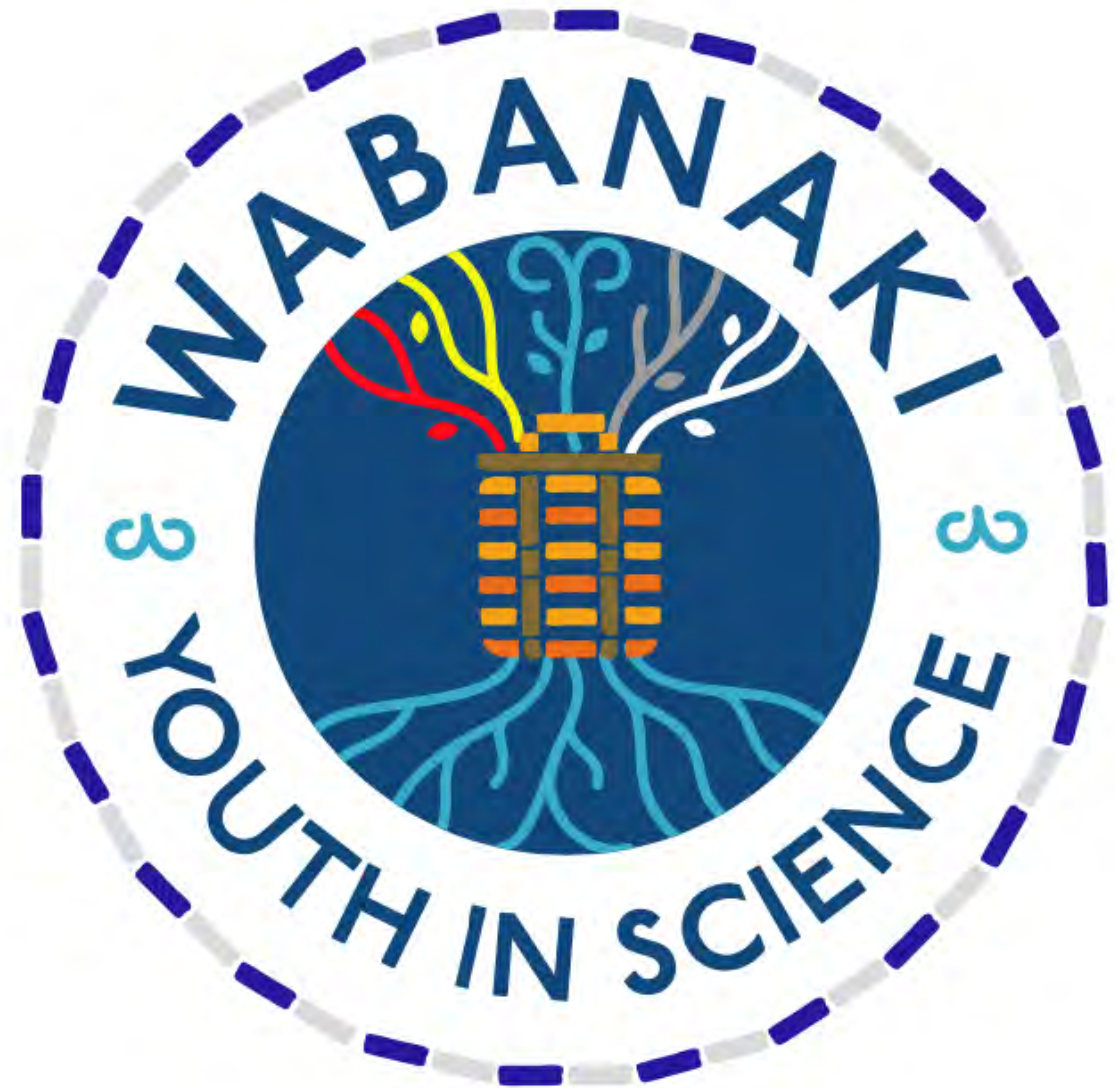


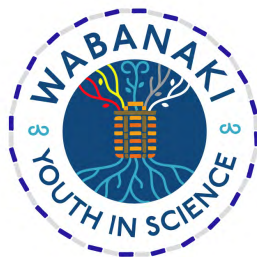
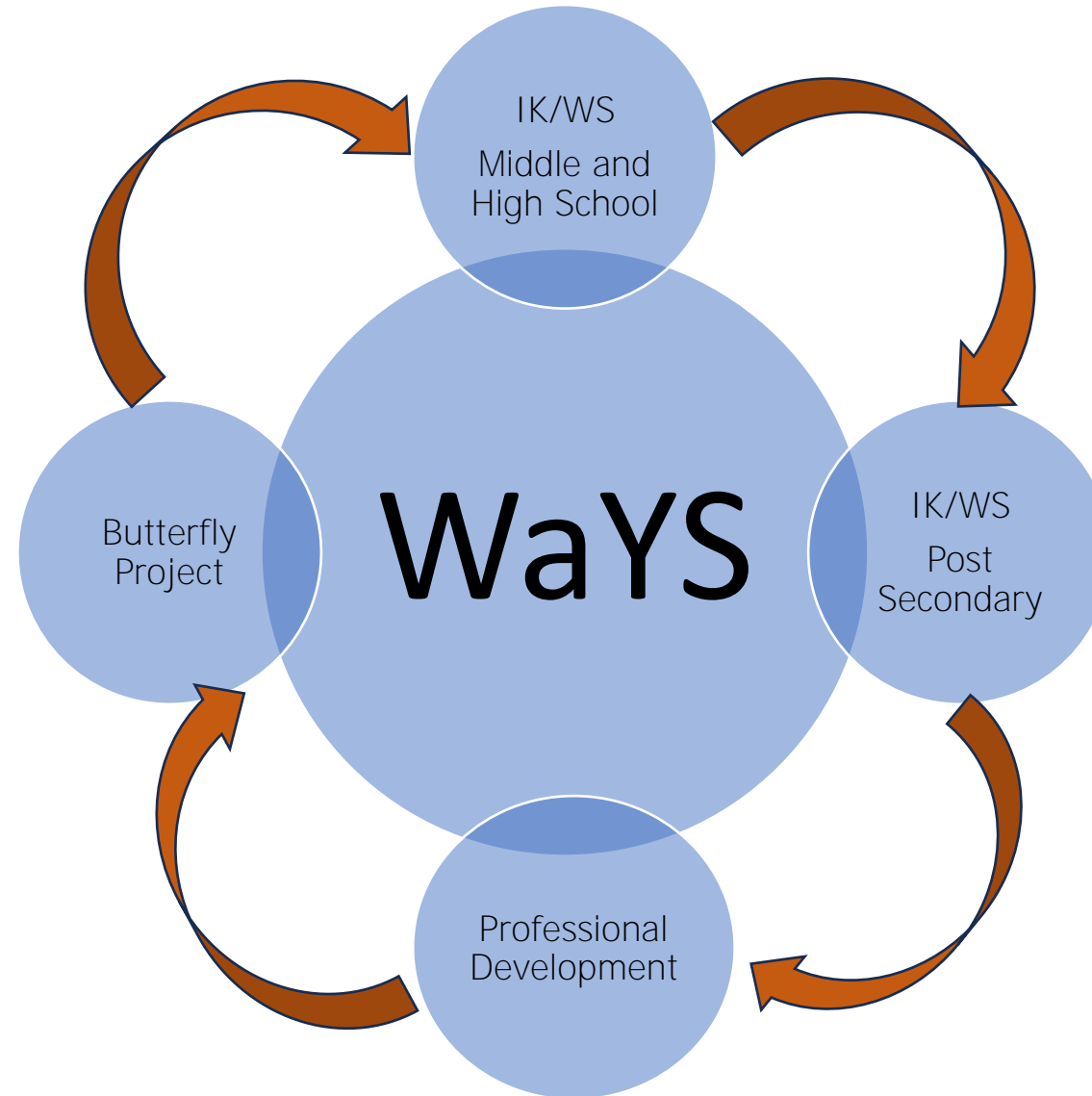
Sharing WaYS

Bridging the Gap:
Including Cultural Knowledge
To Enhance Learning in
Environmental Science for
Native Students



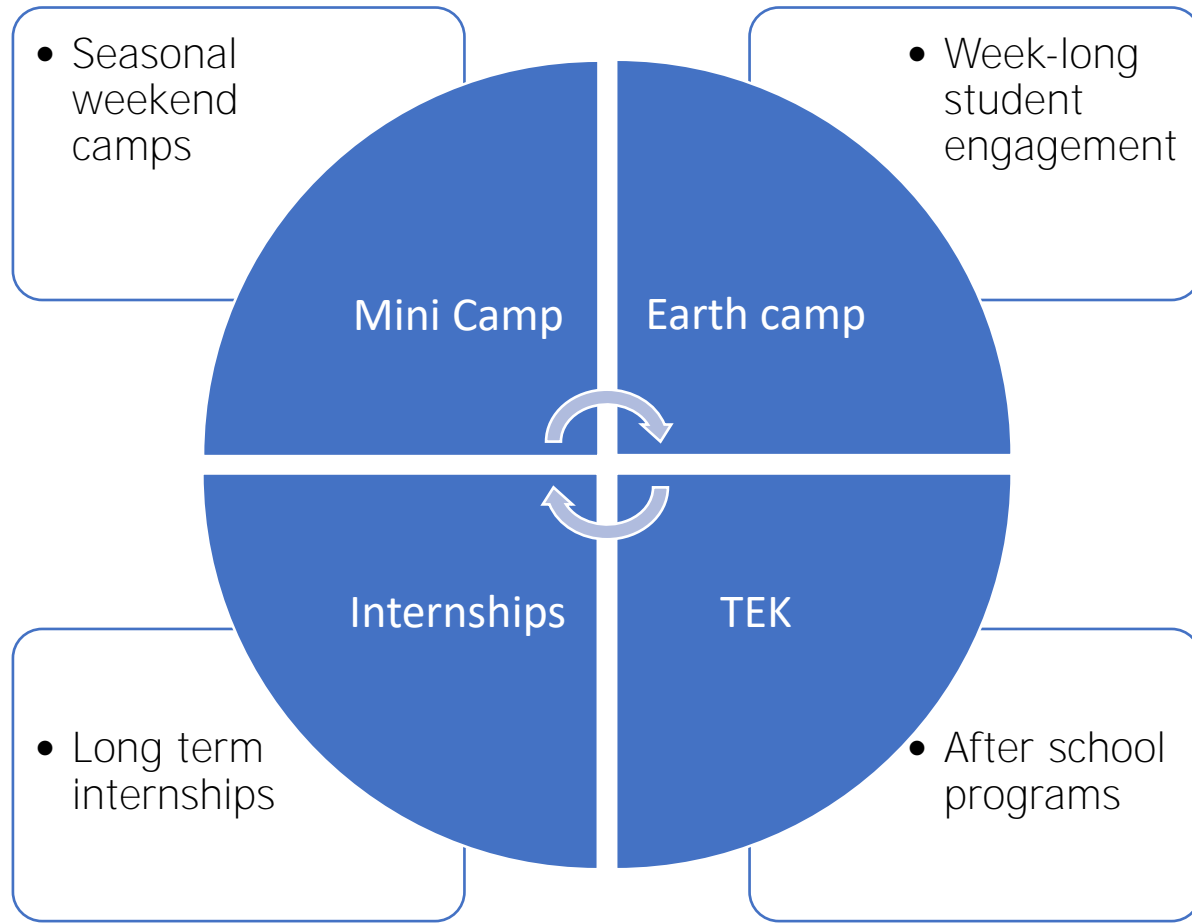
Presented by John Neptune, WaYS Cultural Science Manager
tish carr, Ph.D. WaYS, Program Manager

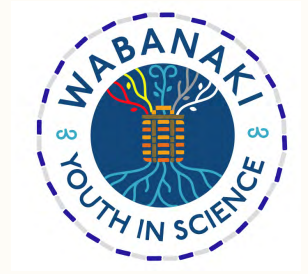
What's working!

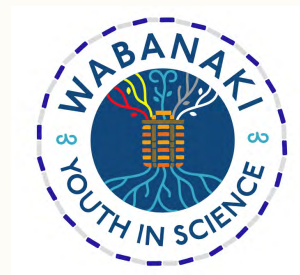


Wabanaki Youth in Science (WaYS) PROGRAM

Bringing Cultural Knowledge and western science together in a place-based, hands-on outdoor learning environment.



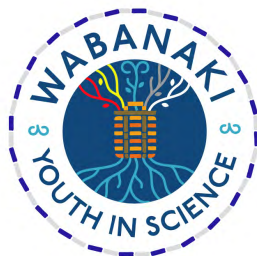




Indigenous Knowledge /Western Science in the classroom (middle and high school education)

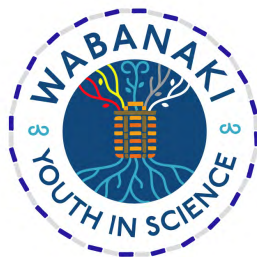
- Thank you for everything you have done for [him]. It has made a huge difference in his life. He even helps his grandfather prepare and build the sweat lodge and always **goes in... I believe that attending your camp, as young as** he did, helped him become social, see that there is more to the world than the reservation and realize how capable he is. At 16 years old, all his classmates at [his high school] drink and smoke pot so he does not get out and hang around anywhere. These things keep him busy, grounded, hopeful and proud of who he is.

Grandmother



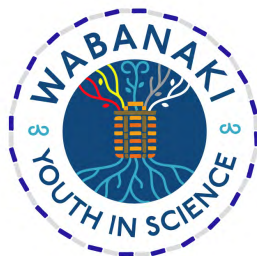
Indigenous Knowledge /Western Science in the classroom (postsecondary education)

- “it [WaYS] has helped out a lot actually because in classes here at the University I feel like I know a lot more going into them especially ones that are geared towards plants or just like things that we talked about at earth camps and stuff. I feel like that I have been really well prepared when it comes to stuff like that and going over dbh[diameter breast height] and things that we have done through internships have been really helpful for classes and like that kind of like I know how to do it already going [in] to them”.



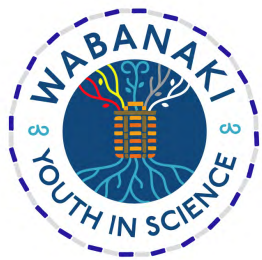
Butterfly Project

- Educators within the four walls and outside the four walls **participate in “unlearning and relearning”** through developing relationships with Indigenous Knowledge Sharers
- Multi-prong approach to decolonize western approaches to the educational system
- Long term commitment to build relationships
- Ultimately co create/co-design curriculum that is also co-taught/co-shared

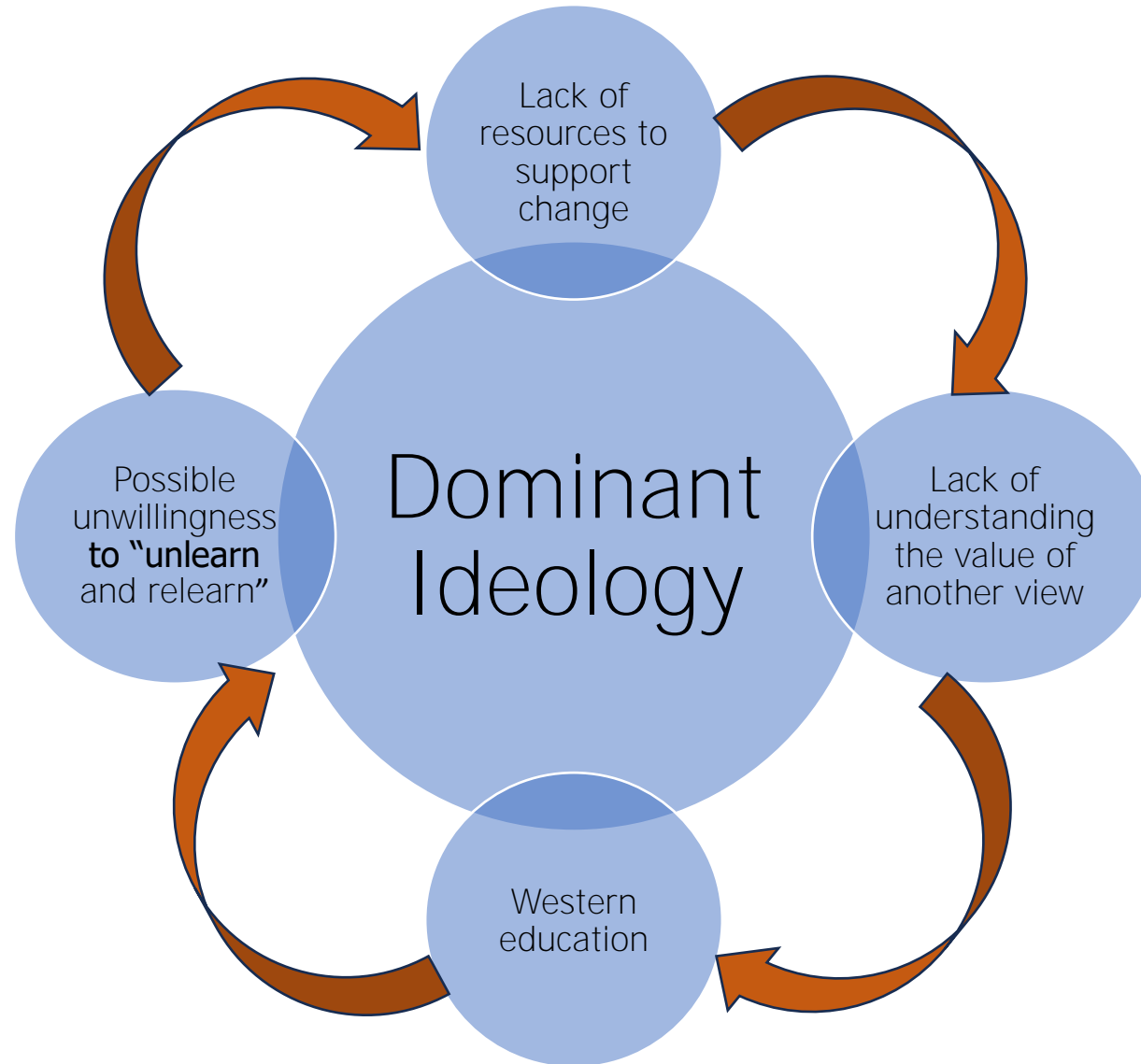


Professional Development

- Require teacher training, particularly at Tribal schools and schools that have Native youth to understand the value of learning another view and the benefit of co-sharing of knowledge

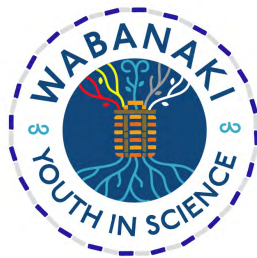


What are the barriers?



Dominant Ideology

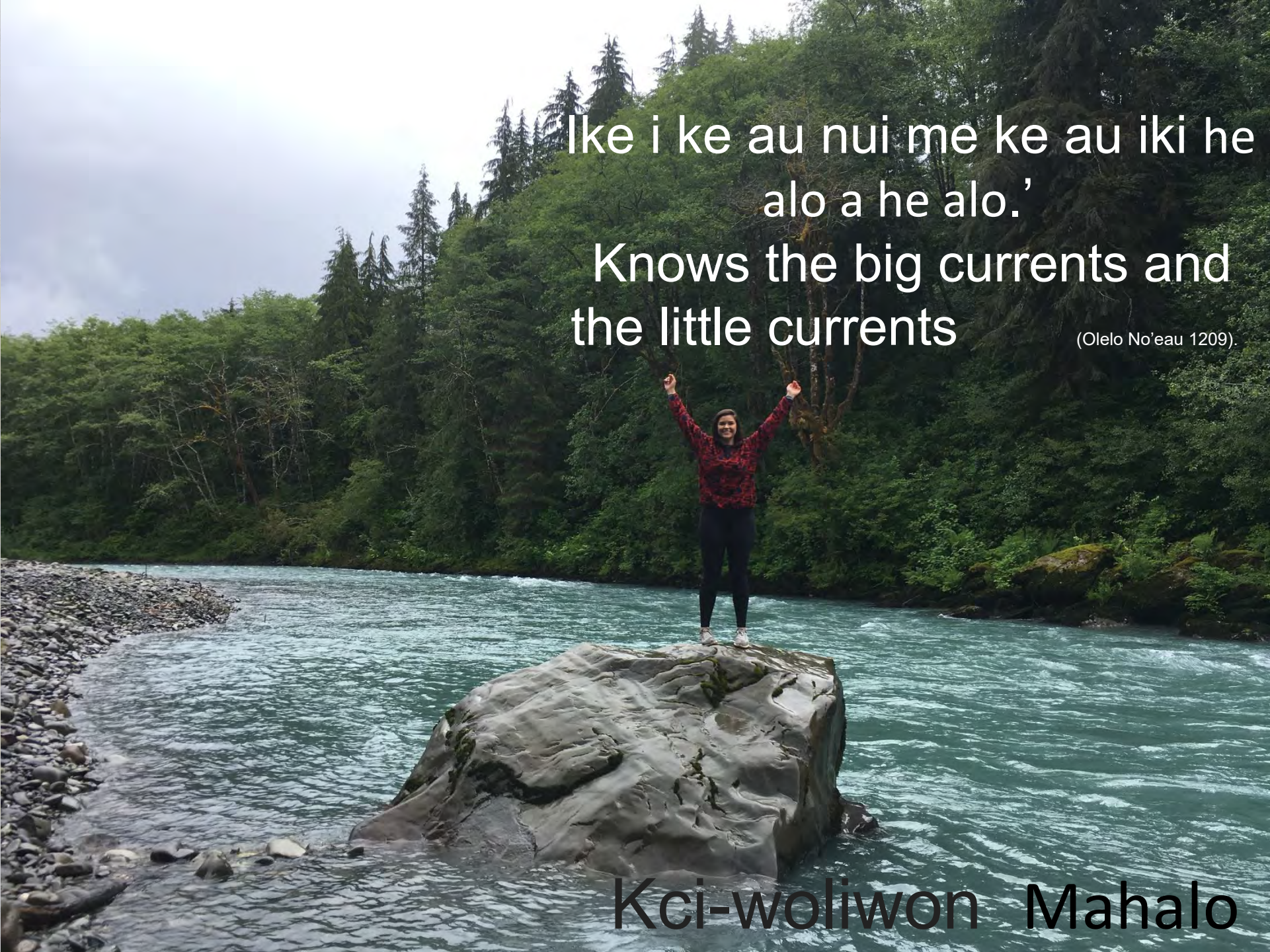
- Believing “validity” of a science can only be obtained through a western academic lens
- Lack of understanding the value Cultural Knowledge brings to the sciences.
- A K-16 educational system often does not align with place-based learning style for Native youth



Recommendations

1. Resources for Tribal schools and schools that serve Native students to develop culturally relevant science curricula in partnership with local Cultural Knowledge Sharers in an innovative and inclusive manner
2. Resources to support post-secondary institutional changes
3. Understanding the value of learning outside of the four walls of a classroom
4. Resources to support western-**trained educators' professional development to "unlearn and relearn"** to embrace other views, particularly Indigenous





Ike i ke au nui me ke au iki he
alo a he alo.'

Knows the big currents and
the little currents

(Olelo No'eau 1209)

Kci-woliwon Mahalo