

# Big Island Drink Smart (BIDS)

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**What is BIDS?** Big Island Drink Smart is a National Science Foundation funded pilot project to plan for a larger Integrative Research Grant application that will address:



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**What factors contribute to contamination risk in residential drinking water in rural communities?  
Can drinking water risks be reduced through community-driven smart technologies?**

## Vision

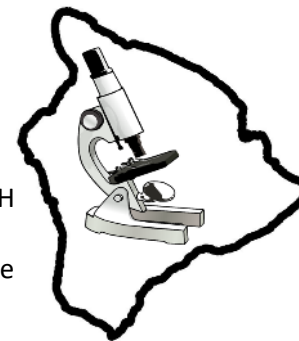
**Engage the Big Island community in building and disseminating smart technologies to reduce risk from drinking water.**

**Across the US**, health threats are increasing due to unregulated private water systems used primarily in rural areas. Threats include pesticides, herbicides, farm animals, untreated wastewater, and environmental pathogens. The CDC recommends regular testing and proper maintenance of these systems.



**In Hawai'i State**, up to 60,000 people – most on the Big Island – rely on rainwater catchment systems for water.

**On the Big Island**, a survey found that inadequate testing and maintenance of rainwater catchment systems may be widespread. UH Hilo's Jarvi lab has demonstrated that catchment systems might be a source of infection from the parasite that causes rat lungworm disease in humans.



The BIDS pilot project will:

- ◆ Test drinking water from 20 homes across the Big Island for:
  - **Rat lungworm disease parasite** (UH Hilo [Jarvi lab](#), Pharmaceutical Sciences Department)
  - **Chemicals such as glyphosate** (UH Hilo Chemistry Department, led by Professor [Mazen Hamad](#) using cutting edge methods adapted from EPA researchers and the UH Hilo Pharmaceutical Sciences laboratories)
  - **Drinking water quality parameters plus metals and metalloids such as arsenic** (UH Hilo [Analytical lab](#), led by marine science Professor Tracy Wiegner)
  - **Nontuberculous mycobacteria**, an environmental pathogen that can cause lung and other infections (led by biology Professor [Jonathan Awaya](#), UH Hilo biology lab)
- ◆ Survey Big Island residents with catchment or well systems to describe system type and practices, opinions about smart phones and technology, and perceptions of their neighborhood.
- ◆ Convene a BIDS Community Advisory Board that includes Big Island water quality professionals and community experts to describe the integral role the community will play in the Integrative Research Grant.



**For additional information, contact Karen Pellegrin ([karen3@hawaii.edu](mailto:karen3@hawaii.edu))**

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