



# National Tribe Water Center

Overview of the National Tribal Water Center (NTWC) and Our Projects

Session 109 at the 2018 Alaska Public Health Association Health Summit | Captain Cook Hotel





# Who We Are

MISSION: to serve as a resource to maximize the health and wellbeing of American Indian and Alaska Native people through water and sanitation.

BACKGROUND: established within the Alaska Native Tribal Health Consortium to fill gaps in the traditional water service delivery model; complement and enhance existing services in Alaska and nationwide.







**Unregulated  
Drinking  
Water**



**Education and  
Outreach**



**Engineering  
and  
Evaluation**



# Unregulated Drinking Water

## Project Coyote Water

- The Issue
  - Unregulated water sources (UWS) present a potential public health risk to Tribal communities
- The Goal
  - Develop and organize data, information, and knowledge about the current monitoring status, conditions, and use of UWS on Tribal lands
- The Tool
  - Short survey.
  - How many households on Tribal lands rely on unregulated water sources
  - Tribal water quality concerns
  - Tribal private well testing practices
- The Process
  - Convenience sample. Primarily in-person interviews with IHS representatives and tribal environmental workers.



# Unregulated Drinking Water

## Project Coyote Water - Results

- 95% of participants reported some use of unregulated water for drinking and/or household activities in their Area
  - Most commonly consumed sources:
    - Private well water (95%)
    - Water from springs (36%)
    - Surface water (33%)
  - Motivations for unregulated water source consumption:
    - Trust or perception of the water quality (57%)
    - Cost (35%)
    - Culture or tradition (35%)
- \*multiple answers possible





# Unregulated Drinking Water

## Project Coyote Water - Results

- 59% reported that communities are “concerned” or “very concerned” about water contamination
- The most commonly identified contaminants include:
  - Bacteria (75%)
  - Natural pollution (66%)
  - Nitrates (66%)
  - Arsenic (61%)
  - Sediment (59%).

Manuscript is currently being prepared for submittal and publication.

# Unregulated Drinking Water

## Water Monitoring Projects

- Assist communities with identifying specific drinking water quality concerns
- Assist in developing sampling strategy
- Create educational materials
- Assist with write-ups, developing and editing deliverables
- Currently accepting community project proposals for FY19

### Is my well water safe to drink?

In an ongoing effort to ensure that the well water on the Spokane Reservation is safe to drink, the Spokane Water and Fish Program team will be doing another round of water testing on private wells. We'll be testing for:

- **Uranium:** mainly on wells with filters to make sure they're still working well.
- **Gross alpha:** on previously untested wells and wells that previously showed detectable, but safe levels of gross alpha to check for changes.
- **Radium & Radon:** on wells where uranium or gross alpha has been detected.
- **Heavy metals:** on wells nearest to the former post plant.
- **Other contaminants:** on about 25 wells spread out across the reservation to rule out other water quality issues.

There is no need for concern. If your well is tested, we will provide you with your water test results. If your well tests above the safe limits, we will work with you to develop a plan to address your water quality.

If you have any questions about water quality or well water testing, please contact Brian Crossley at the Water & Fish Program at (509) 626-4409 or [crossley@spokanetribe.com](mailto:crossley@spokanetribe.com).



# Education and Outreach



**WATER is Life** is a collaborative outreach program that centers local culture in the quest to improve sustainable access to safe water.

The program creates an avenue for engaging community members in the conversation on water through art, education and cultural celebration.





## Water is Life Project Objectives

- Increase knowledge and behavior that optimizes health benefits of clean water use.
- Improve sustainability of safe, healthy, local drinking water sources (ex: increased customer satisfaction, improved financial planning and/or billing, education and outreach regarding unregulated drinking water sources).
- Preserve and share local water cultural knowledge.





## Target Audience

Customers, Water Utilities and Local Leadership in communities who have self-identified a need or desire to improve some component of water system management, operation, access or use.



# Water is Life Program Flow Chart



## Overview of Program





## Community Approach

Effective outreach and education starts with community participation.





## Visioning Meetings

Community members share thoughts, ideas, stories, photos and visions representing their connection to water. The lead artist uses this input to create a visual representation of local water culture in the form of large scale public art.





*mahpe e-vóto'estaé'eneonéve (Water giving life, life - giving, enliven)*



# Water is Life Water Week Activities

## Tuesday, June 27

- Water Storytelling and Youth Art Project, 1-3 p.m., Boys & Girls Club
- Water Storytelling, for all ages, 6-7:30 p.m., Dull Knife Lawn
- Screen Printing Water is Life T-Shirts, featuring the design shown on this flier. Bring your own T-shirt or fabric to have printed on, 5-7 p.m., Dull Knife Lawn

## Wednesday, June 28

- Youth Mural Painting, youth ages 8 years and under, 1-3 p.m., Boys & Girls Club
- Storytelling and Symbolism, create a T-shirt with Tony Prairiebear, for all ages, 1-5 p.m., NCT DEP NR Conference Room
- Spring Clean Up, for 18 and up, 6-7:30 p.m., meet at Dull Knife Lawn

## Thursday, June 29

- Youth Mural Painting, youth ages 13 years and up, 10-11:30 a.m., Boys & Girls Club
- Youth Mural Painting, youth ages 9-12 year olds, 1-3 p.m., Boys & Girls Club
- Water source and facility tour, for all ages, 3-4 p.m., NCUC Building

## Friday, June 30

- Water Walk, walk to the water tank for the official reveal of the mural, 10-11 a.m., meet at Tribal Office Parking Lot
- Water Culture Celebration and Cookout, 12-1:30 p.m., Tribal Office
- Screen Printing Water is Life T-Shirts, featuring the design shown on this flier. Bring your own T-shirt or fabric to have printed on, 12-1:30 p.m., Tribal Office





## Creation of Public Art

With community members as support staff, a professional native artist creates a large scale public artwork representing the community's vision of their water culture. The Mural is a continual reminder of our great heritage, our connection to water and a source of community pride.





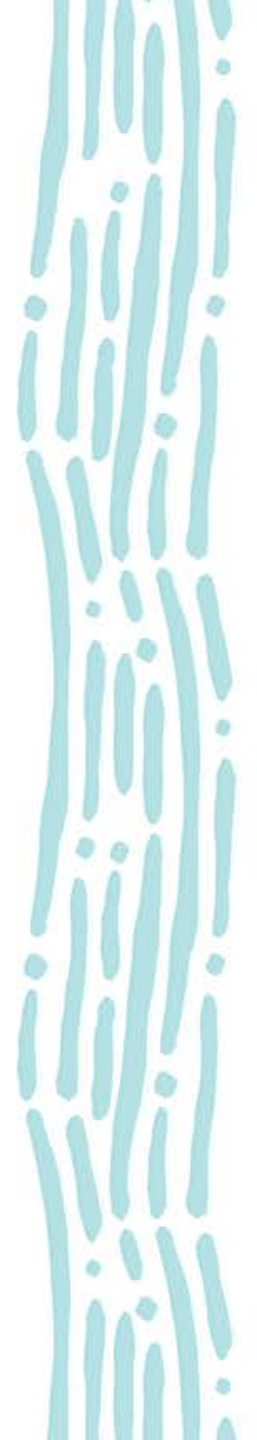
## Public Art Project Ft. Belknap

By Andrew Morrison, Brad Shields and Shawn Bell

"I do believe water is life and thru every ones efforts in recognizing a problem and coming up with a solution. It's been reinvigorating for all of us who are the Fort Belknap Indian Community."

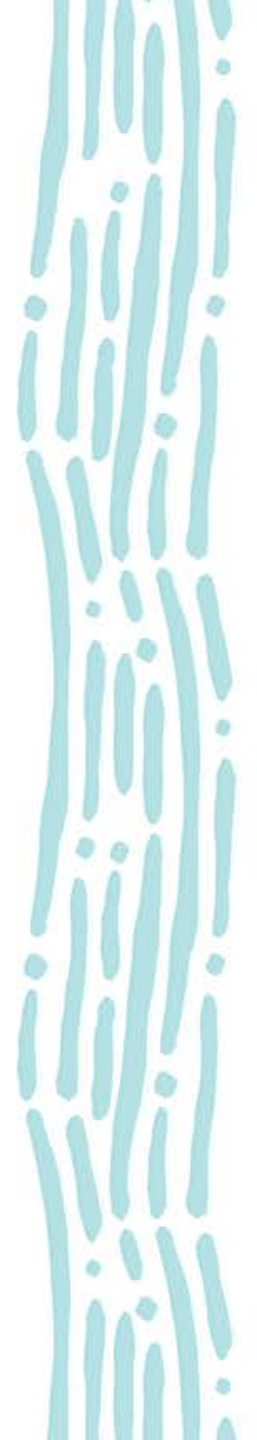
**Mark L. Azure, President**  
Fort Belknap Community Council





**Public Art Project Russian Mission – “A River Flow Through Us”** By Linda Infinite Lyons





**Public Art Project Deering Alaska**  
By Andrew Morrison, James Temte, and Bailey Gamble





# Public Art Project Lame Deer MT – “Water Protector”

By Bunky Echo-Hawk, James Temte, Javen Looks Behind and Silver Little Eagle





## Youth Art Project

Young people work alongside professional artists to create their own representations of local water culture. This gets youth involved in the conversation and opens up opportunity for water and culture-centered education.





**Youth Art Project**  
**Russian Mission AK**





# Youth Art Project

## Deering AK





# Youth Art Project

## Lame Deer MT





Water is Life Project - Fort Belknap

# Water Treatment Plant Open House and Dedication

Wednesday, August 12<sup>th</sup>, 2015 @ 1:00 p.m.  
Fort Belknap Water Treatment Plant



NTWC  
National Tribal Water Center



**OPEN TO  
PUBLIC!**

**LUNCH  
PROVIDED**

The National Tribal Water Center invites you to the Ft. Belknap Water Treatment Plant open house and dedication. We will celebrate Fort Belknap's water culture, the traditional values and beliefs surrounding this precious resource. Following the dedication we will be giving tours of the water treatment plant.

Please call James Temte at the National Tribal Water Center [907-729-3600] with any questions.

Supporting Tribes in their efforts to establish safe and sustainable water - services NTWC

## Celebrate Water





# Water is Life - Russian Mission AK

Through the efforts of the Water is Life project and the City of Russian Mission, the Russian Mission's water and sewer finances are no longer operating at a deficit, and now have a spare parts reserves account balance for the first time since being in the ARUC program. In September 2015, the City of Russian Mission had a negative balance of - \$44,084. As of June 30, 2017, their water and sewer net income (revenue minus expenses) had a positive balance of \$130,047. Additionally, the City of Russian Mission voted to have \$50,000 of sales tax revenue applied as a water and sewer subsidy for residential water and sewer rates to be decreased to \$60 a month. This is the lowest rate out of all of the ARUC communities.







## Water is Life – Deering AK

Through the efforts of the Water is Life project and the City of Deering, the Deering sewer finances are decreasing debt. In a pre and post assessment the level of satisfaction the community has with their sewage service has rose from 8% to 46%.

*"Feeling very proud. This mural that was painted on the water tank in Deering is from a photo of my grandma that my cousin took. They did a beautiful job on the mural! Its great to see art on big spaces."*

*- Carmen Aqimayuk Sears, Deering community member*





# Water is Life Next Steps 2018

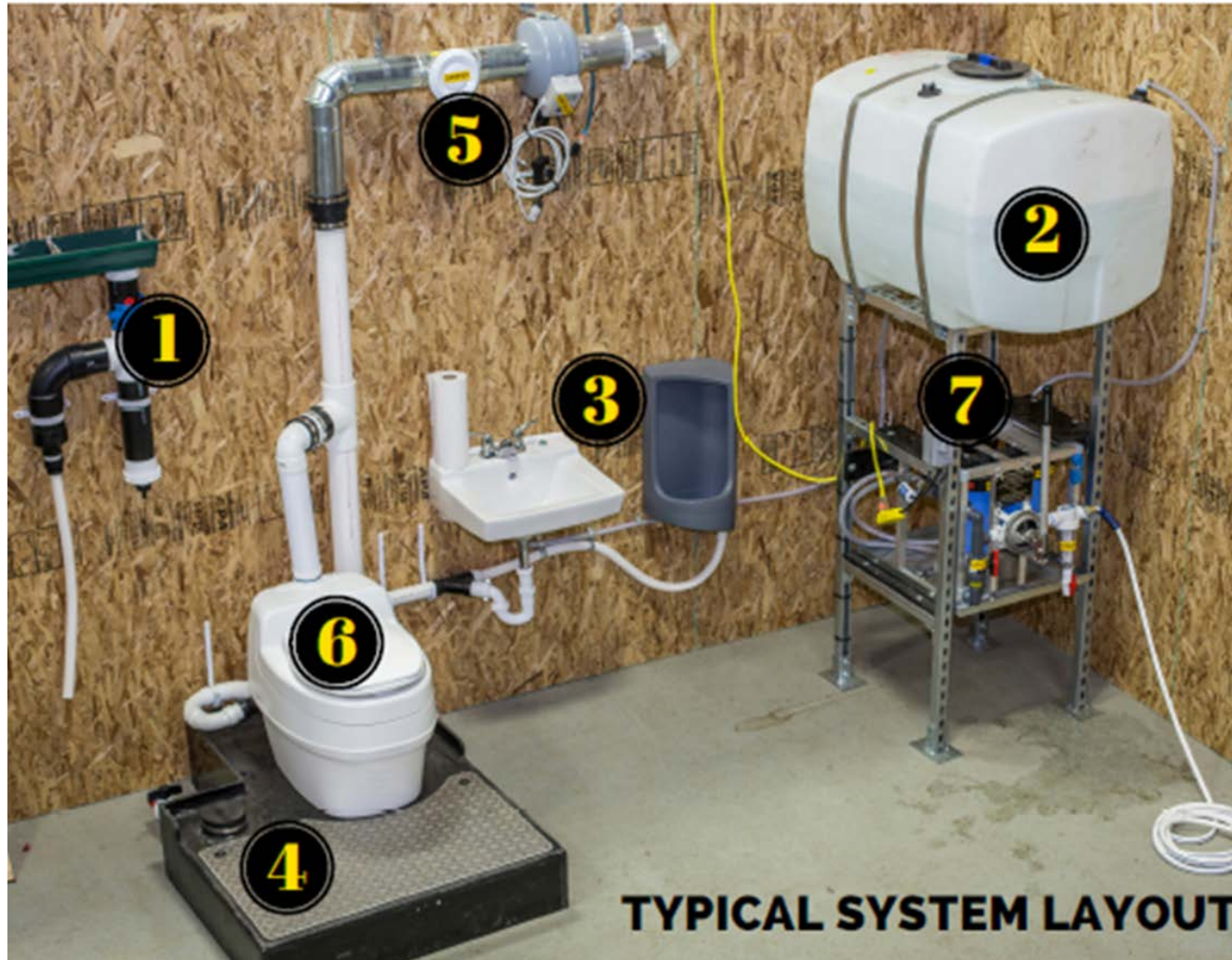
- Curriculum currently being reviewed by CDC HSB
- Pilot and evaluate complete curriculum
- Refine and publish curriculum online
- Offer technical support to communities





# Engineering and Evaluation

## Portable Alternative Sanitation System (PASS)



1. Rain catchment
2. Water storage tank
3. Low-flow sink & waterless urinal
4. Greywater tank
5. Integrated ventilation
6. Separating toilet
7. Water treatment system





# Engineering and Evaluation

## PASS Pilot Study

In this project, we combine epidemiologic and ethnographic methods to evaluate the impact of the PASS on health and wellbeing, based on both biomedical (Western) health indicator categories and on a holistic (Indigenous) conceptualization of health.

In this evaluation, we will:

1. Investigate the biomedical health outcomes associated with the PASS systems
2. Investigate the effects of the PASS on overall wellbeing, based on self-reported household data
3. Document the sources, consumption rates, and uses of water (both treated and untreated) within the home
4. Examine household experiences using the system, including the effectiveness of education and outreach material and methods developed to maximize the health benefits of the PASS





# Engineering and Evaluation

## PASS Pilot Study

### Long Term Goals

The findings of this study will be used to:

- evaluate the effects of the PASS system on household health
- refine the PASS system design and associated educational materials
- secure funding for the installation of additional systems in order to move households closer to water security, including unserved homes in communities with piped systems.



# Engineering and Evaluation

## PASS Next Steps

- Conduct a second phase of the pilot with 20 additional units
- Research on how much water is necessary in the home and what can be centrally provided in communities to ensure a low health risk for residents
- Offer modular systems to tailor unit configurations and features to household needs
- Set up local infrastructure for troubleshooting and repairs







**NTWC**  
*National Tribal Water Center*

[tribalwater.org](http://tribalwater.org)