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Nooksack Tribe collaborative teaming to address shellfish harvest closures in Drayton Harbor

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Nooksack Tribe Collaborative Teaming to Achieve Shellfish Harvest Upgrades in Drayton Harbor

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Project Team:
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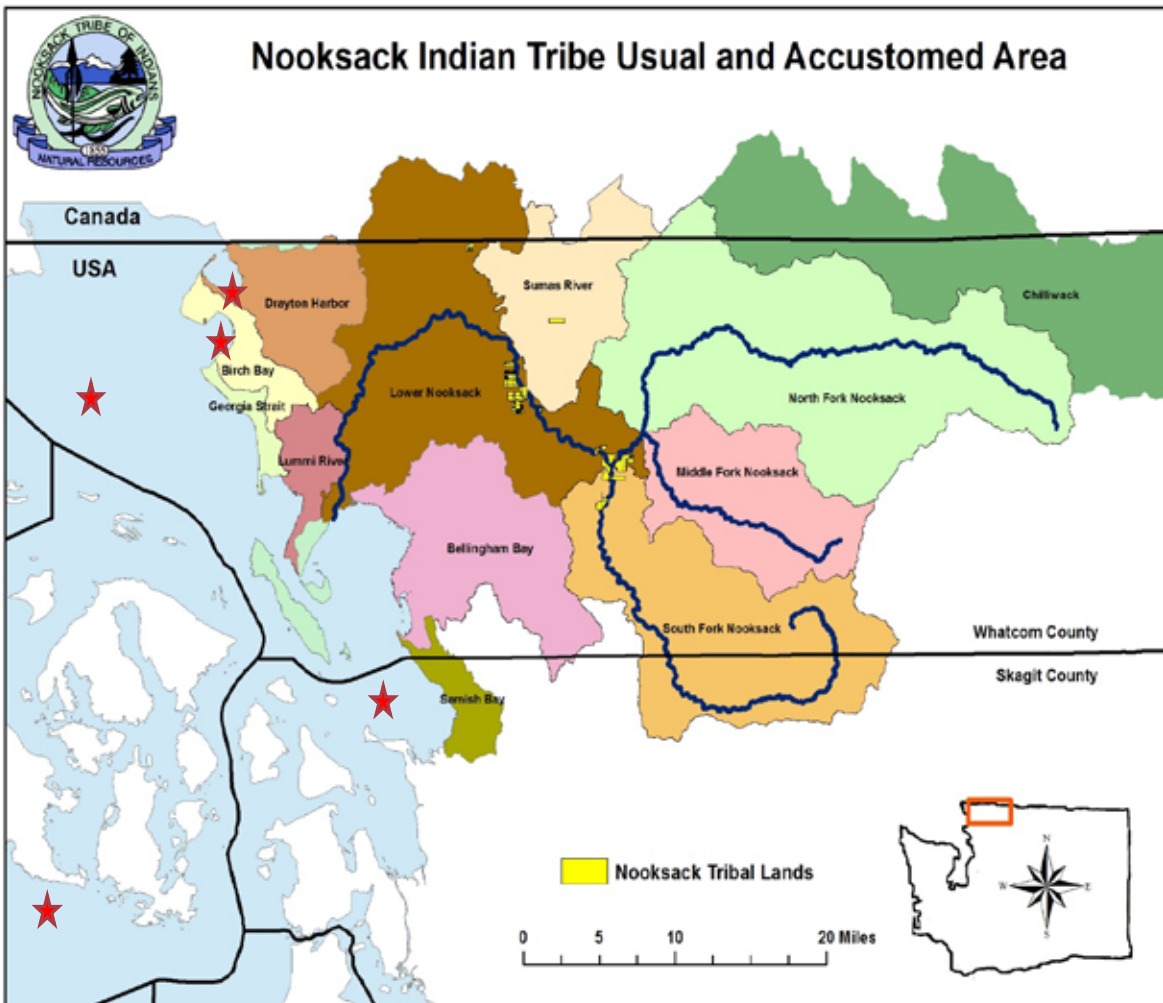


The Nooksack Tribe

- § Treaty of Point Elliot (1855) gave title to their land in exchange for hunting, fishing and gathering rights– “Treaty Resources”
- § Became federally recognized in early 1970’s with one-acre of land near Deming, WA, now up to 2,500 acres of trust land.
- § Approximately 2000 members
- § Nooksack means “People of the Fern”, Whatcom was the name of a Nooksack Chief and means “noisy water”



Geographic Area



- § Waters flowing on and through reservation/trust properties
- § Waters used for cultural and recreational activities
- § Waters supporting fishing and shellfish harvest areas

Drayton Harbor Watershed



Horse Clams

Manila clams
Oysters

Fish and Wildlife

Chinook



Š Chinook, coho, chum, steelhead, cutthroat

Š Variety of aquatic birds

Š Beaver

heron



oysters



Š Variety of shellfish:

Š Manila clams

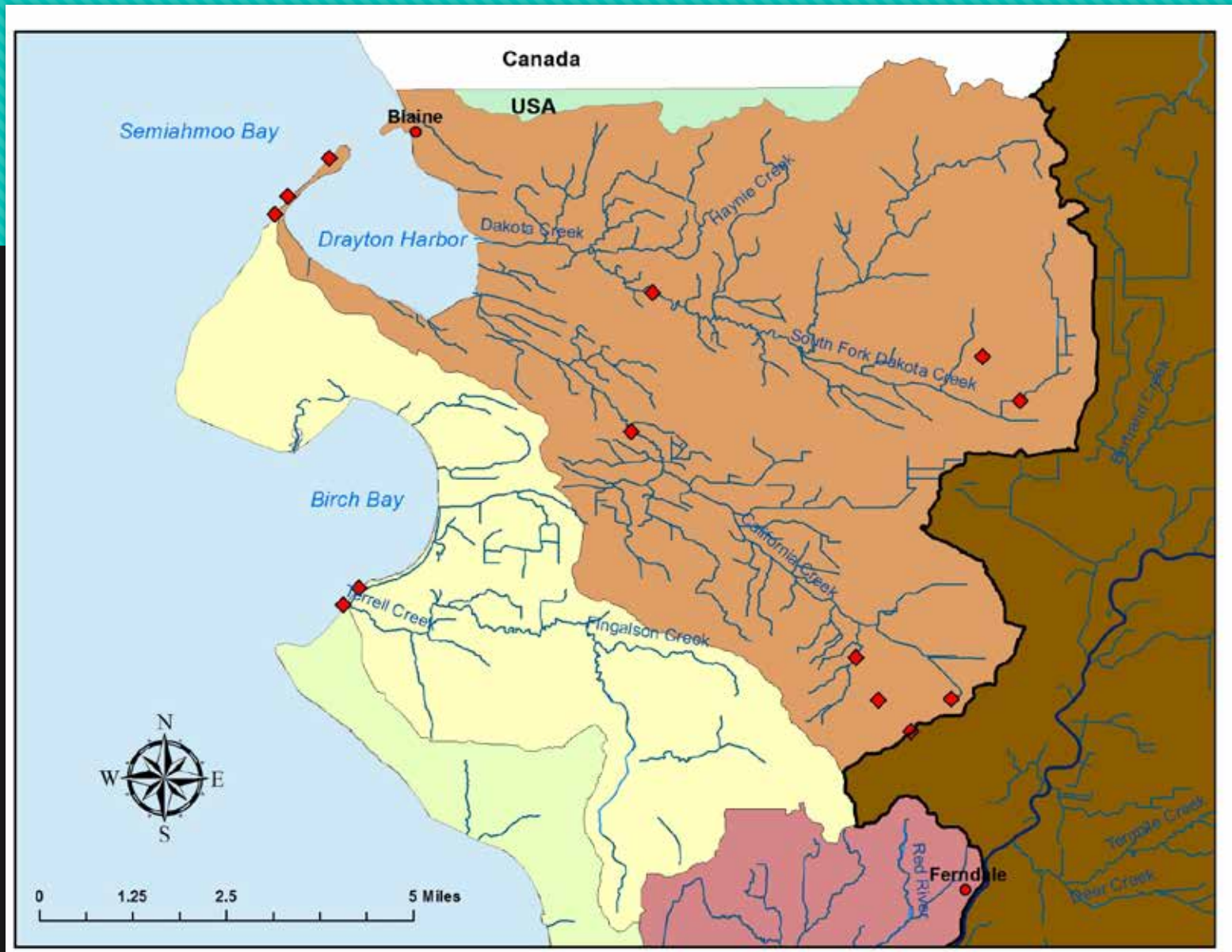
Š Oysters

Š Horse clams

Grants

- § BIA rights protection grants
- § EPA Capacity Building Grant
- § Performance Partnership Grant
 - § CWA 106 and CWA 319
 - § Indian General Assistance Grant—IGAP
- § Tribe voluntarily funded routine monthly water quality sampling at over 30 locations in Drayton Harbor watershed to assist targeted monitoring efforts by the **Whatcom Clean Water Program**
- § Program partners used our data to carry out **Pollution Identification Control (PIC) Program**





Overall Goals

- § Establish baseline conditions
- § Evaluate regulatory compliance with WA State Water Quality Standards
- § Support the development of adaptive management actions to address water quality degradation
- § Determine the suitability of waters for specific tribal uses



Monitoring Goals



- § **Source tracking** of bacteria through bracket sampling, in collaboration with Whatcom Clean Water Program
- § **Trends** of fecal coliform and *E. coli* bacteria in fresh and marine waters and *Enterococcus* in marine waters
- § **Assess connections** with other water quality parameters: turbidity, temperature, DO, pH, specific conductance, salinity
- § **Understand processes** contributing to water quality degradation

Environmental Response Tracking System (ERTS)

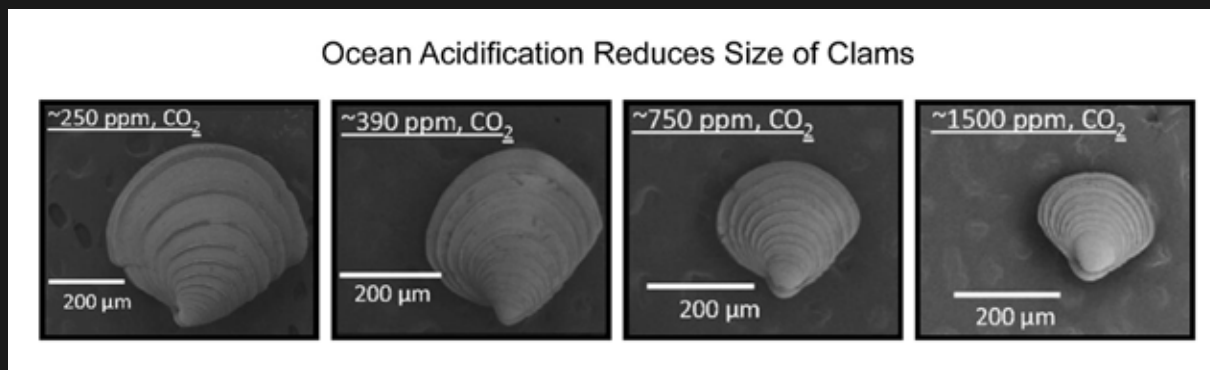
- Š Manure spreading on frozen ground
- Š Damaged exclusion fencing
- Š Livestock stream access
- Š High turbidity event or sediment pulse



Future Work:

Ocean Acidification

- § Oceans have absorbed about 25% of the CO₂ in atmosphere
- § By 2100, ocean acidity is projected to increase 100-150%
- § Nutrient loading in Salish Sea increasing, affecting acidification
- § Acidification will likely reduce growth and survival of shellfish



*Feely et al., 2012; NOAA, 2012;
Barton et al., 2012*

Questions?



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