

# LAULIMA A 'IKE PONO

## “Working Together for the Collective Vision”

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Funded by the NSF OEDG initiative, *Laulima A 'Ike Pono* established a collaborative model for community science education in Hawaii through socially relevant and authentic place-based research training in the biogeosciences.

### Objectives of the program

- Provide community members opportunities to explore geosciences through community internships and college mentoring
- Integrate scientific methodologies and technology with traditional knowledge and practices to create a holistic educational experience of research at He'eia fishpond
- Bring science and cultural practitioners together through collaborative projects and peer-to-peer learning opportunities
- Provide a framework for training of scientists in the integration of their research with community and educational outreach programs



Measuring sediment depth in the fishpond

### Education Questions

- Does the LAIP program successfully engage underrepresented students and members of the community?
- Does the LAIP internship program improve participant understanding and skills in science?
- Do participants in the LAIP internship show enhanced interest in courses, majors, or careers related to natural sciences, environmental studies, or resource management?
- How can the work of the internship program be shared with the larger community?



Sampling microphytobenthos and surveying algae

“I found a sense of place at Heeia fishpond and sparked an interest in marine management and biology”

Interns present their research to community members



“Working with LAIP has showed me that there are many different ways to get involved in a field that I like”

### Methods

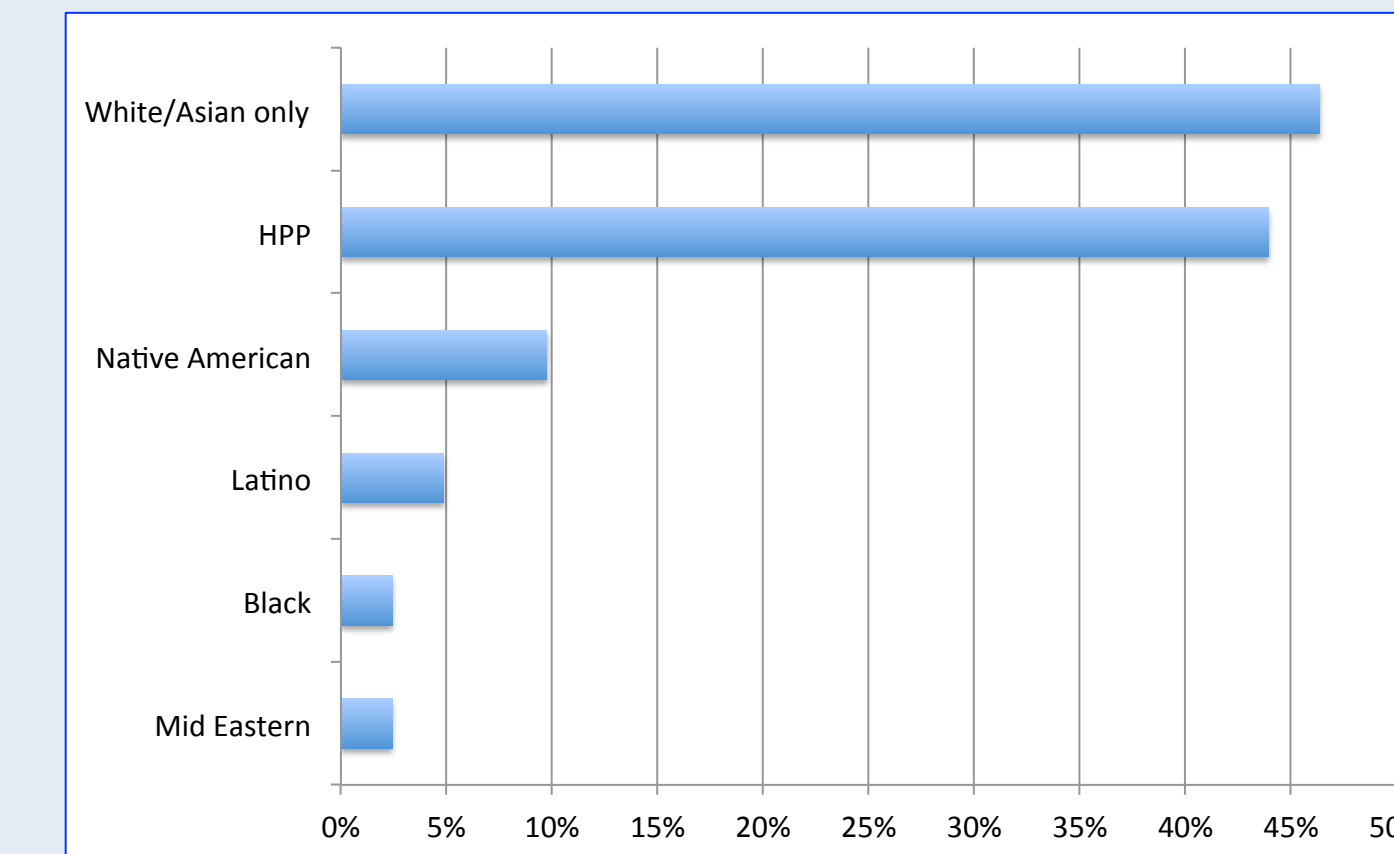
- Interns worked in cohorts of 8 for 6 months with a graduate researcher.
- Demographic information was collected on each participant at the start of the program.
- Participants were given pre- and post-program surveys with both focused and open-ended questions about their science interests, career plans, and perceived skill level in aspects of scientific research.
- A summative online survey was administered to all past interns in October 2013.



Kumu Kameha'iku Camvel explains Hawaiian land use practices

Interns participate in a Paepae o He'eia community work day

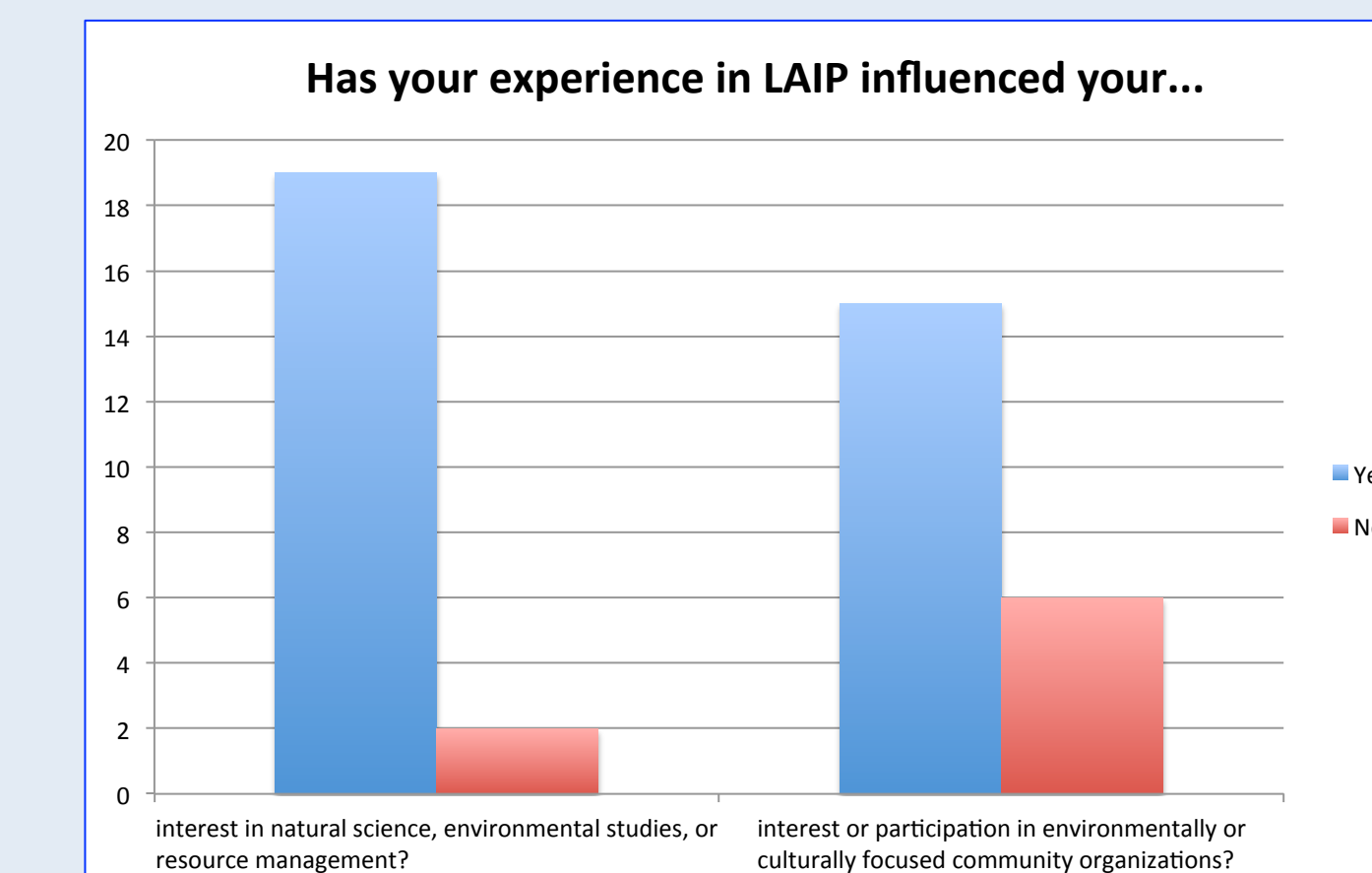
“LAIP encouraged me to continue to pursue a career that integrates science with cultural practices”



Participant Ethnicity  
Percentages do not add up to 100% because many participants claim mixed race/ethnicity.

### Results

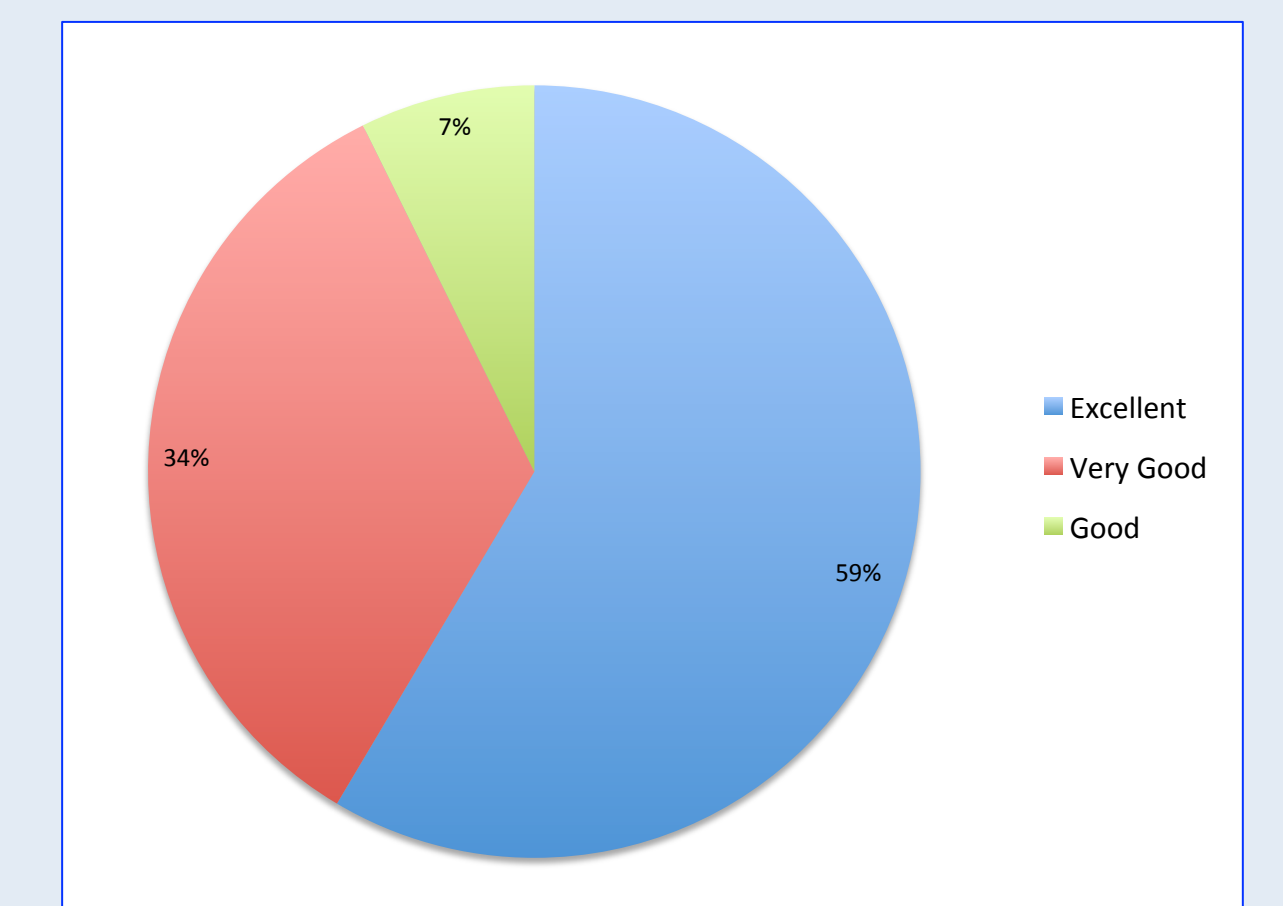
Minority groups represented 54% of total LAIP participants, with 44% of all participants self identifying as Native Hawaiian, Polynesian or Pacific Islander (HPP). Native Hawaiians represented 55% of minority participants.



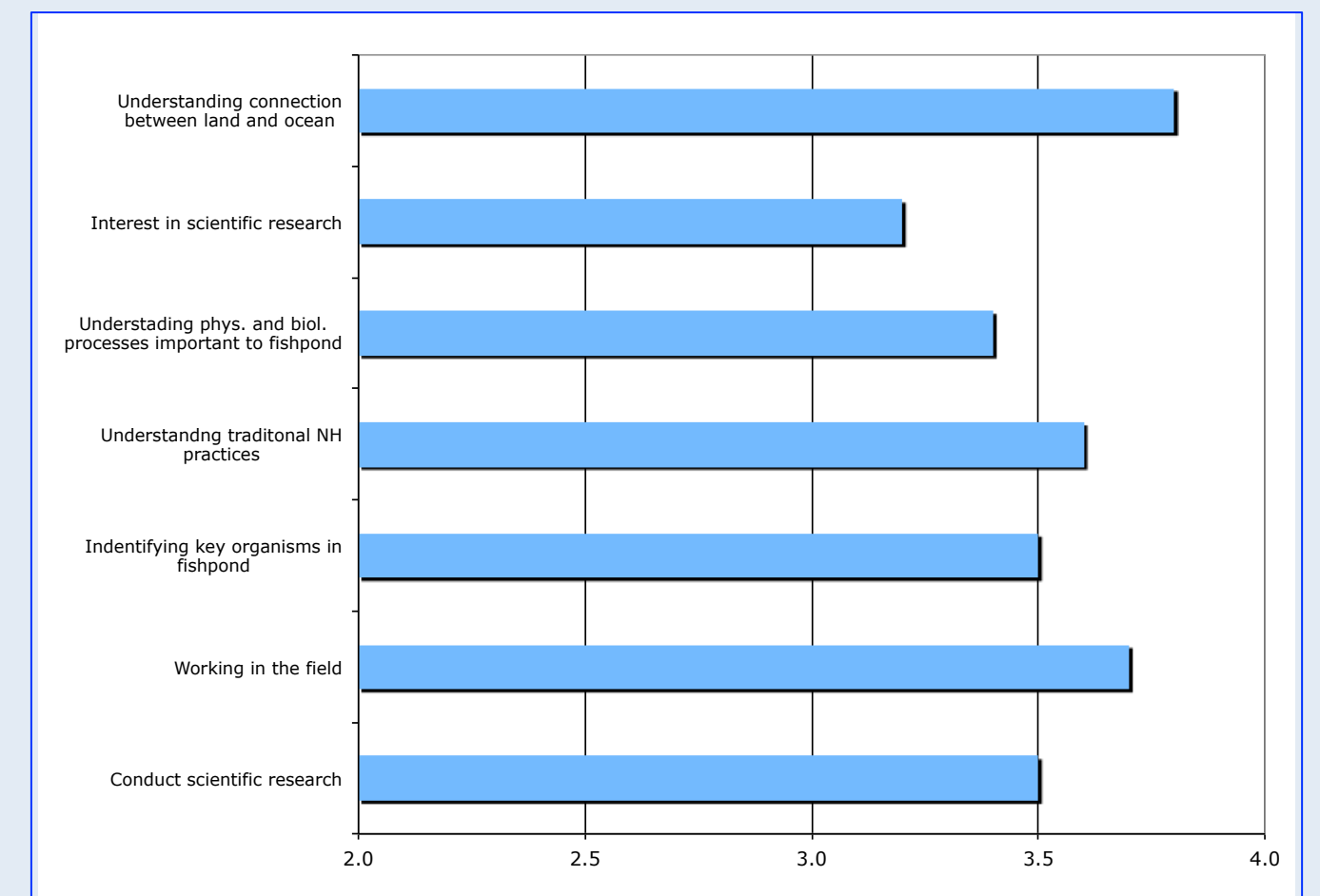
Participant response rate to the summative survey was 54%. Elements of LAIP that had the greatest impact on responding participants were: the integration of cultural knowledge and science; personal relationships; the location itself (an ancient Hawaiian fishpond); conducting field research; and learning specific techniques.

### Conclusions

- The program attracted a high proportion of participants that are underrepresented in STEM majors and careers.
- Scientists reported a high degree of satisfaction as a result of working with local youth as well as traditional practitioners.
- Participants indicated growth and improvement of science-related skills, knowledge, and interest.
- Participants reported enhanced interest in science, environmental studies and resource management, as well as participation in environmental and cultural organizations.
- Close to 1000 users have downloaded the Loko I'a iPhone App.



LAIP participants reported a high degree of satisfaction with the program and 100% of respondents would recommend the program to friends or family.



Responding to the question, “As a result of the *Laulima A 'Ike Pono* internship, please rate your growth or improvement in the following areas”, participants reported significant growth or improvement in comprehension and skills related to scientific and traditional practices using the scale: Greatly improved; Moderately improved; Slightly improved; Not improved. Scale categories were later assigned a score of 1 (Not improved) to 4 (Greatly improved).

