

1/28/11

OVERVIEWS: DEC
OFFICE OF THE
COMMISSIONER,
DIVISION OF
ENVIRONMENTAL
HEALTH,
DIVISION OF AIR
QUALITY

<TARGET><BILL></BILL><SUBJECT>1-28-11 OVERVIEWS DEC -
OFFICE OF THE COMMISSIONER, DIVISION OF ENVIRONMENTAL
HEALTH, DIVISION OF AIR
QUALITY</SUBJECT><COMM>HRES27</COMM></TARGET>



Department of Environmental Conservation

House Resources Overview
Commissioner Larry Hartig
January 28, 2011

DEC's Mission

Protect human health and the environment.



Responsibilities & Functions

- Develop standards
- Issue permits
- Provide compliance and financial assistance
- Respond to spills of oil and other hazardous substances
- Safeguard the quality of food and seafood
- Operate the State Environmental Health Lab
- House the Office of the State Veterinarian
- Regulate pesticides and certain types of use
- Educate and assist the public
- Interact with our federal agency counterparts
- Investigate violations and enforce state law

Divisions

- Administration
- Environmental Health
- Air Quality
- Spill Prevention and Response
- Water Quality



Environmental Health

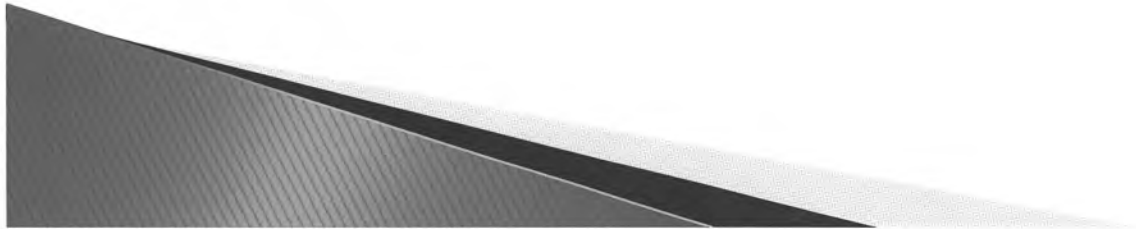
Department of Environmental Conservation
House Resources Overview
January 28, 2011

Division Mission

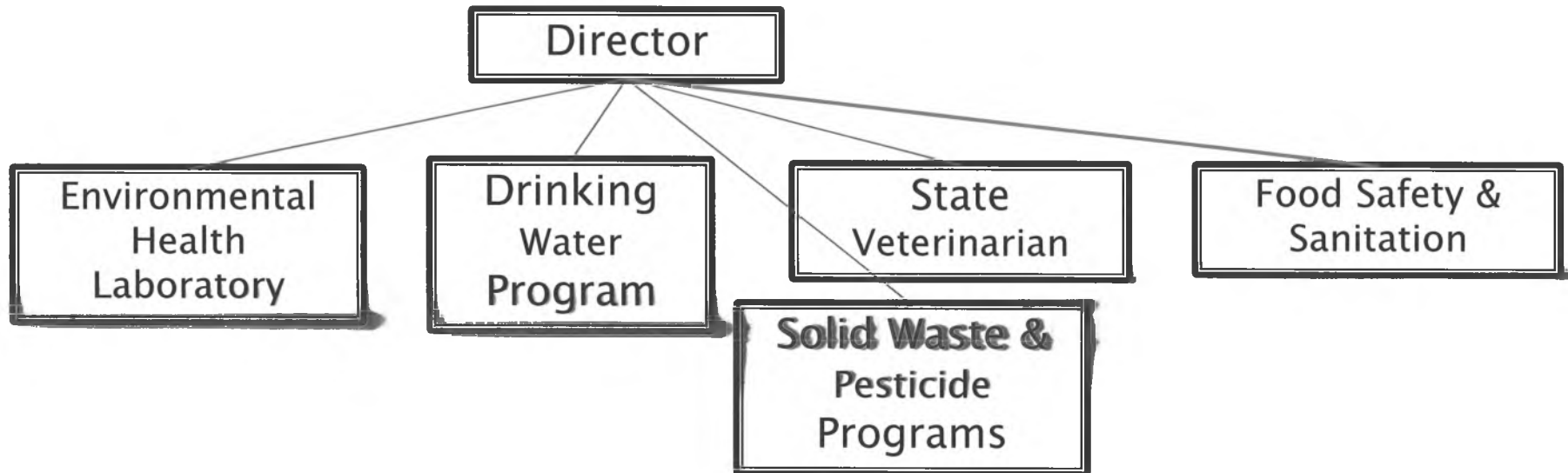
The Division of Environmental Health (EH) deals with the basics:

Safe drinking water, food, and sanitary practices.

Our goal is to provide businesses with clear standards so that they can protect our environment and provide safe food and drinking water to Alaskans.



Organization Chart



What does the Director's Office do?

- Provide direction for changes to nine regulatory chapters
- Provide clear direction to staff and timely decisions when necessary
- Manage budgets of each component so that resources are used wisely
- Ensure that statutory mandates are properly executed



Programs



Drinking Water
Pesticide Control
Solid Waste Management
Food Safety and Sanitation
State Veterinarian
Environmental Health Laboratory

Drinking Water and DEC

What do we do?

Maintain state primacy for regulating public drinking water systems

Enforce public water system (PWS) monitoring requirements for drinking water contaminants

Review construction, installation, and operation plans and enforce engineering standards for PWS to protect public health and meet Safe Drinking Water Act requirements

Assist PWS owners in identifying the sources of their drinking water and help them develop strategies to effectively protect those sources from contamination

Provide technical and compliance assistance to PWS owners and operators, and the public



Drinking Water and DEC Federally-Designated

Primacy since 1978

- Executing the U.S. Safe Drinking Water Act and Amendments (currently 16, 1 pending approval, and 4 coming).
- **EPA provides over \$4 million a year to Alaska.**

1,564 federally designated water systems (serve 25 people or more):

- 83% ground water
- 17% surface water
- 682 serve 25 or more persons year-round and 882 serve populations seasonally.



Drinking Water and DEC

State-Regulated

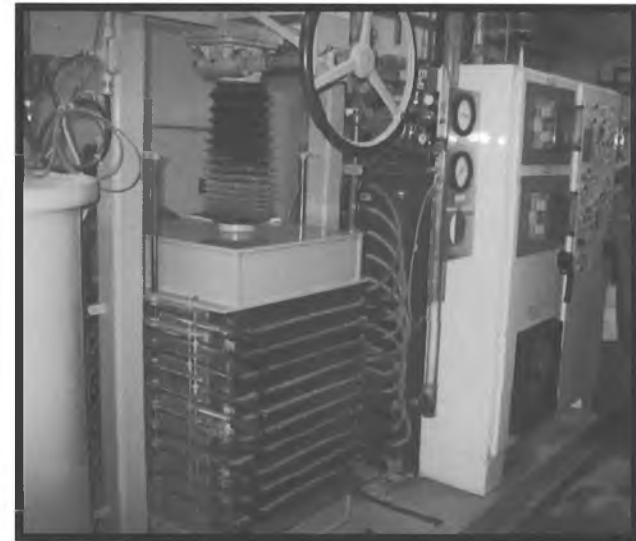
- ▶ 5,000 state regulated systems (25 people or less but larger than a private well serving a home or duplex)
- ▶ **Quarterly testing and** construction approval
- ▶ Serve assisted living homes, child care facilities, gas stations, office buildings, & apartments
- ▶ RSA from DHSS to work with 121 registered assisted living homes



Drinking Water and DEC

Successes and Challenges

- ▶ 57 employees, 5 offices
- ▶ **Increasing complexity of federal rules**
- ▶ **Limited to no interaction with state** regulated systems due to lack of funding
- ▶ Finding new ways to work with water systems and help them stay in compliance:
 - Educate consulting engineers who design water treatment systems & conduct inspections
 - Partnering, case management
 - Intensive community visits





Programs

Drinking Water

»» Pesticide Control

Solid Waste Management

Food Safety and Sanitation

State Veterinarian

Environmental Health Laboratory

Pesticide Control and DEC Statutory Authority

- ▶ **AS 46.03.020 (10)(F)**
 - DEC may adopt regulations necessary for ...the control of pesticides

- ▶ **AS 46.03.320 – Regulation of pesticides and broadcast chemicals**
 - Pesticide products must be registered
 - Commercial applicators must be certified
 - Spraying in public places requires notice

- ▶ **AS 46.03.330 – Public pesticide programs**
 - Public notice required for applications performed by state and local governments (permit)



Pesticide Control and DEC

What do we do?

- ▶ 5 employees in Mat-Su office
- ▶ Issue permits for applications on state land, over water or aerial
- ▶ Conducts inspections to make sure pesticide applications are done in accordance with the pesticide regulations and worker protection standards
- ▶ Conduct inspections of pesticide distributors
- ▶ Register and monitor the distribution, sale, use, and storage of pesticides – 5,000 registered products
- ▶ Train and certify pesticide applicators

Review pesticides for potential risks to water.



Pesticide Control and DEC Successes and Challenges

- ▶ Very difficult to issue permits (Railroad, DOT, Division of Agriculture)
- ▶ Issued **herbicide permit** to Alaska Railroad – 1st
- ▶ Increasing expectations for commercial applicators
- ▶ Product registration on-line



Programs

Drinking Water

Pesticide Control



Solid Waste Management

Food Safety and Sanitation

State Veterinarian

Environmental Health Laboratory



Solid Waste Management and DEC

What do we do?

- ▶ Review and approve solid waste permit applications including plans for design, operations, monitoring, management, **construction, and closure**
- ▶ **Issue permits for solid waste treatment** and disposal facilities; and review monitoring results
- ▶ Inspect landfills to verify compliance with permit requirements and state solid waste regulations
- ▶ Enforce violations of permit requirements and state solid waste regulations
- ▶ Monitor closed landfill sites



Solid Waste Program and DEC Basics

- ▶ 14 staff, 3 offices
- ▶ 301 landfills
- ▶ **100% of landfills accepting 5 tons or more a day (Class I and Class II) are permitted. 23 total**
- ▶ 22% of village landfills (less than 5 tons) are permitted
- ▶ 100% of industrial landfills in Alaska are permitted. 26 total



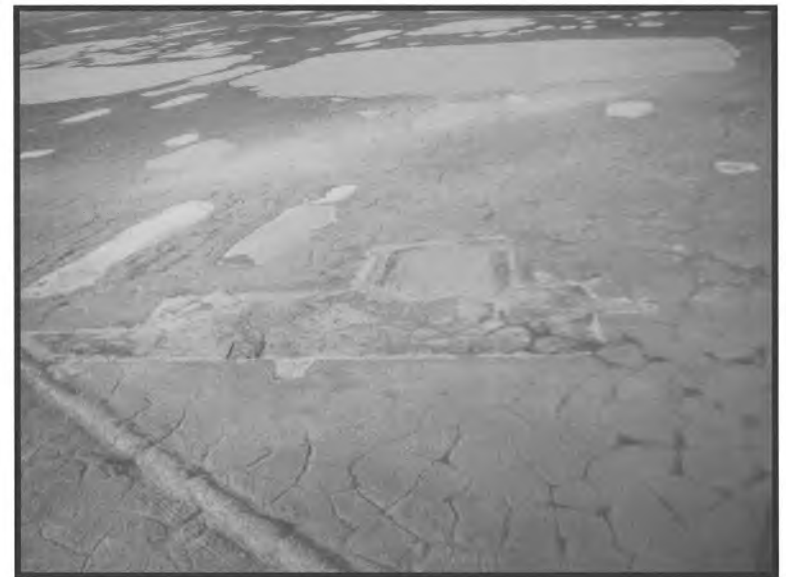
Solid Waste Program and DEC

Typical Exploration Reserve Pit Remediation

Before: Open reserve pit, drilling waste and water



After: Drilling waste removed, berms removed to tundra grade; pit backfilled with gravel; site covered to promote revegetation.



Solid Waste Program and DEC Challenges and Successes

- ▶ Proper landfill management in small villages is difficult
- ▶ **Outreach, technical assistance,** partnering with federal agencies
- ▶ Closed 5 inactive reserve pits last year, 50 out of 600 left
- ▶ Works closely with communities to clean up after disasters – 2006 Hooper Bay fire and 2009 Eagle flooding.



Programs

Drinking Water

Pesticide Control

Solid Waste Management

➤➤ Food Safety and Sanitation

State Veterinarian

Environmental Health Laboratory



Food Safety and Sanitation

Statutory Authority and Regulations – Food

AS 17.20 (Food, Drug, and Cosmetic Act)

- Food offered to the public or sold
- **Aquatic farms**
- **Misbranding, incorrect labels, and false advertising**
- Seafood processing

Regulatory Chapters

18 AAC 31: Food Service

18 AAC 34: Seafood Processing



Food Safety and Sanitation

Statutory Authority and Regulations – Sanitation

AS 18.35

- Public Facilities (overnight accommodations, public restrooms, smoking in public places)

AS 44.46.020

- **Prevention and control of public health nuisances**
- Regulation of sanitation and sanitary practices in the interest of public health at establishments in which lack of sanitation may create a condition that causes disease

Regulatory Chapters

18 AAC 23: hair and body art

18 AAC 30: sanitation (overnight accommodations, public toilets, laundromats, showers, pools and spas)



Food Safety and Sanitation

What do we do?

Establish standards, permit, inspect and enforce standards for food processing and food service facilities

Establish standards and inspect on a complaint basis **certain public facilities for sanitation**

Provide education and training on the safe handling of food

- ▶ 40 staff, 8 offices
- 4,500 restaurants, markets, food processors
- 786 seafood processors
- 3,716 public facilities
 - overnight accommodations
 - public toilets, showers, and Laundromats
 - pools and spas
 - tattoo and piercing shops
 - barbers and hairdressers



Food Safety and Sanitation Basics

Inspections

- 26% of permitted retail food establishments inspected in FY 2010
- **Average visits to retail food establishments – once every three years**
- Performs contract inspections for FDA for Alaska food processors



Notices of Violation

- 12% of inspected food establishments
- 7% of seafood processors

Food Worker Cards

- 90,000 cards in four years



Food Safety and Sanitation

Successes and Challenges

- ▶ Inadequate inspection frequencies at high risk facilities.
- ▶ *Complying with variety of federal programs (e.g., shellfish, FDA and USDA)*
- ▶ Knowing where to draw the line.
 - Food offered or sold to the public.



Advertized events open to the public require temporary permit.

Private events, churches, potlatches do not.

What can be sold off the farm with *no* DEC oversight?

- ▶ Raw, whole vegetables
- ▶ Eggs
- ▶ **Poultry**
- ▶ **Meat (custom processed for animal owner)**
- ▶ Jam, jelly, syrup
- ▶ herb vinegar
- ▶ dried herbs
- ▶ dried tea leaves

Why? Milk

These are either cooked before eating or are too acidic to encourage pathogen growth

What do you need a permit for?

Smoked fish
Cheese
Shucked peas
Bagged leafy greens

Why?

Because these products are ready-to-eat or easily harbor pathogens

Cheese

Food Safety and Sanitation

Are people getting sick?

Foodborne Illness Outbreaks* August 2009–August 2010
Reported from the State Section of Epidemiology, DHSS

Month	Year	Pathogen	Subspecies	Source	Setting	Village/City	Number Ill
August	2009	Salmonella	<i>Montivideo/Seftenberg</i>	Black Pepper	Home	Anchorage	2
August	2009	Vibrio	<i>Parahaemolyticus</i>	Oysters	Restaurant	Fairbanks	2
October	2009	Salmonella	<i>Heidelberg</i>	PFGE to FF chicken	Home	Petersburg/Anchorage	4
December 09-Feb 10	2010	Salmonella	<i>Typhimurium</i>	Unknown	Unknown	Soldotna	3
February	2010	Salmonella	<i>Montevideo</i>	Chicken related	Home	Ketchikan	1
April	2010	Campylobacter	<i>Jejuni</i>	Unknown	Home	Kenai Peninsula	3
April	2010	Botulism		Seal Blubber/Oil	Home	Napaskiak	2
May	2010	Salmonella	<i>Enteritidis</i>	Unknown	Unknown	Anchorage/Eagle River	4
May	2010	Epi link to food		Fiddlehead Ferns	Convention Center	Anchorage	38
May	2010	Salmonella	<i>Javiana</i>	Unknown	Travelers	Anchorage (Mexico)	1
June	2010	PSP		Cockles	Beach	Juneau	1
June	2010	PSP		Clams	Beach	Kodiak	3
June	2010	Campylobacter		Unknown	Travelers	Anchorage (Mexico)	7
June	2010	Campylobacter		Unknown	Home	Napaskiak	5
August	2010	Botulism		Stinkheads	Home	Bethel	1
August	2010	Salmonella	<i>Thompson</i>	Hollandaise sauce	Restaurant	Kenai	7

*Two or more persons ill from the same source; one case of botulism, trichinosis, or PSP; or any number of ill persons linked to a multistate outbreak through PFGE.

Food Safety and Sanitation

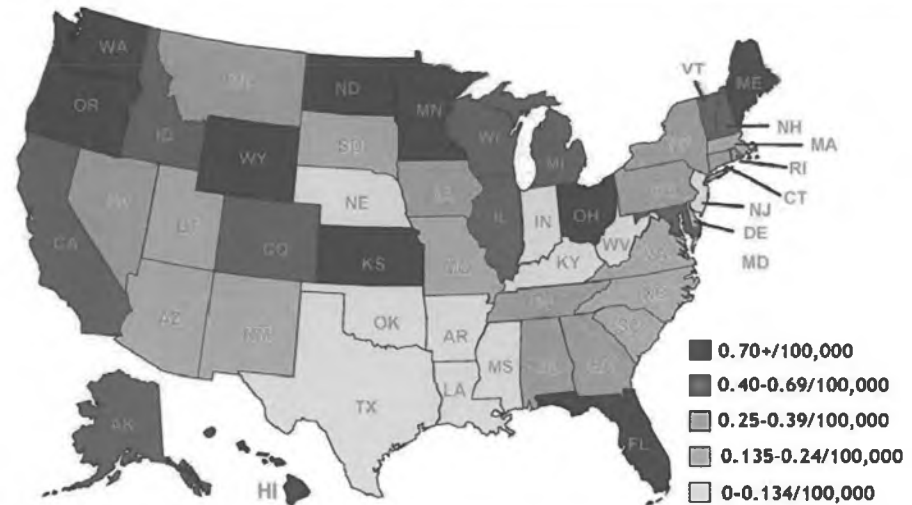
Are people getting sick?

Reported Foodborne Outbreaks in Alaska

Year	# ill
2004	92
2005	18
2006	76
2007	2
2008	115

(only from regulated facilities)

Foodborne Outbreaks Reported Annually Per 100,000 Population, by State, 2003-2007



CDC, National Foodborne Outbreak Reporting System



Includes outbreaks from unpermitted activities

Programs



Drinking Water
Pesticide Control
Solid Waste Management
Food Safety and Sanitation



State Veterinarian
Environmental Health Laboratory



State Veterinarian Statutory Authority

- ▶ **AS 03.05.011**
 - examine, inspect, test, quarantine or embargo animals or animal products to prevent the spread of pests or contagious or infectious disease.

- ▶ **AS 03.55.100**
 - establish minimum standards for animal care

- ▶ **AS 17.20.005**
 - Grading of milk & milk products, set standards of sanitation for dairies offering or selling to the public which are equal to the minimum standards of the U.S. Pasteurized Milk Ordinance.



Regulatory Chapters:

- 18 AAC 32 Milk, Milk Products & Reindeer Slaughter
- 18 AAC 36 Animal Health

State Veterinarian

What do we do?

5 staff, two offices

Permit, inspect, monitor and provide technical assistance to dairy and meat producers

Permit and monitor the movement of animals and animal biological products (vaccines, etc)

Monitor and control animal diseases

Responds to animal health emergencies

Collects fish samples statewide and evaluate them for contaminants



State Veterinarian Successes and Challenges

- ▶ Major revisions to animal health regulations overdue
- ▶ ~~Maintaining State's disease-free status,~~ allowing easy international and interstate animal transport; decreasing testing burden on producers
- ▶ Helping commercial and private animal owners keep animals healthy & free of disease.
- ▶ Permitted mobile slaughter facility for reindeer.
- ▶ Permitted 3 cheese production facilities.



State Veterinarian

What's going on with cheese?

State statute requires dairy products comply with the U.S. Pasteurized Milk Ordinance.

What do the regulations require?

- **Separate areas for different activities (milking, pasteurizing, aging cheese, cleaning products)**
- Testing products for antibiotics and foodborne pathogens
- IF pasteurizing, use of machine that monitors temperature. Raw milk cheese is allowed though
- Standards for cleaning
- Documenting production and cleaning
- Correct product labeling



Small batch pasteurizer

Is Alaska stricter than other States?

No. We used other state regulations as models. There are some variations but Alaska's rules are not stricter.

Programs

Drinking Water

Pesticide Control

Solid Waste Management

Food Safety and Sanitation

State Veterinarian

»» Environmental Health Laboratory



Environmental Health Laboratory

What do we do?

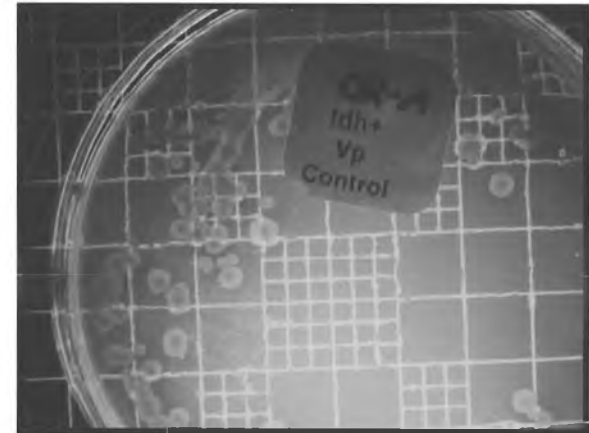
- ▶ Inspect and certify private labs
- ▶ Test environmental samples, food, water, finfish, shellfish, and domestic and wild animals
- ▶ Analyze fish tissue for chemical, microbial, and **marine toxin contaminants**
- ▶ **Provide laboratory testing services and information** for the assessment of risks to public health, welfare and the environment.
- ▶ 23 staff, one location
- ▶ Testing services
 - food safety
 - drinking water
 - animal health
 - contaminant monitoring
- ▶ Ran 67,901 tests in 2010

Extensive certifications (EPA, FDA, USDA)



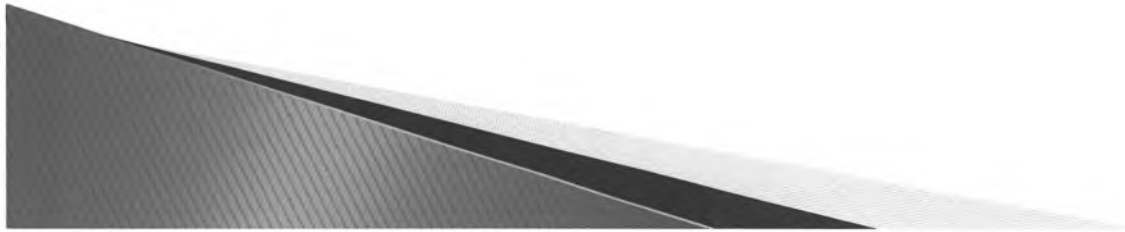
Environmental Health Laboratory Successes and Challenges

- ▶ In-state testing avoids cost of shipping and time delays
- ▶ Offer services not provided by private sector (some because **federal law mandates gov't lab**)
- ▶ Developing new methods that are quicker (24 hour turn around compared to 5 days), labor saving and moving at the speed of commerce.
- ▶ Certification by three federal agencies requires extensive QA/QC procedures and verifies the accuracy of our results



Questions?

Kristin Ryan
Environmental Health
Director
907-269-7645
kristin_ryan@alaska.gov



Alaska Department of Environmental Conservation
Division of Air Quality
Overview

Presentation to House Resources Committee
January 28, 2011

Alice Edwards Director

Objectives

- Provide Overview of Air Quality Division
 - ❖ **Mission**
 - ❖ Core Services
 - ❖ Programs
 - ❖ Initiatives and Challenges

Mission

- *To conserve, improve, and protect Alaska's natural resources and environment and control air pollution, in order to enhance the health, safety, and welfare of the people of the state and their overall economic and social well being.*

Core Services

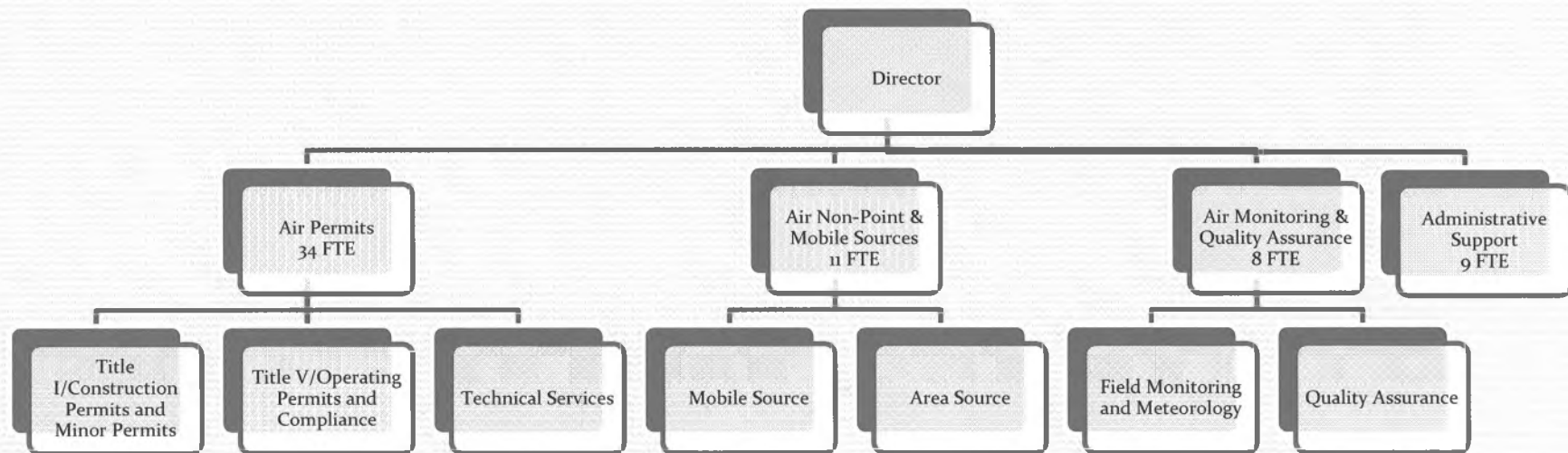
- Issue air quality permits to facilities that release potentially harmful pollutants
- **Provide compliance assistance and enforcement** (inspections and operating report reviews)
- Community assistance to protect air quality
- Air quality assessments and monitoring
- Comment on federal air quality rulemakings with Alaska's perspective
- Develop, implement, and enforce plans to bring areas out of compliance with federal air quality standards back into compliance



Programs

- Division has three primary air quality programs and an **administrative support program**
 - Air Permits Program
 - Air Monitoring & Quality Assurance Program
 - Air Non-Point & Mobile Sources Program
 - Administrative Support Program

Air Quality Division Structure





Air Permits Program

- Ensure that air emissions from industrial operations in the state do not create unhealthy air
 - **Authorize construction of new and modified facilities**
(Construction Permits and minor permits)
 - Establish compliance monitoring for existing facilities
(Title V Operating Permits)
 - Conduct compliance assurance inspections and follow up on permit deviations
- Maintains an on-going process for improving consistency and timeliness of permitting
- Respond to general AQ complaints and concerns



Air Non-Point & Mobile Source Program

- Works with communities to maintain and achieve ambient air quality standards by addressing **non-industrial air quality concerns and developing/implementing air quality plans**
 - partners with communities to explore options and find solutions to local and regional air quality concerns
 - Fairbanks PM_{2.5} Planning,
 - Rural village dust pilot project,
 - Anchorage and Fairbanks carbon monoxide planning
 - focuses primarily on mobile and area sources of pollution within communities
 - motor vehicles, road dust, space heating, non-road equipment, etc.

Air Non-Point & Mobile Source Program (Cont.)

- conducts education and outreach on air quality issues to raise awareness and **encourage behaviors that improve air quality**
- ensures that community-based pollution control programs incorporated into Alaska's Air Quality Plan are implemented
 - provides oversight for the Anchorage/commuter vehicle emission inspection & maintenance program
 - provides technical and outreach assistance to the Juneau wood burning program



Air Monitoring and Quality Assurance Program

- Program operates and oversees air quality monitoring **networks throughout Alaska. These networks assess compliance with the national ambient air quality standards.**
- Provides quality assurance audits for state air monitoring network and assists with audits for local community monitoring efforts

Air Monitoring and Quality Assurance Program (Cont.)

- Conducts or oversees required field monitoring *Lead*
 - Anchorage, Fairbanks, Juneau, Mat-Su Valley, Noatak
- **Assists communities with special monitoring studies**
 - Seward, Galena and others
- Issue air advisories to inform the public of hazardous air conditions, such as wildfire smoke or volcanic ash events.
- Reviews industry generated data and provides technical support to air permitting
- Provides meteorological oversight for air quality open burn approvals

operational in last few weeks

Administrative Support Program

- Provides administrative support to the Division
 - **Budget development**
 - Grant management
 - Procurement and contracting assistance
 - Fee and billing assistance
 - Personnel and payroll assistance
 - Finalize divisional documents and other routine office duties

?? Arctic Hoze and UVb penetration

Division of Air Quality Initiatives and Challenges

Permit Streamlining and Process Improvement

Fairbanks Fine Particulate Matter Planning

Rural Dust

Revisions to EPA National Ambient Air Quality Standards

Revisions to EPA Rules

North Slope Air Quality Assessment

*Standards
+ timelines*





Initiatives and Challenges

Ongoing Permit Streamlining and Process Improvement

- Goal – Improve consistency and timeliness of **permitting**
 - Maintain **high quality, legally defensible permits**
 - Improve predictability by standardizing processes and permit requirements

Initiatives and Challenges

Ongoing Permit Streamlining and Process Improvement (cont.)

- **Quality Management system**
 - **enhance consistency**
 - reduce disruptions from staff turnover
- **Operating Permits**
 - Standard conditions to improve efficiency
 - Meetings with Stakeholders
- **Construction Permits**
 - Pre application assistance and project scheduling
 - Use of contractor assistance to handle workload fluctuations

Initiatives and Challenges – Fairbanks Fine Particulate Matter (PM_{2.5})



Initiatives and Challenges – Fairbanks PM_{2.5} (Cont.)

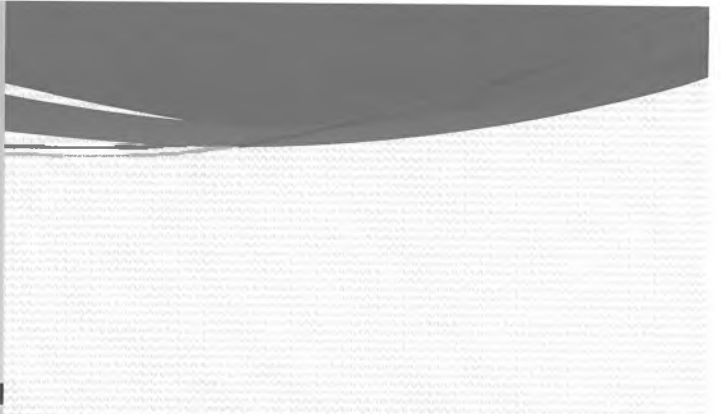
- Fairbanks/North Pole area is exceeding the 24-hour PM_{2.5} ambient air quality standard
- **Air quality attainment plan is due to EPA in December 2012**
- Clean Air Act has serious consequences if fail to plan or implement a plan
- Plan and control options are controversial in community
 - Non-attainment area is large in size
 - Multiple sources of PM_{2.5} exist
 - Home heating sources (wood and coal) are important contributors

Initiatives and Challenges – Fairbanks PM_{2.5} (Cont.)

- On-going Division efforts include:
 - Coordinating planning efforts
 - **Responding to local smoke complaints**
 - Conducting public education
 - Assisting Borough on projects to characterize PM_{2.5}
 - Assisting with technical work for the air quality plan
 - Analyzing emissions, impacts, and controls for permitted sources (e.g. power plants)
 - Characterizing vehicle emissions at cold temperatures

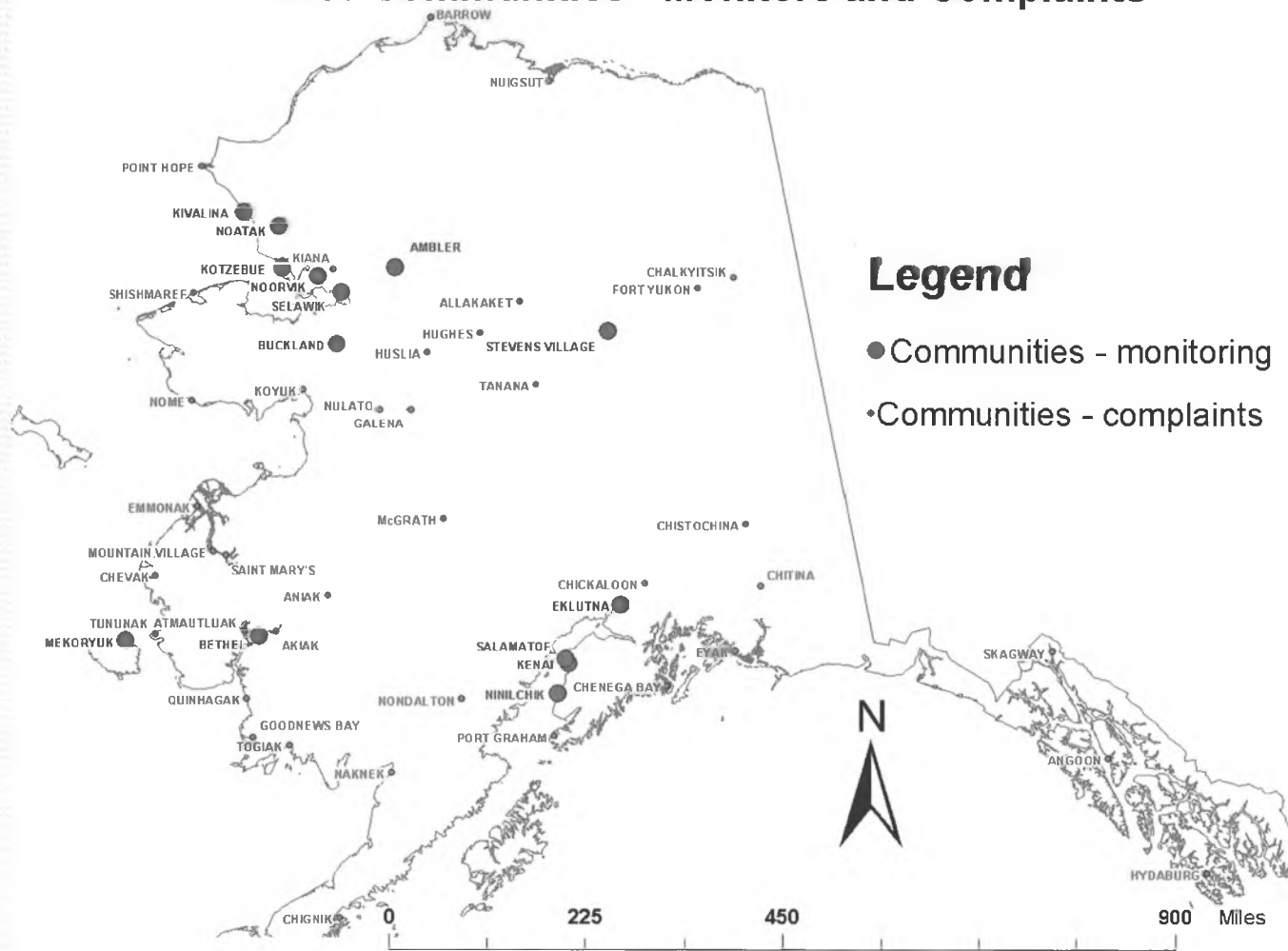
Initiatives and Challenges – Dust in Rural Alaska





Airborne Dust in Alaska

PM10 Communities - Monitors and Complaints



Initiatives and Challenges –

Rural Dust (Coarse Particulate Matter or PM10)

- Division continues to work with the Department of Transportation and other agencies to find solutions to dust **impacts from rural roads and to assist villages in assessing** and addressing local air pollution concerns
- Pilot project underway to look at effectiveness of watering/dust suppressants in eight communities with documented dust problems
 - Bethel, St Mary's, Kotzebue, Noatak, Ambler, Buckland, Noorvik, Kiana
- With the widespread impact of dust throughout the state, it is difficult to effectively respond to the needs of communities

Initiatives and Challenges –

Revised National Ambient Air Quality Standards (NAAQS)

- Per Clean Air Act, standards to be reviewed every 5 years
- **New 1-Hour Standards for Nitrogen Dioxide (NO₂) and Sulfur Dioxide (SO₂)**
 - Will have implications for permit program implementation – modeling attainment for short term standards
- Expecting EPA to revise carbon monoxide (CO) and particulate matter (PM) standards during the coming year
 - If more stringent standards are proposed for PM₁₀ and PM_{2.5}, could result in additional problem areas
 - If more stringent standards for CO – Anchorage and Fairbanks air quality plans may need adjustment

Past and Possible Future PM_{2.5} NAAQS (concentrations in $\mu\text{g}/\text{m}^3$)


Standards	Annual	24-Hour
1997 Standards	15	65
2006 Standards	15	35
Standards Under Consideration	11-13 / 11	35 / 30

Initiatives and Challenges – New EPA Air Quality Rules

- EPA has been issuing a lot of new and revised rules
 - Can be difficult to keep up with the reviews of EPA proposals
 - **Typical focus for comments is on technical concerns and Alaska specific issues that arise**
- Greenhouse Gas Permitting Rules
 - Federal rule tailors the permitting program for CO₂ to avoid permit requirements for many small facilities
 - Federal rule phases in and impacts facilities that typically have air quality permits already
 - State recently adopted the federal requirements
 - approval by EPA of the state regulations ensures there is no construction moratorium
 - state continues to make permit decisions, rather than EPA.

Initiatives and Challenges – New EPA Air Quality Rules (Cont.)

- **Advanced Notice Regarding Potential for Regulation of Lead in Aviation Gasoline**
 - *State weighed in with Alaska specific concerns early in EPA process*
 - *Allows EPA to gather additional information and to take Alaska concerns into consideration*
- **Rules related to new ambient air quality standards**
 - *EPA coming out with rules and guidance for air permitting – 1 hour NO₂ and SO₂*



Initiatives and Challenges – North Slope Air Quality Assessment

- Develop better understanding of cumulative air quality impacts on the **North Slope** and **address data gaps to assist in future permit development**
- Short term goals:
 - Assess and summarize existing monitoring, emission and meteorological data
 - Determine additional data needs with focus on core information for permits and cumulative impact assessment
 - Develop technical approach for modeling regional impacts
 - Develop long term strategy for monitoring and assessing impacts



Questions:

Alice Edwards, Director

(907) 465-5109

alice.edwards@alaska.gov