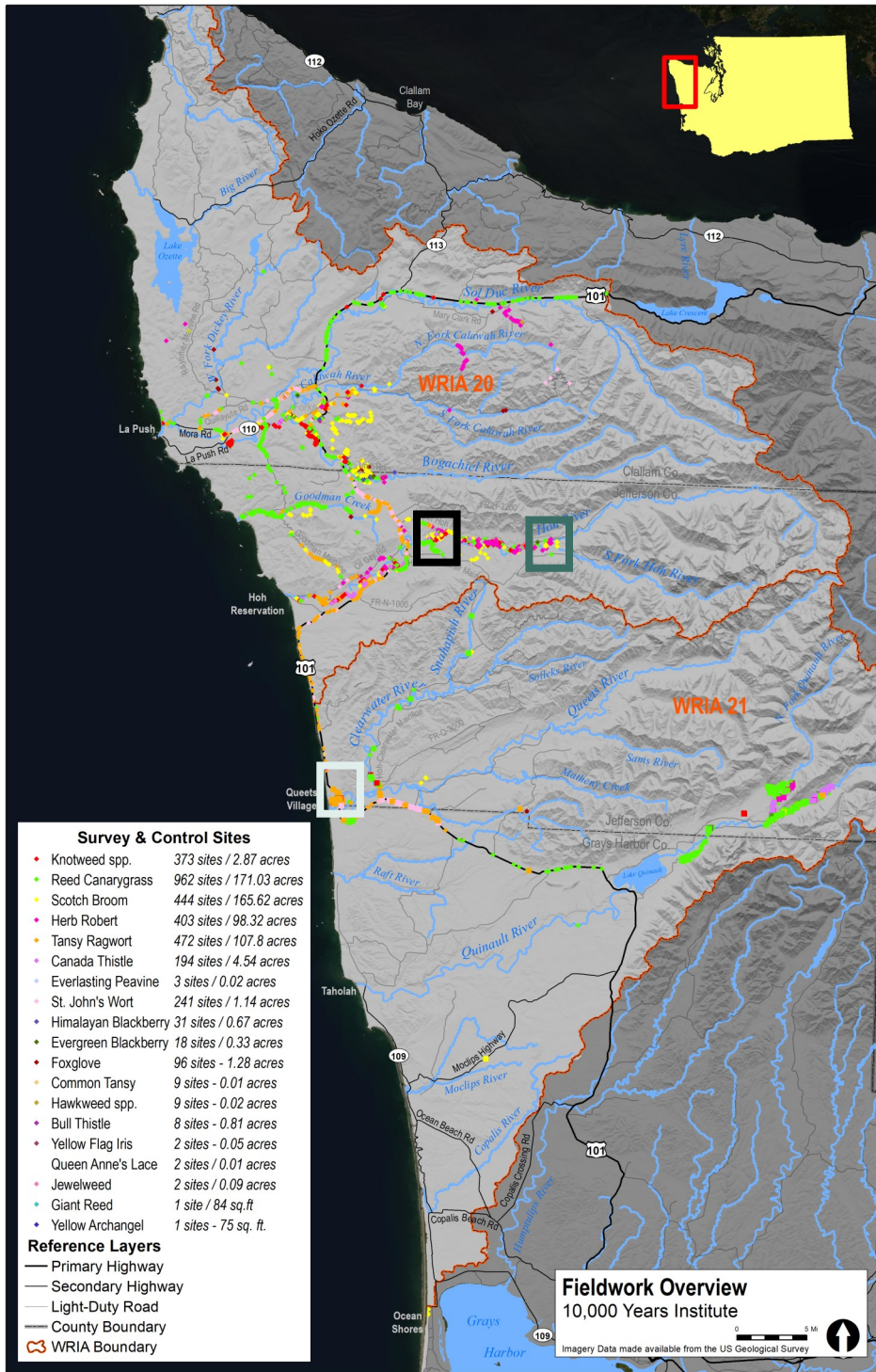
In 2019, under the guidance of Drs. Sara Grove, Ingrid Parker, and Karen Haubensak, 10KYI established 270 plots, completed treatment, and transplanted 2,700 native seedlings across sites along the Hoh River to determine if Scotch Broom suppresses native riparian tree establishment and growth.



During road surveys, staff identified a priority noxious weed — spotted jewelweed — on the Upper Hoh Road. This Eurasian ornamental stops native understory plants from growing. Two hundred pounds of spotted jewelweed were pulled and bagged before additional seeds could spread. Early Detection and Rapid Response (ED/RR) is critical in preventing the spread of emerging species.



Restoration technician crews treated over 29 acres of tansy ragwort within the Queets Estuary. Lethal to elk, deer, and livestock, tansy ragwort can form dense stands and crews found some plants up to nine feet tall. Each plant may produce over 200,000 seeds, reportedly viable for 20 years.



This work would not be possible without the generous support from our funders, partners, collaborators, and private landowners:

