



research for healthy workers, strong communities & productive agriculture

The Pacific Northwest Agricultural Safety and Health (PNASH) Center, established in 1996 through the NIOSH/CDC Agricultural Initiative, conducts research and promotes best safety and health practices for Northwest producers, workers, and communities in farming, fishing, and forestry.

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RESEARCH

Forestry Workforce Location- and Wearable-based Activity Recognition for on-the Job Digital Health and Safety Metrics (Keefe & Zimbelman, PIs, NIOSH 2022-2027)

Logging is among the most dangerous professions in the United States, with manual felling of timber with chainsaws and setting of cable log chokers accounting for 47% of injuries. Building on a recent PNASH pilot project, a library of wearable- and location-based human activity recognition (HAR) models will be developed and coded into a smartwatch app prototype. This application aims to prevent injuries by improving loggers' situational awareness by providing real-time updates of their coworkers' work activity status and location. Visit https://deohs.washington.edu/pnash/forest_safety.

Respiratory Health and Indoor Air Quality in the Cannabis Industry (Simpson & Sack, PIs, NIOSH 2022-2027)

There has been a dramatic expansion of the Cannabis industry, yet very little is known about the occupational hazards and potential health effects for workers involved in Cannabis cultivation. Recent pilot studies have demonstrated that these workers are exposed to a variety of respiratory hazards and may be at increased risk. This panel study aims to evaluate and prevent exposures that lead to occupational lung diseases, particularly work-related asthma. Visit <https://deohs.washington.edu/pnash/cannabis-worker-health-and-safety>.

PREVENTION AND INTERVENTION

Engineering Solutions to Reduce Pesticide Exposure and Waste on Northwest Fruit Farms (Kasner, PI, NIOSH 2022-2027)

This project evaluates emerging pesticide application technologies and educational programming as interventions for breaking the pesticide exposure pathway on Northwest fruit farming systems. A broad network of Northwest partnerships will inform assessments on uses for precision agriculture and corresponding impacts on pesticide safety and health. Visit <https://deohs.washington.edu/pnash/engineering-solutions-reduce-pesticide-exposure-and-waste-northwest-fruit-farms>.

A Mixed-Methods Evaluation of Heat-Related Illness Policy Implementation to Inform Practical Solutions for Farmworkers (Spector & Blancas, PIs, NIOSH 2024-2027)

The objective of this project is to conduct a timely evaluation of a new updated State occupational heat policy for agriculture (Ag) to inform practical implementation solutions. We anticipate that this project will ultimately lead to outcomes of reduced adverse health effects from heat for Ag workers. Visit <https://deohs.washington.edu/pnash/mixed-methods-evaluation-heat-related-illness-policy-implementation-inform-practical-solutions>.

LEAD SAFE – From Leadership to Safety: Strengthening Workplace Culture Through the Agricultural Leadership Program (Blancas, PI, Washington State Department of Labor & Industries 2025-2026)

This project aims to strengthen agricultural workplace safety by expanding leadership development opportunities and creating safety leadership training and tools to improve workplace culture. In partnership with the Agricultural Leadership Program, the Washington State Department of Agriculture, and the Washington State Tree Fruit Association, we seek to develop a new safety and leadership training module that introduces peer mentoring and creates practical tools to enhance communication, trust, and worker participation in safety decision-making.

DATA TRACKING

Tracking Agriculture, Forestry, and Fishing Health Indicators: RISC Agriculture (Austin & Sklar, PIs, NIOSH 2022-2027)
Fatal and non-fatal injuries in the agriculture, forestry, and fishing sectors remain both elevated and poorly documented, compared to other work settings. This project expands on the current Risk Information System for Commercial Fishing (RISC), to encompass farming, fishing, and forestry in the NW (Alaska, Idaho, Oregon, Washington) and engages advisors in analysis with PNASH's interactive data dashboard.

EDUCATION

Fishermen Led Injury Prevention Program (FLIPP) for Lifejackets Mobile Program (Kincl, PI, Oregon State University, NIOSH 2022-2027)

In commercial fishing, fatalities occur when those lost were not wearing a lifejacket. We expect technological advances in lifejackets to address some of the barriers fishermen have to wearing them while working (comfort, accessibility, confidence in, etc.) and to improve the flotation and survivability. This educational study will collect fishermen's views and experiences related to vessel safety including use of lifejackets, and then launch a region-specific promotion campaign. Visit <https://deohs.washington.edu/pnash/fishermen-led-injury-prevention-program-flipp-lifejackets-mobile-program>.

Hands on the Land Project: Resource Clearinghouse for Forestry Services Workers (Kasner, PI, USDA 2025-2030)

With this 5-year award to Oregon State Forestry Extension, PNASH joins as a partner in a collaborative program to enhance the equity of the forest workforce in the Pacific Northwest. Hands on the Land re-envision our forestry workforce with safer working conditions, equitable employment, increased entrepreneurial capacity, and sustainable ecological outcomes. We provide resources, narratives, and information to help realize this vision.

PNASH's role in the collaborative is to co-develop an accessible resource clearinghouse for forestry workforces that travel the PNW. These crews work deep in the woods and can be unfamiliar with local rules, community services, and best forestry practices. Our specific aims include: 1) workforce needs survey, 2) resource clearing house technical development, 3) iterative resource clearinghouse maintenance and user evaluation. This work is co-developed with project partners and informed by direct worker experience. Visit <https://pnash.deohs.washington.edu/hands-land-project-resource-clearinghouse-forestry-services-workers>.

PNASH PILOT PROJECT PROGRAM & OUTREACH MINI-GRANTS

Each year, through two separate calls for proposals, PNASH awards small grants throughout the Northwest (AK, ID, OR, WA). One supports pilot research studies. The other funds small community education projects to service organizations. Learn more at <https://deohs.washington.edu/pnash/opportunity>

2025-2026 Pilot Project

Enhancing Opioid Overdose Knowledge and Naloxone Preparedness in the Commercial Fishing Workforce Through E-Learning. Autumn Dennistoun, DNP-PHSL, RNC-OB, C-EFM/ONQS, Clinical Instructor, School of Nursing, University of Washington.

PNASH EDUCATIONAL RESOURCES

Video YouTube Channel <https://www.youtube.com/user/USagCenters>

Hazard Self-Assessment Tool (HSAT) <https://sites.google.com/boisestate.edu/potential-hazards/hsat-forms>

Dairy Safety Toolkit <https://deohs.washington.edu/pnash/dairysafetytoolkit>

Heat Education & Awareness Tools (HEAT) <https://deohs.washington.edu/pnash/heat-toolkit>

Basta! Prevent Sexual Harassment in Ag (ENG/SP) <https://deohs.washington.edu/pnash/sexual-harassment>

Practical Solutions for Pesticide Safety (ENG/SP) http://depts.washington.edu/pnash/practical_solutions

Forestry Services Safety Resources (ENG/SP) <http://deohs.washington.edu/pnash/forestry-services>

Fishermen Led Injury Prevention Program (FLIPP) <https://health.oregonstate.edu/labs/osh/resources/flipp>

Other resource pages: Potato hazards, Orchard Injuries, Nitrates & well water, etc. <http://depts.washington.edu/pnash>