ChùNet, Enabling a knowledge sharing network

Learning from water and the life it carries

Chù (Water) is life. Water ecosystems can teach us about ourselves and the world around us. When humans, other life and microbes interact with or live in water, they shed their genetic material. One way we can learn from water is by examining this genetic material (hereafter referred to as **eDNA**). For example, we could use eDNA to determine which types and how many disease-causing microbes we leave in our wastewater. Please see the FAQ for additional capabilities of eDNA analysis. Water monitoring programs have been established across Canada to cost-effectively track pathogens and respond rapidly to health threats. There is a need to include more Northern, Rural, Remote and Isolated (NRRI) communities in such water monitoring, but **NRRI communities also face unique challenges, and have needs that differ from urban priorities. Therefore, unique approaches are needed that reflect community interests, including more wholistic integration of eDNA data with monitoring of traditional food sources.**

The ChùNet project has three aims:

1. Build **a network of NRRI communities through engaging with community partners**, to,

2. Conduct **needs assessments** to determine what **challenges** each community is facing and **how eDNA monitoring could benefit each community**,

3. Initiate deployment of training packages and **training of community members** so communities can begin **monitoring eDNA in their own waters.**

To learn more, please reach out to Erin Gill (egill@sfu.ca) or Math'ieya Alatini (mathieya@oneyukon.ca).

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FAQ:

What can eDNA monitoring detect?

eDNA monitoring can provide data about native and invasive species, changes in abundance of species that are important for subsistence harvest, toxic algal blooms in water, presence of avian influenza (H5N1, HPAI) and much more. This is done by detecting animal or microbial genetic material (DNA) in water from the environment.

What types of data are used in eDNA monitoring?

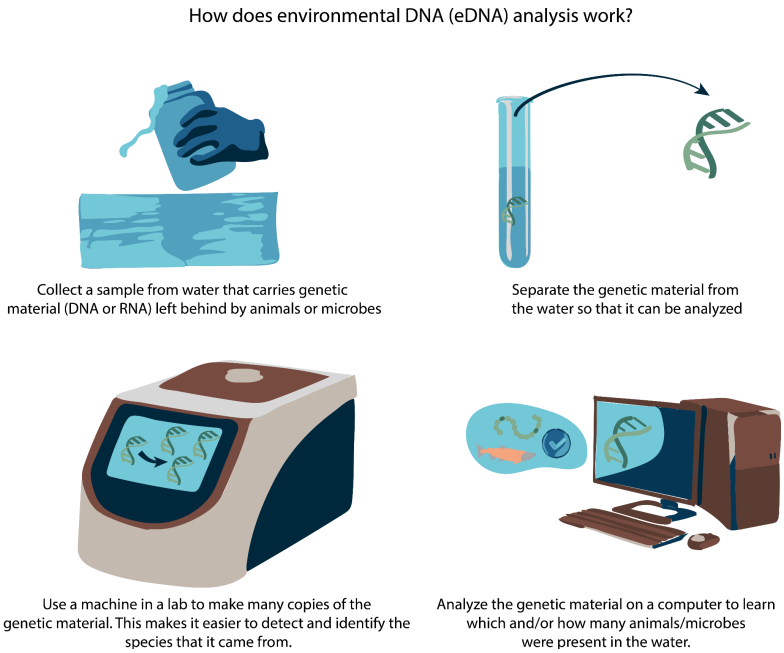
The types of data collected will depend on the challenges the community is facing and the community's priorities. Examples include environmental samples (water) for analysis, the date, time and location where samples were collected, and DNA that is copied from the collected water. Any data are owned by the community as per OCAP® and will include community observations integrated with genetic material from water (see diagram below), which will be integrated to tell a story.

How can eDNA monitoring be used by my community?

eDNA monitoring can be used by the community to make decisions about how to manage conservation efforts and protect the health of the people, animals, plants and waters.

Will ChùNet be making any efforts to integrate our Ways of Knowing with scientific results?

Yes! We believe that Indigenous Ways of Knowing should be upheld. We are working to integrate these Ways of Knowing with western scientific results wherever possible.



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