

Alaska Native Outreach Meeting

2024 | Q2



Agenda

- Welcome, Ground Rules, and Safety Minute
- DEC Introduction
- Meet the Directors and Divisions:
 - Air Quality
 - Environmental Health
 - Spill Prevention & Response
 - Water
- Marine Toxins & Harmful Algal Blooms (HABs)
- Per-and Polyfluoroalkyl Substances (PFAS) in Drinking Water



Safety Minute



Flood Preparation and Response Checklist

Prepare:

- Keep a supply of emergency food, water, and medication in a safe, dry place.
- Print DEC's Spill Reporting Placard and pin to your refrigerator so that you're ready to report a spill.
- Find out where you can buy dry or blocked ice to keep your refrigerator cold in the event of a power outage.
- Do you operate a rural solid waste & recycling program? Brush up on seven priority actions you can take immediately to protect your community.

Respond:

- Inspect your onsite sewer system.
- Thoroughly dry wet wood before burning.
- Properly dispose of solid and hazardous waste.
- Do not consume well water or any food that comes into contact with flood water.
- Suspect your well is damaged? Review safety information on our website before inspecting.
- Close all home heating oil tank connections and anchor tanks and cradles to prevent from being swept away.

Report All Spills:
1-800-478-9300

Find more detailed information on these Flood Preparation and Response tips here: <https://dec.alaska.gov/flood>



Life Jackets— a second chance in COLD WATER



Most boating fatalities in Alaska result from drowning in cold water while not wearing a life jacket.

Wearing your life jacket could be the single most important factor in surviving cold water immersion.

Cold water immersion can kill in three ways:

Cold Shock

Within the first 2-3 minutes:

- Gasping, hyperventilation and panic.
- Drowning if not wearing a LIFE JACKET!

Swim Failure

Within the first 30 minutes:

- Loss of strength and dexterity in arms and legs.
- Inability to keep head above water, swim or self-rescue.
- Drowning if not wearing a LIFE JACKET!

Immersion Hypothermia

After 90 minutes or more:

- Gradual cooling of the body's core temperature.
- Eventual loss of useful consciousness.
- Drowning if not wearing a LIFE JACKET!



Are You Wearing Yours?



Our Mission

Conserving, improving, and protecting Alaska's natural resources and environment to enhance the health, safety, and economic and social well-being of Alaskans.



What We Do

Protect Human Health and the Environment

Air Quality

- Permit industrial air emissions
- Monitor & assess air quality
- Address small & mobile air pollution sources
- Conduct inspections & ensure compliance

Water

- Permit water discharges
- Oversee water quality standards, assessment & restoration
- Provide technical assistance
- Finance sanitation improvements
- Conduct inspections & ensure compliance

Environmental Health

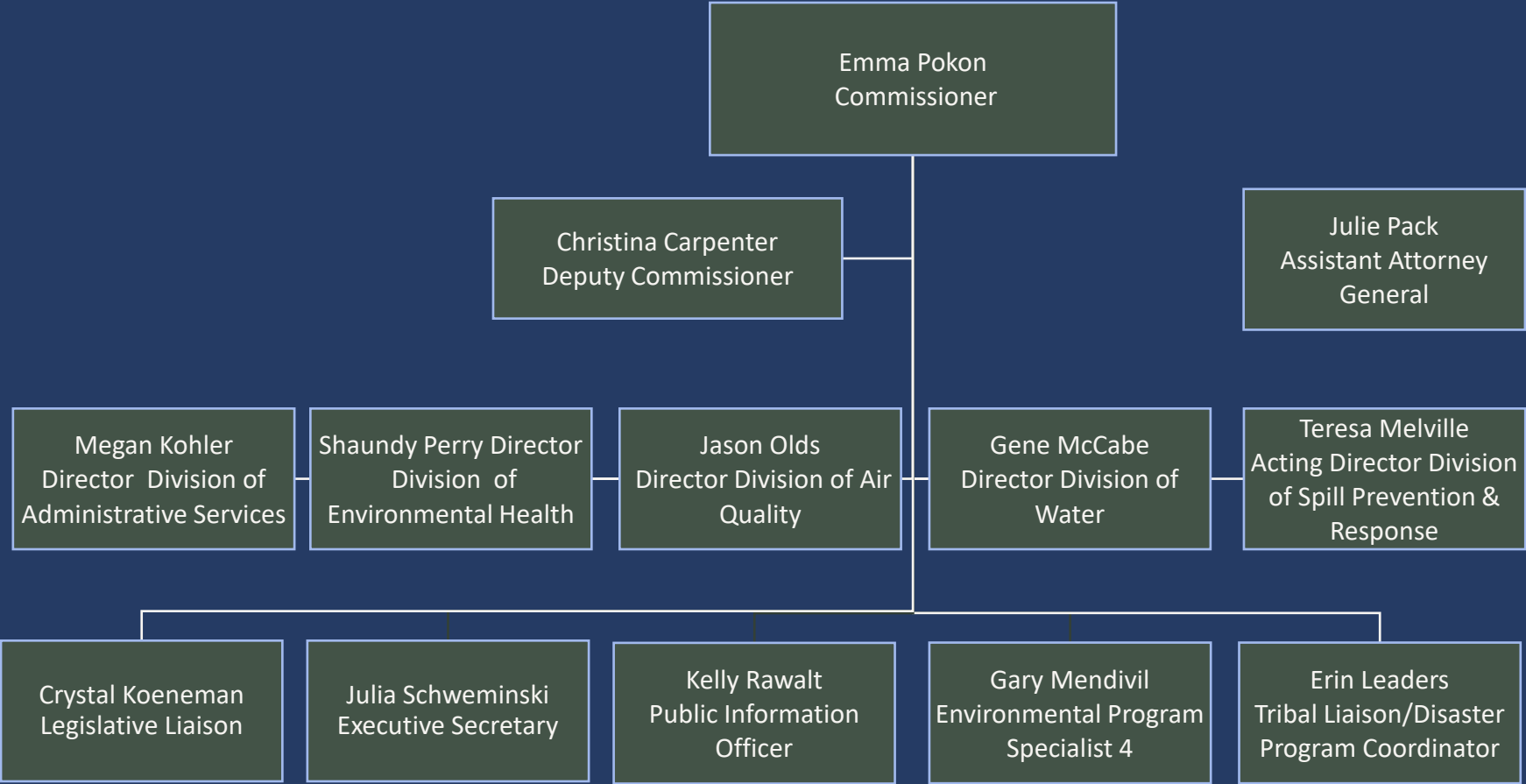
- Ensure safe food & drinking water
- Oversee landfills & pesticide applicators
- Provide animal care & importation standards
- Conduct analytical testing
- Conduct inspections & ensure compliance

Spill Prevention & Response

- Respond to spills
- Require spill prevention & response plans
- Evaluate response drills
- Manage cleanup of contamination
- Conduct inspections & ensure compliance



DEC Leadership



Division of Air Quality

Jason Olds, Director

Mission: Clean air is essential to every breathing moment. Clean Air ~ Healthy People.

Core Functions:

- Air Quality Monitoring
- Air Permitting & Compliance of Industrial Sources
- Planning and Small or Mobile Sources
- Public Complaints and Enforcement
- Dust, Wildfire, and Technical Assistance



Air Quality

- SIP Supporting Package Public Notice next 30 days
- Rural Air Pollution Monitoring
- Fairbanks Air Toxics site ~2026
- Willow Permitting
- Pikka Permitting
- Graphite One applications ~summer



Air Quality Willow Permitting

- Conoco Philips (CPAI) Willow Air Quality Permitting
- Anticipate small, distributed power and well design sent to Alpine for processing, MG2s
- Minor Operations Center issued April 11
- Central Facility application anticipated this summer, public notice likely Fall/Winter



Air Quality Pikka Permitting

- Nanushuk Operations Pad MSS issued, TVP application anticipated
- Nanushuk Processing Facility (Will eventually be TVP) PN imminent or ongoing...
- Nanushuk Drillsite B TVP Application in, MSS revision PN eta ~summer
- 1 more application anticipated



Division of Environmental Health

Shaundy Perry, Director

Mission: To provide Alaskans with clear standards and technical assistance to protect the environment and provide safe food and drinking water.

Core Functions:

- Drinking Water
- Solid Waste & Pesticides
- Food Safety & Sanitation
- Office of the State Veterinarian
- Environmental Health Laboratory



Environmental Health

Drinking Water

- Lead Service Line Inventory - dec.dw.lsl@alaska.gov
- Per- and Polyfluoroalkyl Substances (PFAS) Maximum Contaminant Levels (MCLs) presentation

Solid Waste Management

- Monthly teleconferences, Nov-May: <https://dec.alaska.gov/eh/solid-waste/waste-in-rural-alaska/monthly-teleconferences/>
- Solid Waste Bootcamp, August 5-9, Nome - dec.eh.ruralwaste@alaska.gov

Environmental Health Laboratory

- Harmful Algal Blooms presentation

Food Safety and Sanitation

- Alaska Food Protection Task Force - <https://dec.alaska.gov/eh/fss/afptf/>



Division of Spill Prevention & Response

Teresa Melville, Acting Director

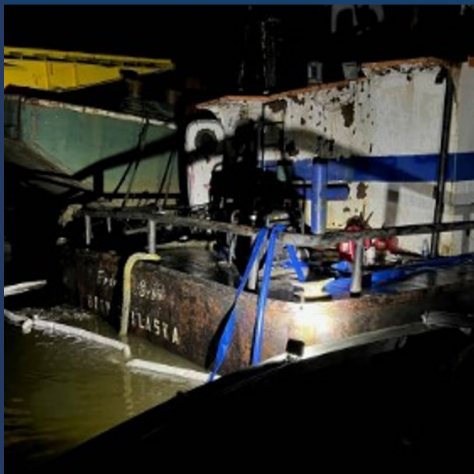


Mission: Prevent spills of oil and hazardous substances, prepare for when a spill occurs and respond rapidly to protect human health and the environment.



Core Functions:

- Contaminated Sites
- Response Fund Administration
- Prevention Preparedness & Response

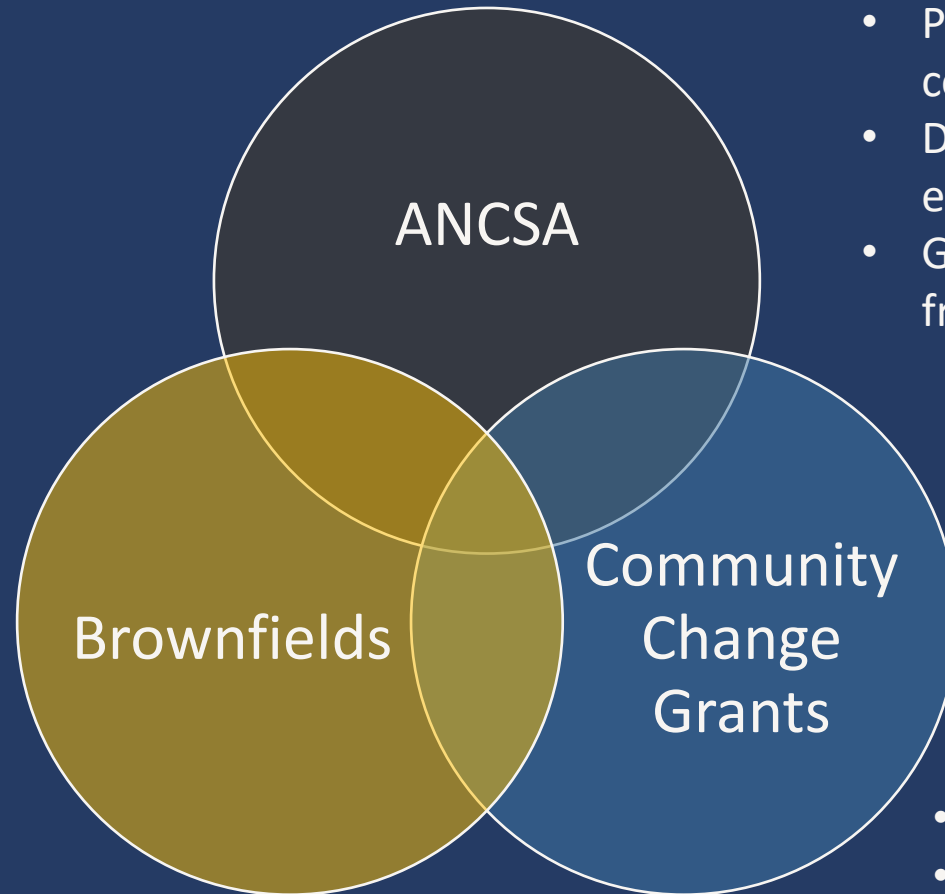


Division of Spill Prevention & Response Updates

- Public meeting participation:
 - January: ANCSA Partnership Group
 - February: Alaska Forum on the Environment
 - March: ATCEM
 - April: ANVCA & ATAA meetings
- 2023-2024 DEC Brownfields Assessment and Cleanup (DBAC) Services application period closed
- ANCSA Unit preparing for 2024 field season with site visits for verification and identification of eligible sites
- BLM signed their Record of Decision for the Red Devil Mine Site in January 2024



Contaminated Sites: Cleanup Assistance Funding



- Variety of services and grants
- No viable RP
- Reuse of property

- Pre-conveyance contamination
- DEC can assist with establishing eligibility
- Grants of up to \$3 million from EPA

- \$10-20 million grants
- Pollution reduction and Climate Resilience
- Partnerships with community organizations

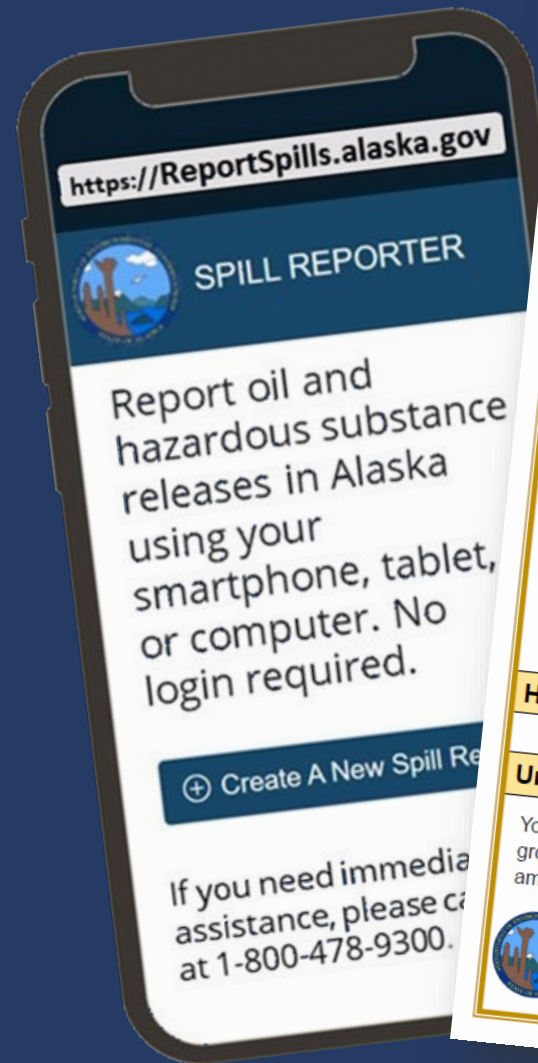


ANCSA and Brownfield Links:

- DEC ANCSA : <https://dec.alaska.gov/spar/csp/anca>
- DEC Brownfields: <https://dec.alaska.gov/spar/csp/brownfields/assessment-cleanup/>
- EPA ANCSA Inventory: <https://experience.arcgis.com/experience/51479962643a49368433f43204d493e3>
- EPA ANCSA Application: <https://www.epa.gov/r10-tribal/contamination-anca-conveyed-lands>
- EPA Community Change Grants: <https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-community-change-grants-program>



Division of Spill Prevention & Response Updates



Report Oil and Hazardous Substance Spills

TOLL-FREE	1-800-478-9300
INTERNATIONAL	1-907-269-0667
ONLINE	ReportSpills.alaska.gov

It's Required by Alaska Law!
(AS 46.03.755, AS 46.03.450, 18 AAC 75.300, 18 AAC 75.325)

Oil and Petroleum Product Reporting

Spills to Water

- Any amount spilled to water must be reported **immediately**.

Spills to Land

- Spills in **excess of 55 gallons** must be reported **immediately**.
- Spills in **excess of 10 gallons but less than 55 gallons** must be reported within 48 hours.
- Facilities shall maintain a spill log and report a record of oil discharges from **1 to 10 gallons** monthly.

Spills to Impermeable Secondary Containment

- Spills in **excess of 55 gallons** must be reported within 48 hours.

Hazardous Substance Reporting

Any hazardous substance spill, other than oil, must be reported **immediately**.

Underground Storage Tank (UST)* Reporting

You must report a suspected below ground release from a UST system, in any amount, within 24 hours. (18 AAC 78.212)

If a release is suspected the owner or operator of a UST shall investigate the UST site and shall report to the UST Unit within the period specified. (18 AAC 78.200)

Contact us: (907) 465-5250
* Regulated UST as defined in AS 46.03.450(8)

Alaska Department of Environmental Conservation
Division of Spill Prevention and Response
<https://spills.alaska.gov>

Revised 10/10/2022

- Online Spill Reporting
 - ReportSpills.Alaska.gov
- Public Outreach Listservs
 - Situation Reports, issued for larger or more complex or significant spill responses: <http://tiny.cc/61q3yz>
 - Receive notifications about Oil Discharge Prevention and Contingency Plan (ODPCP) applications: <http://tiny.cc/51q3yz>



Division of Spill Prevention & Response

2024 Spring Floods

- SPAR is working with the State Emergency Operations Center and local communities during the 2024 spring flood season.
- As of May 15th we've received reports of sheen and odors in Kwethluk and Napaskiak.
- SPAR is organizing a site visit to both Napaskiak and Kwethluk to assess the pollution caused by the community flooding.



Division of Water

Gene McCabe, Director

Core Functions:

- Water Quality Standards
- Water Quality Monitoring
- Permitting
- Compliance and Enforcement
- Village Safe Water
- State Revolving Fund



Division of Water



Items of Interest

- Triennial Review of Water Quality Standards
 - <https://dec.alaska.gov/water/water-quality/triennial-review>
- 2023 Tribal Environmental Leaders Summit video available at:
 - <https://dec.alaska.gov/water/tribal-communications/>
- New Village Safe Water Manager
 - David Landes – Juneau office
- State Revolving Fund Update
 - Young Ha



SRF Funding Opportunity

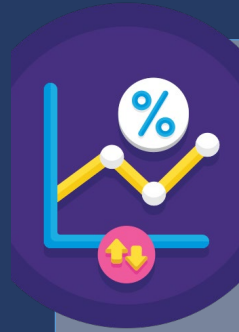
Eligible Projects

- Public Water System
- Wastewater System
- Some Landfill



Advantages

- Apply anytime
- Low interest rate
- Long terms, 30 years in some cases
- Loan forgiveness for some borrowers



Interest Rate



Length of Term



Forgiveness

Who Can Apply

- Municipally owned drinking water and wastewater systems
- Private water systems economically regulated by the Regulatory Commission of Alaska



Available Loans

- Direct Loans
- Sustainable Infrastructure Planning Projects
- Micro Loans
- Short-term interim financing
- Refinancing existing debt (some restrictions apply)



How to Apply

- Project Questionnaire
- Proposed project on the Project Priority List
- Submit application through the Online Application System (OASys)



Contact

Young Ha

SRF Program Manager

Alaska Dept. of Environmental Conservation

907-269-7544

young.ha@alaska.gov

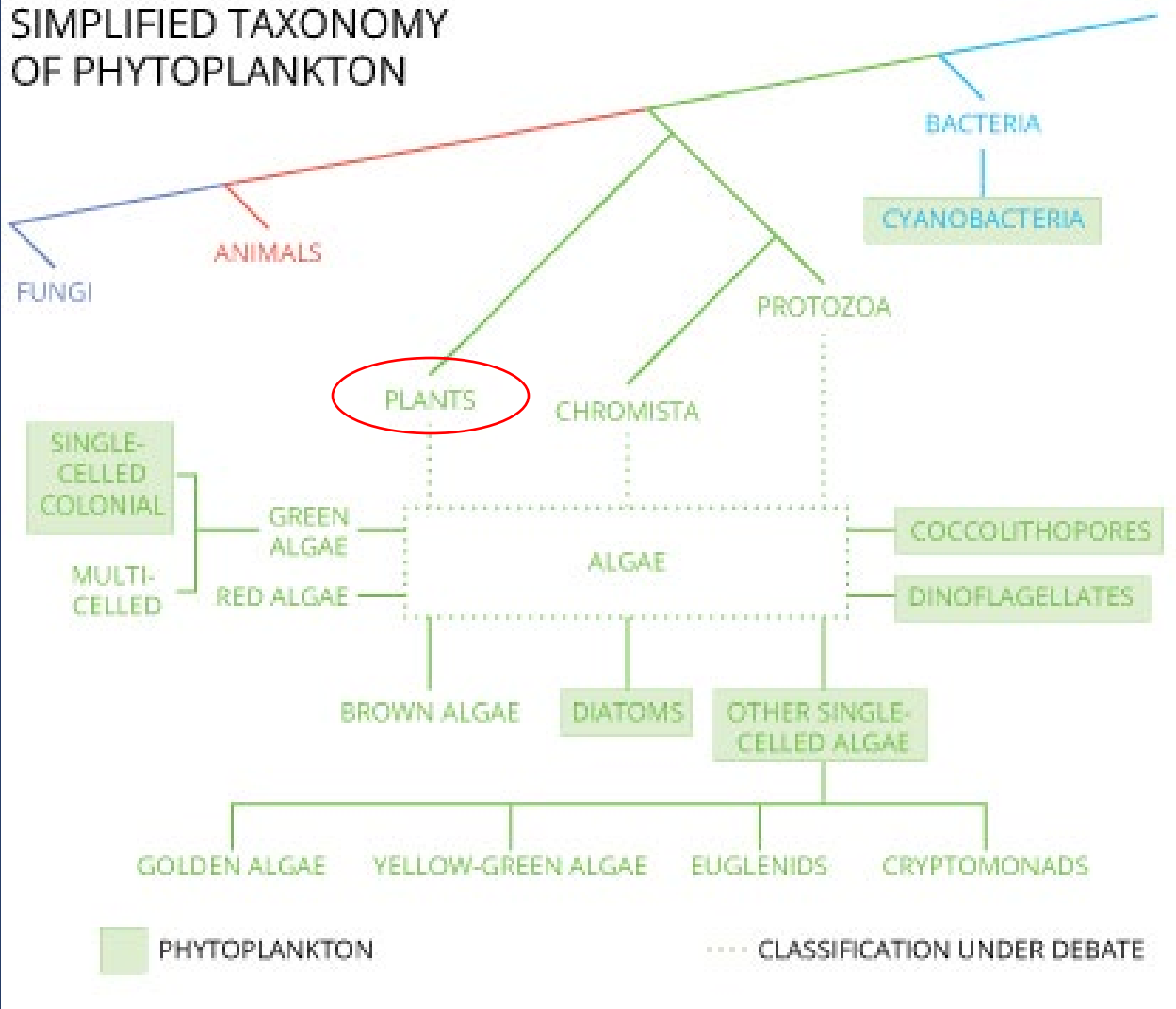
<https://dec.alaska.gov/water/technical-assistance-and-financing/state-revolving-fund/>



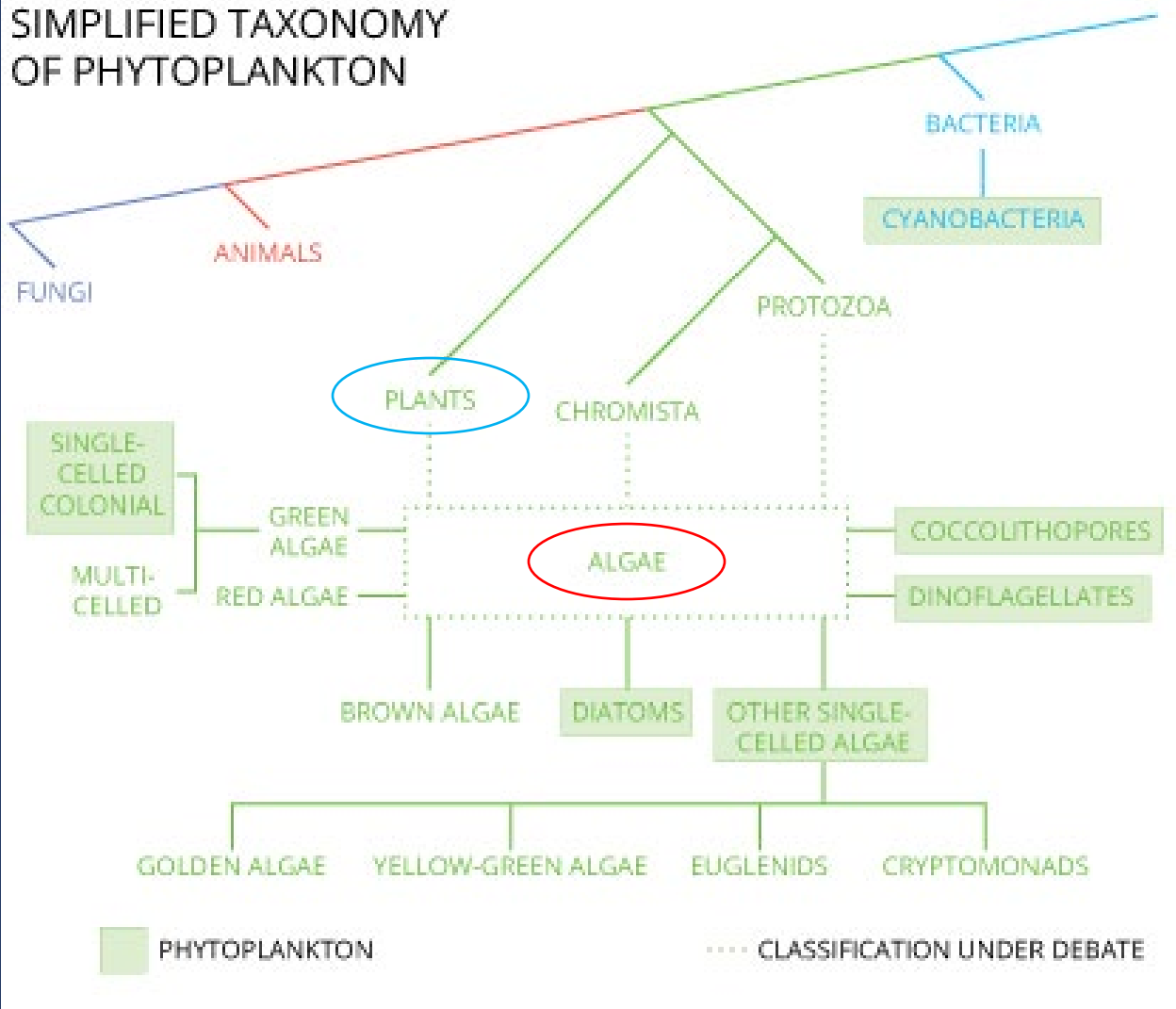
DEC Environmental Health Laboratory: Marine Toxins & Harmful Algal Blooms



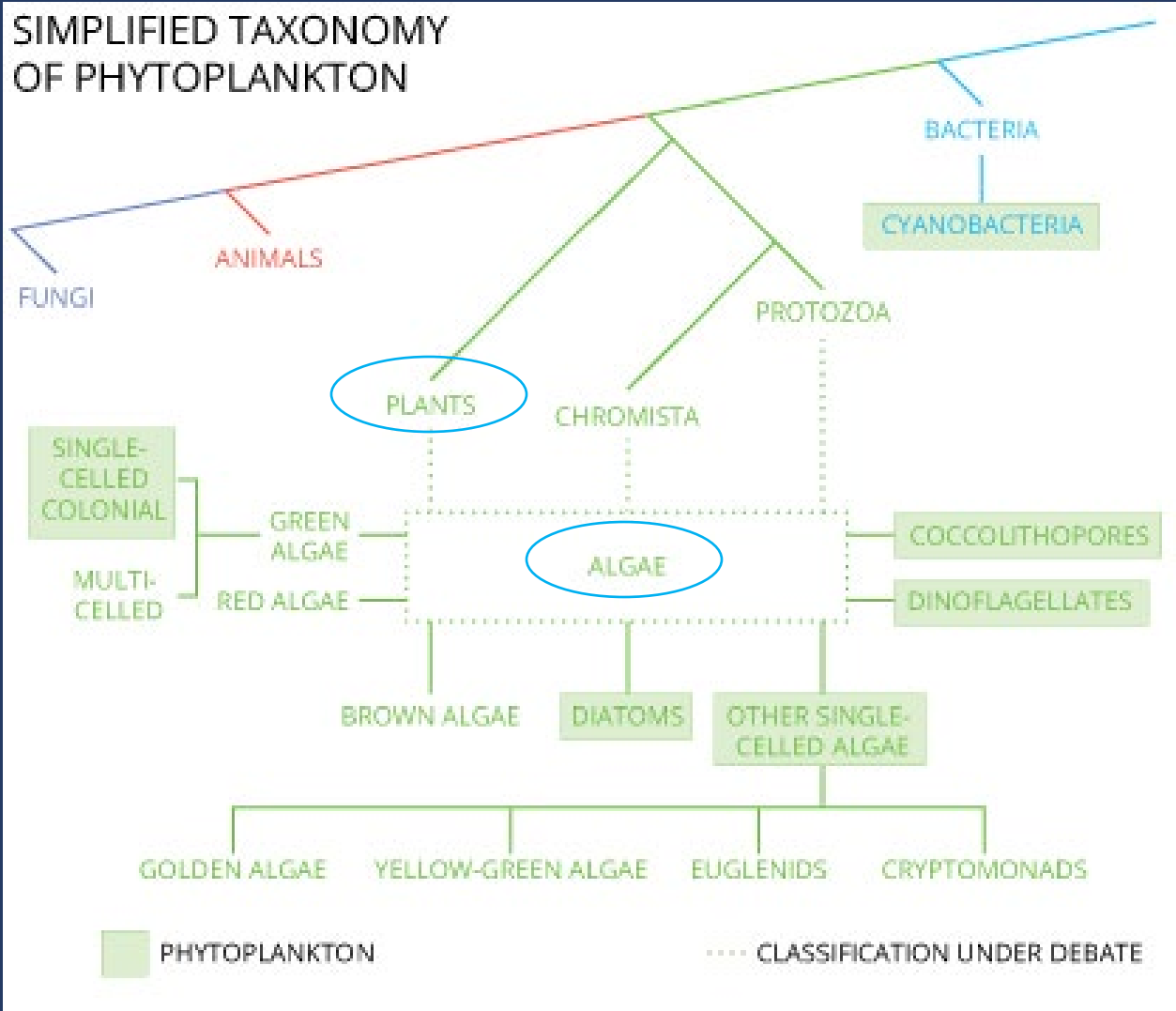
Marine Toxins



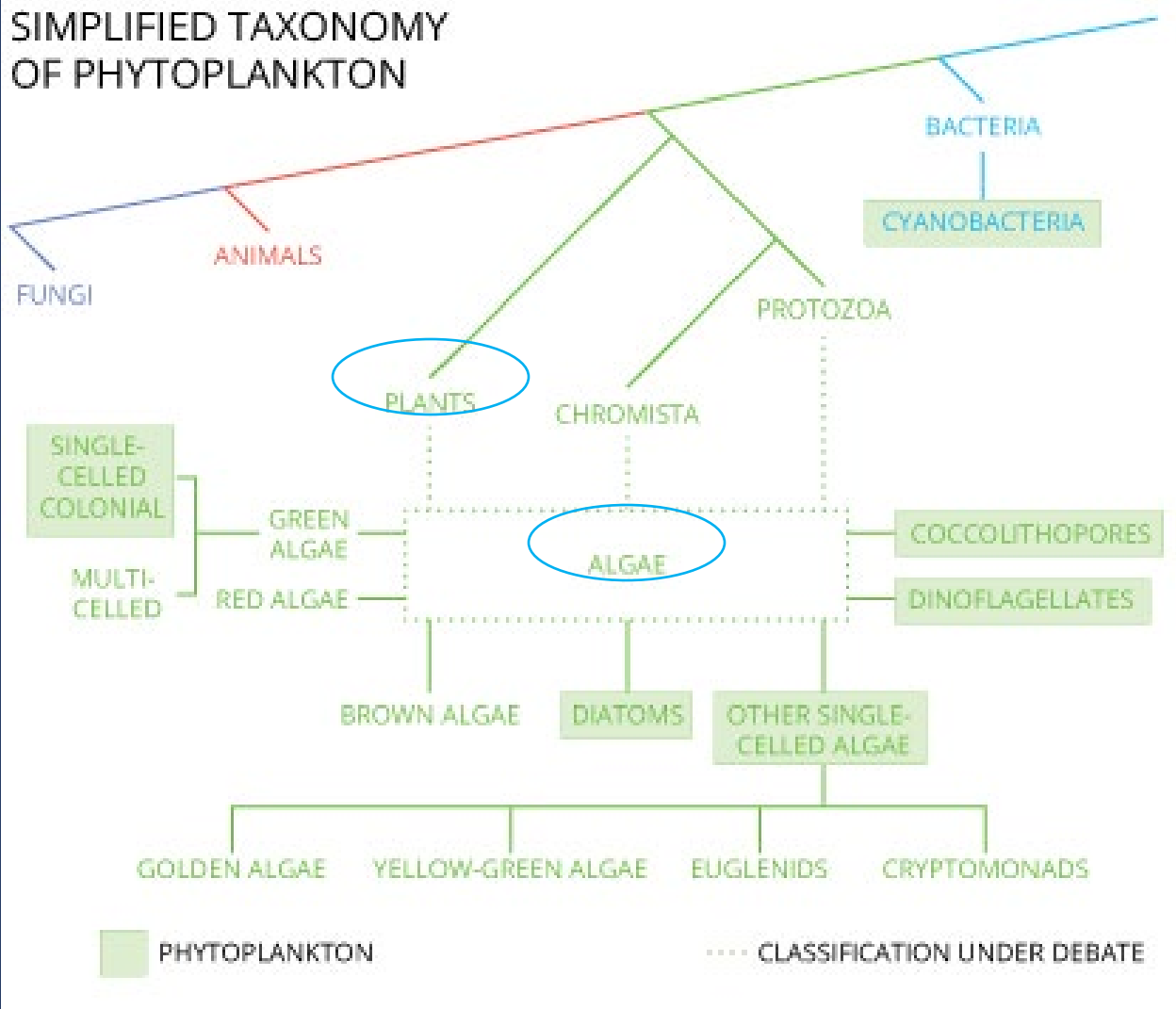
Marine Toxins



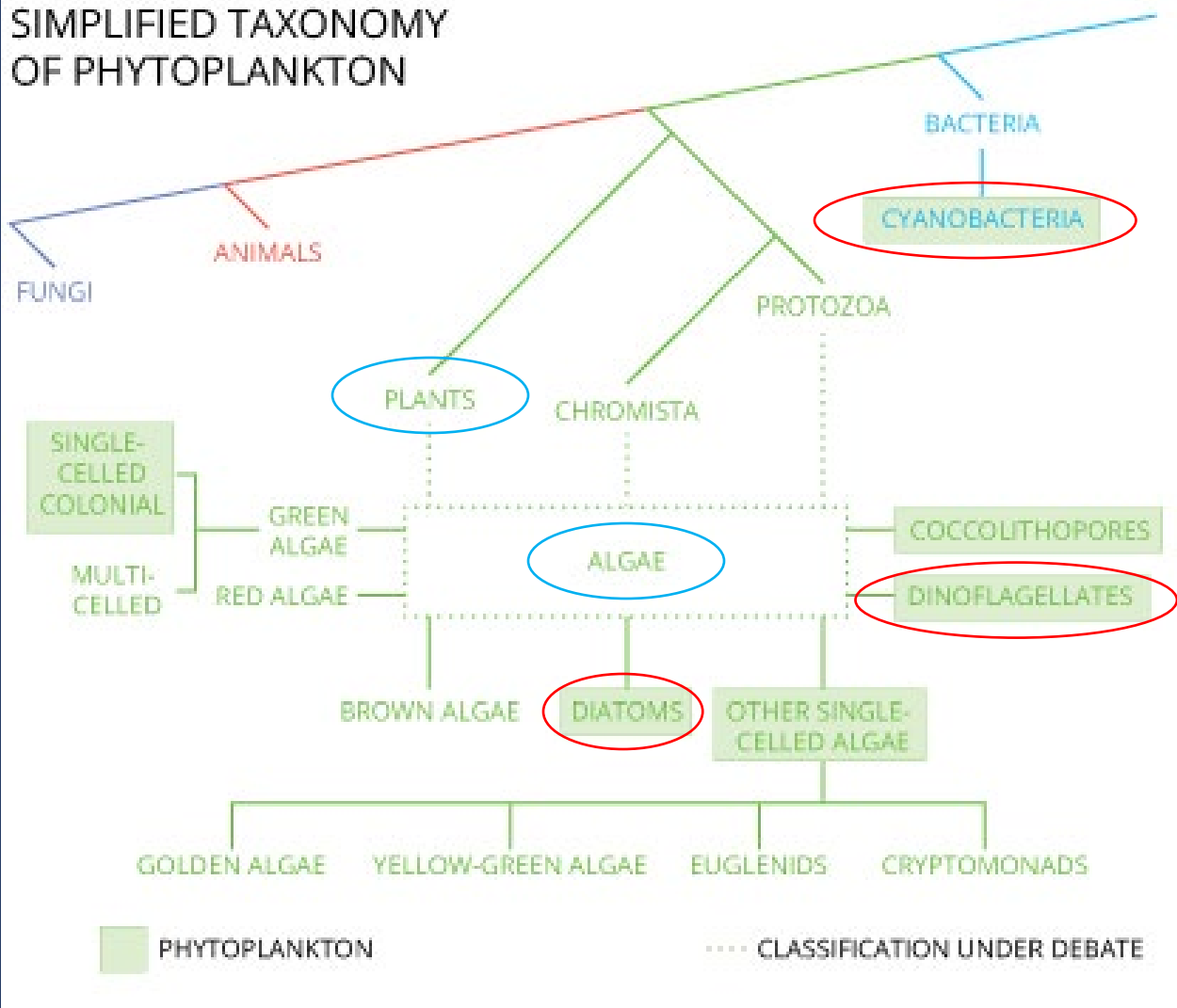
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Marine Toxins



Marine Toxins



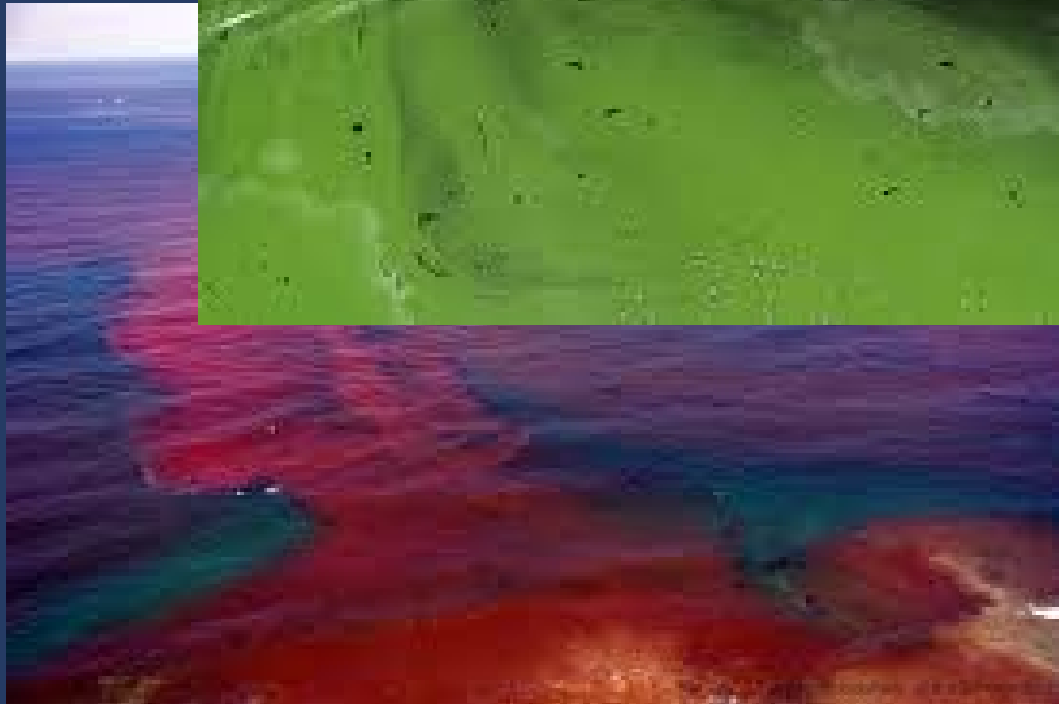
Harmful Algal Blooms (HABs)



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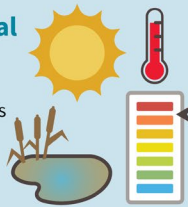
Harmful Algal Blooms (HABs)

Causes of Algae Blooms



Environmental Conditions

- Abundant light
- High temperatures
- High pH levels
- Stagnant water
- Excess nutrients



TOXIC ALGAE BLOOM

Sources of Excess Nutrients

Agriculture:

Fertilizer runoff (nitrogen & phosphorus) and animal waste

Industry:

Chemical discharge and waste

Urban Life:

Sewage and waste runoff



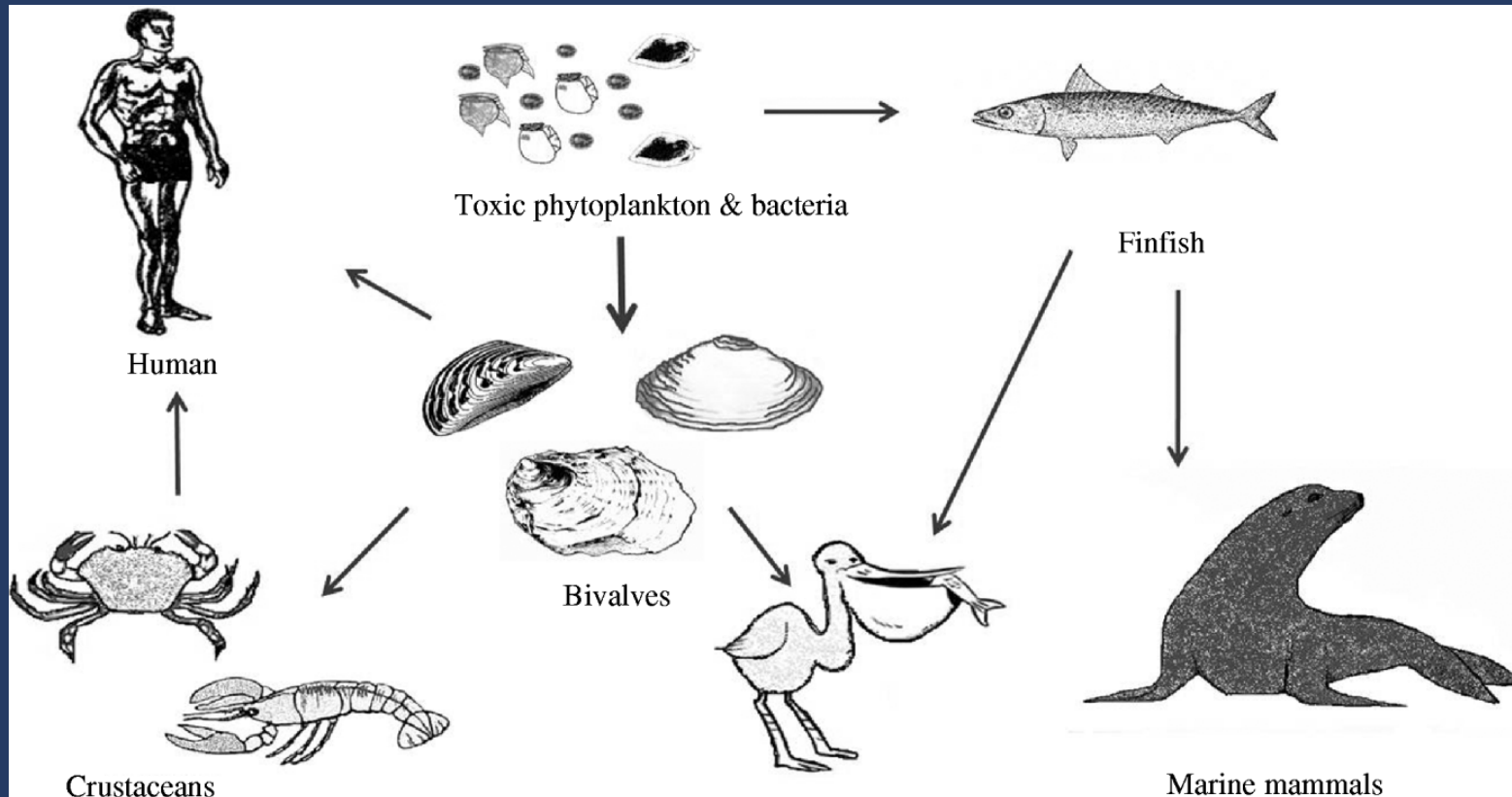
Climate Change

Climate change is increasing the frequency and severity of blooms due to:

- Increases in water and air temperature
- Increases in droughts and flooding
- Changes in salinity
- Increased amount of CO₂
- Sea level rise and coastal upswelling



How do shellfish become toxic?



Alaska Marine Toxins



Alaska Marine Toxins



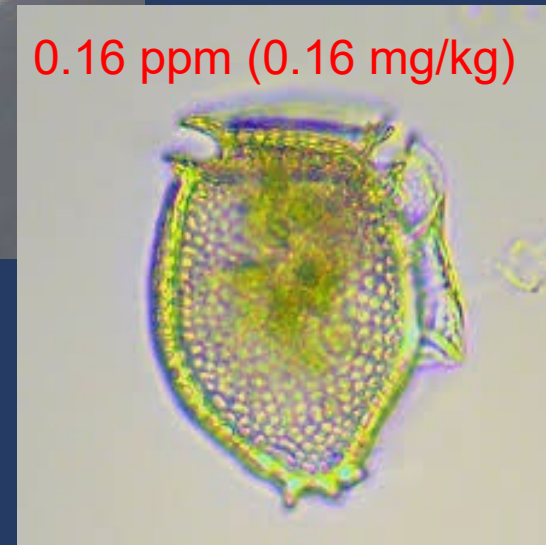
Alaska Marine Toxins



Alaska Marine Toxins



Alaska Marine Toxins



What do we do?



Food Safety and Sanitation



Division of Environmental Health

FOOD SAFETY AND SANITATION PROGRAM



HOME

FOOD

PUBLIC FACILITIES

CONSUMERS

RESOURCES

CONTACT

You are here: [DEC](#) / [EH](#) / Food Safety and Sanitation Program



FOOD SAFETY AND SANITATION

Kimberly Stryker, *Program Manager*

The Food Safety and Sanitation program protects public health by working collaboratively with regulated food, seafood, and public facilities to prevent illness, injury, and loss of life due to unsafe sanitary practices. Learn more [about us](#).

Contact Our Offices

Main Line: 907-269-7501

Report Foodborne Illness: 907-764-9825

FOOD WORKER CARDS

RENEW A PERMIT

FOOD RECALL ALERTS

REPORT FOOD OR
SANITATION ISSUES



Testing



Leverage and collaboration



Leverage and collaboration



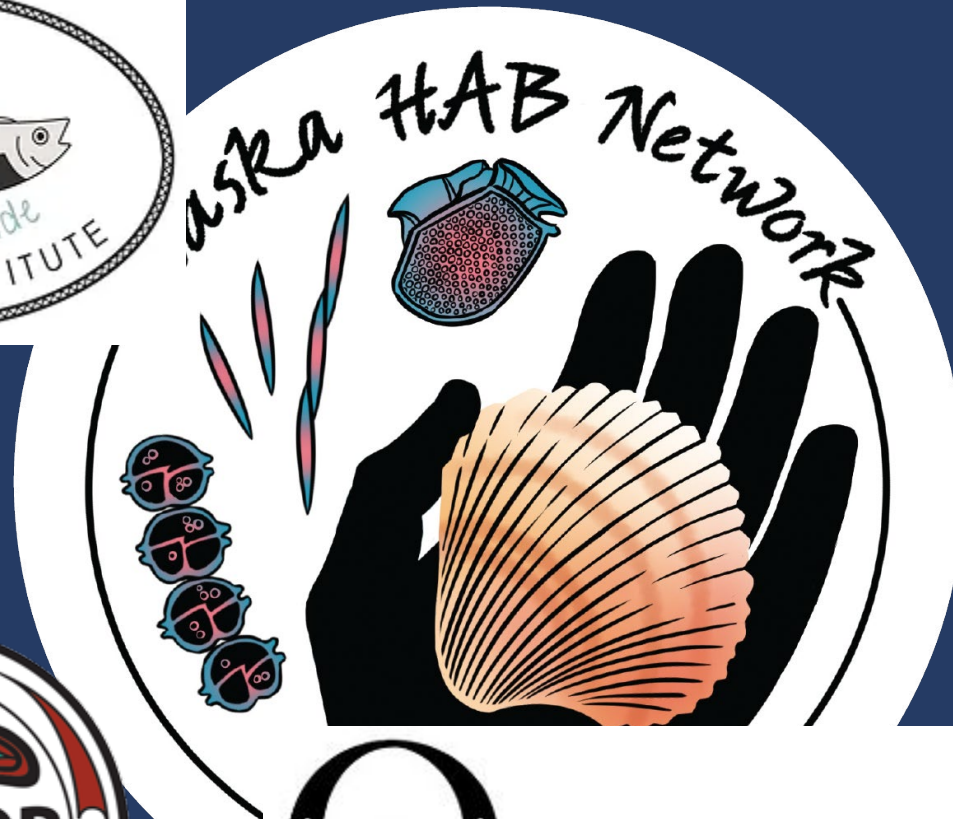
Leverage and collaboration



Leverage and collaboration



Leverage and collaboration



Leverage and collaboration



Agdaagux Tribe of King Cove, Alaska 99612



Leverage and collaboration



Agdaagux Tribe of King Cove, Alaska 99612



Leverage and collaboration



Agdaagux Tribe of King Cove, Alaska 99612



**NORTON SOUND
HEALTH CORPORATION**



Leverage and collaboration



Agdaagux Tribe of King Cove, Alaska 99612



NORTON SOUND
HEALTH CORPORATION



Future

Alaska Native Outreach Meetings





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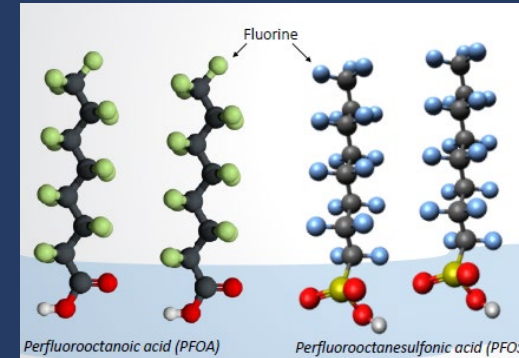
PFAS in Drinking Water

Amy Hill – ADEC Drinking Water Program



Per- and Polyfluoroalkyl substances (PFAS)

- What are PFAS
 - Family of over 6,000 chemicals
 - Does not break down easily
 - Builds up in humans and animals
 - Toxic



Products, sources and history

- Aqueous Film Forming Foam (AFFF)
Consumer Products- non-stick and stain-resistant products used in furniture, ski waxes, raingear, cooking utensils, paints, plastics, adhesives, personal care products (such as dental floss) convenience food packaging

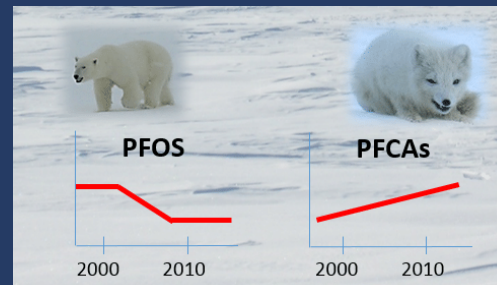
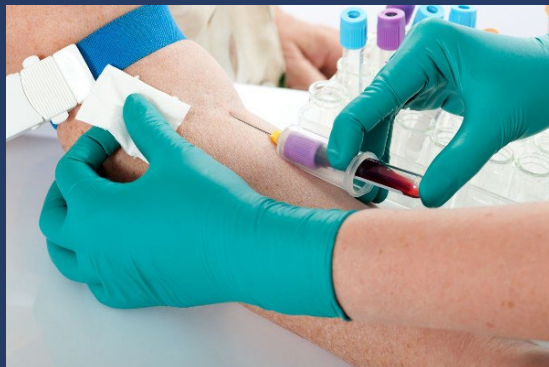
Major Sources of Releases

- Manufacturing
- Releases from fire suppression activities
- Wastewater Treatment Plants
- Landfills



PFAS in the environment

- Occurrence of PFAS is widespread
- Can be transported atmospherically on airborne particulates
- Almost every US citizen has detectable levels of PFAS (PFOS and PFOA) in their blood serum
- Have been found in blood of arctic animals including polar bears and arctic fox.



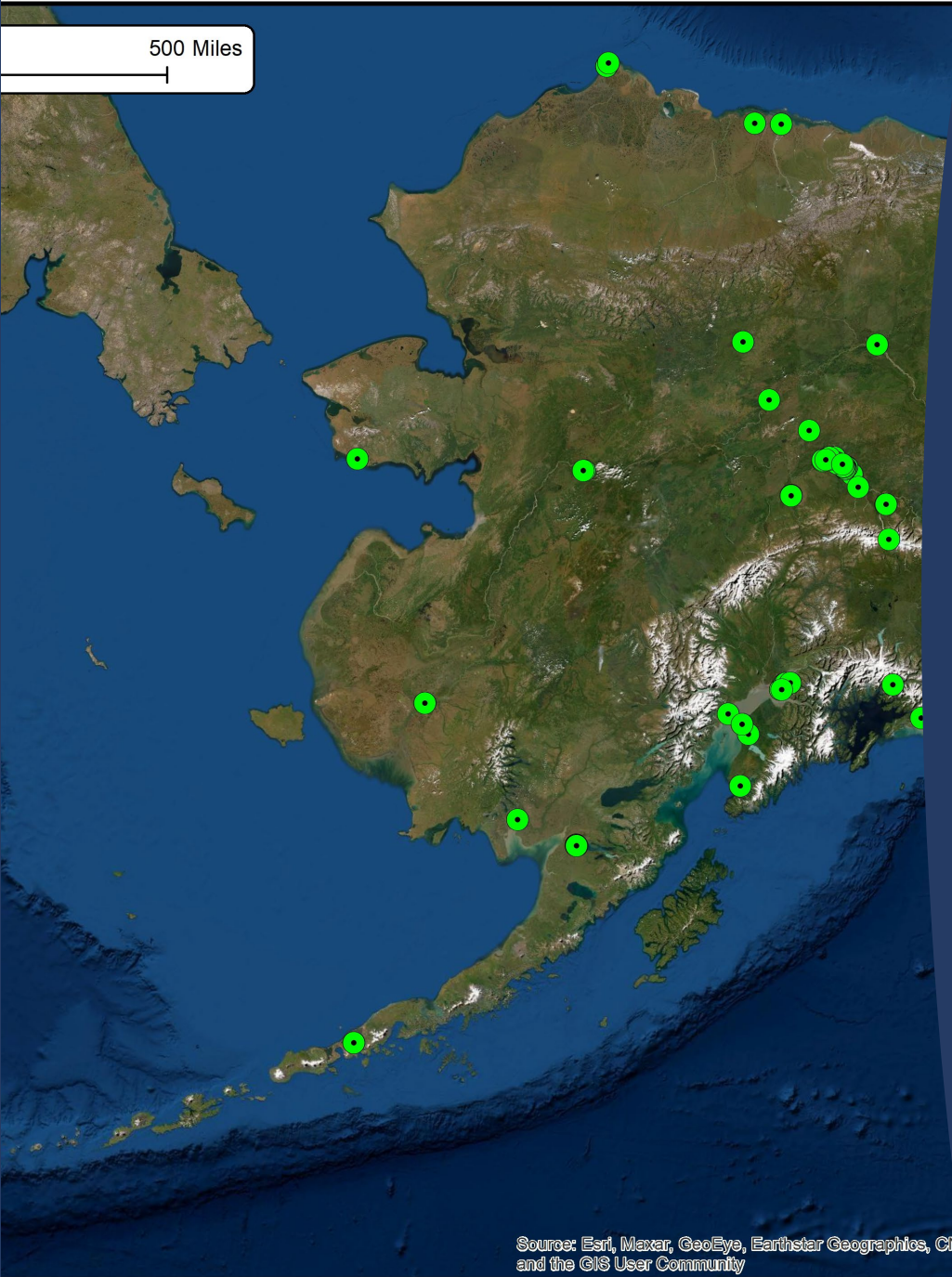
Emission Changes Dwarf the Influence of Feeding Habits on Temporal Trends of Per- and Polyfluoroalkyl Substances in Two Arctic Top Predators - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/Graphical-abstract_fig3_319880721 [accessed 1 Feb, 2019]



Potential Sources of PFAS in the Environment nationwide

- Aqueous Film Forming Foam
 - Fire training and response
- Wastewater Treatment Plants
- Biosolids application
- Landfill leachate
- Industrial, commercial and consumer product use





PFAS Contamination in Alaska

Over 130 known PFAS contaminated sites in Alaska.

Communities where treatment or alternative water is being provided due to drinking water impacts at Contaminated Sites:

- Cold Bay - Airport
- Dillingham - Airport
- Eielson/Moose Creek
- Fairbanks International Airport
- Fairbanks Municipal Fire Training Center
- Gustavus - Airport
- King Salmon - Airport
- Utqiagvik- Airport
- Yakutat – Airport

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CN and the GIS User Community



PFAS Contamination in Alaska

Clean alternative drinking water provided to people relying on more than 400 wells found to be contaminated by PFAS

Initiated response at several fire training areas

Initiated surface water monitoring and fish tissue testing

DOT&PF stopped all non-emergency response AFFF discharges



Working Together

- Since PFAS was first discovered at DOT&PF managed airports, DEC, DOH, DOA, and DOT&PF have coordinated to provide information to the public and provide temporary and permanent alternative drinking water to affected communities.
- The agencies are currently involved in response actions in Fairbanks, Gustavus, Dillingham, King Salmon, Moose Creek, North Pole, Yakutat, and Cold Bay.



POTENTIAL health effects of PFAS

- [Probable link](#) between exposure to some PFAS and effects on several organs/body systems according to EPA and CDC/ATSDR
 - Increased cholesterol levels
 - Changes in liver enzymes
 - Small decreases in infant birth weights
 - Decrease vaccine response in children
 - Increased risk of high blood pressure or pre-eclampsia in pregnant women
 - Increase risk of kidney or testicular cancer
- It is still unclear how chronic, low-level PFAS exposure may impact human health



PFAS Regulation

Chemical	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)
PFOA	0	4.0 ppt
PFOS	0	4.0 ppt
PFNA	10 ppt	10 ppt
PFHxS	10 ppt	10 ppt
HFPO-DA (GenX chemicals)	10 ppt	10 ppt
Mixture of two or more: PFNA, PFHxS, HFPO-DA, and PFBS	Hazard Index of 1	Hazard Index of 1
<p>Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.</p>		



What is the Hazard Index?

Compound	Health-Based Water Concentration (ppt)
PFHxS	10
GenX Chemicals	10
PFNA	10
PFBS	2000

$$\text{Hazard Index} = \left(\frac{[\text{GenX}_{\text{water}}]}{[10 \text{ ppt}]} \right) + \left(\frac{[\text{PFBS}_{\text{water}}]}{[2000 \text{ ppt}]} \right) + \left(\frac{[\text{PFNA}_{\text{water}}]}{[10 \text{ ppt}]} \right) + \left(\frac{[\text{PFHxS}_{\text{water}}]}{[10 \text{ ppt}]} \right)$$

$$2 \text{ (2.1 rounded to one significant digit)} = \left(\frac{[5 \text{ ppt}]}{[10 \text{ ppt}]} \right) + \left(\frac{[200 \text{ ppt}]}{[2000 \text{ ppt}]} \right) + \left(\frac{[5 \text{ ppt}]}{[10 \text{ ppt}]} \right) + \left(\frac{[10 \text{ ppt}]}{[10 \text{ ppt}]} \right)$$



EPA PFAS Monitoring Requirements

- Initial monitoring to be completed between June 2024 and June 2027:
 - Two or four samples over one year, determined by system size/population;
 - Any previous data collected as part of Unregulated Contaminant Monitoring Rule (UCMR5), state collected PFAS samples or other appropriate data collection;
- Initial monitoring results will determine ongoing compliance monitoring. Will use 1/3 of the MCL as a trigger level to determine frequency:
 - Standard quarterly monitoring if initial results exceed 1/3 of the MCL;
 - Possibility of reduced monitoring to once or twice every three years for locations with results below 1/3 of the MCLs;
- Violations occur if monitoring results (based on a running annual average) exceed the MCL or Hazard Index MCL.



Rule – Making Process

- Final rule from EPA was released April 10, 2024, and becomes effective June 25, 2024 .
- Systems have until 2027 to comply with monitoring and related reporting and public notice requirements.
- Systems have until 2029 to address MCL violations.
- We have up to 2 years to adopt it, with a possible 2-year extension.
- Our adoption of the rule will include public involvement.



Sampling Projects

- The Drinking water program has been awarded an EPA grant to do initial monitoring at 193 Alaska Native Village systems;
- Samples will be collected at the entry point to the distribution system (after treatment);
- If PFAS is detected in treated water, source water samples will be collected;
- Sampling began in 2024.



Other Resources

- Alaska Department of Health, Division of Public Health
 - https://health.alaska.gov/dph/Epi/eph/Documents/PFCs/PFAS_FactSheet.pdf
- Alaska Department of Environmental Conservation, Contaminated Sites Program
 - <https://dec.alaska.gov/spar/csp/pfas/>
- Environmental Protection Agency (EPA)
 - Search for PFAS at www.epa.gov
 - <https://www.epa.gov/pfas/pfas-explained>
 - <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>
 - Webinar Recording: Technical Overview of Proposed PFAS NPDWR
 - On EPA's website from March 29, 2023
- Agency for Toxic Substances and Disease Registry (ATSDR)
 - Per- and Polyfluoroalkyl Substances (PFAS) and Your Health-
 - <https://www.atsdr.cdc.gov/pfas/health-effects/us-population.html>





Questions?

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Questions?

