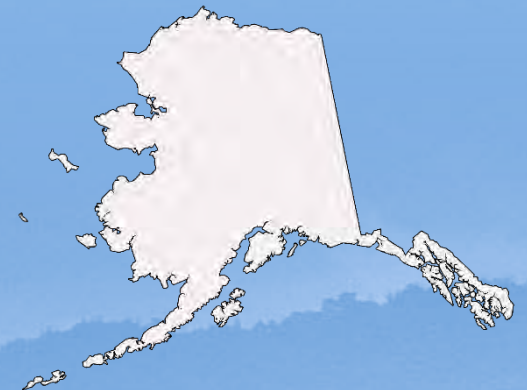


State of Alaska Actions Addressing a Changing Arctic

October 5, 2016

Alaska Department of Environmental Conservation
Denise Koch, Air Quality Director



For Today...

- Impacts of a Warming Environment
- Issues in the Arctic
- DEC Mission and Authorities
- State Fiscal Challenge
- Partnerships
- Tackling the Challenges
- Federal Regulations
- Moving Forward



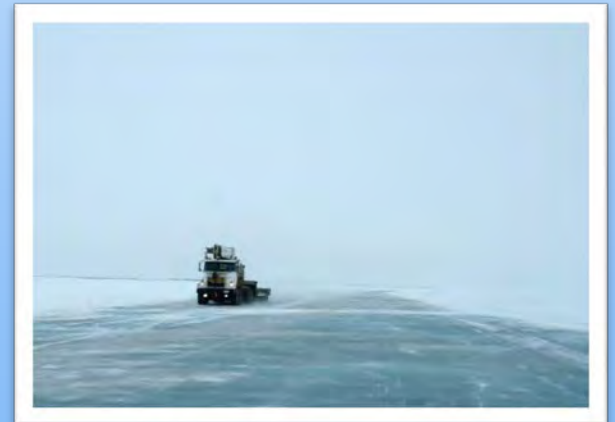
Impacts of a Warming Environment

- **“Juneau finishes entire year of above-normal temperatures”**
 - Monday Oct 3, 2016, Juneau Empire

- **“Over the past 60 years, most of the state has warmed three degrees (F) on average and six degrees during winter.”**
 - “What Climate Change Means for Alaska”, EPA 430-/F-16-004, August 2016

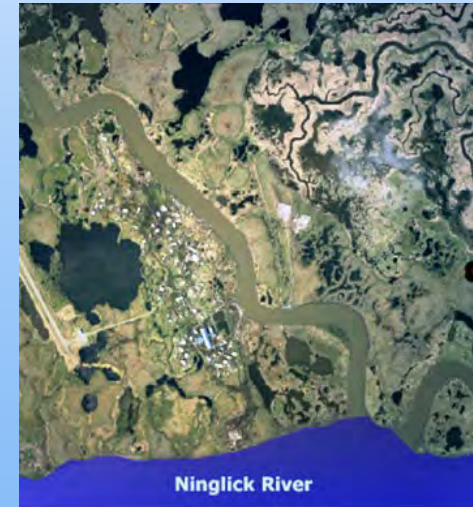
Impacts of a Warming Environment

- Stability of slopes and foundations
- Shorter ice-road seasons
- Greater risk of wildland fires
- Changes in the numbers and locations of species and populations



Arctic Issues: Community Infrastructure

- Community infrastructure is at risk from
 - Thawing permafrost
 - Erosion and Flooding
 - Wildfire
- Broad impacts to infrastructure
 - Buildings and Facilities
 - Roads and Runways
 - Water Sources
 - Sanitation Infrastructure



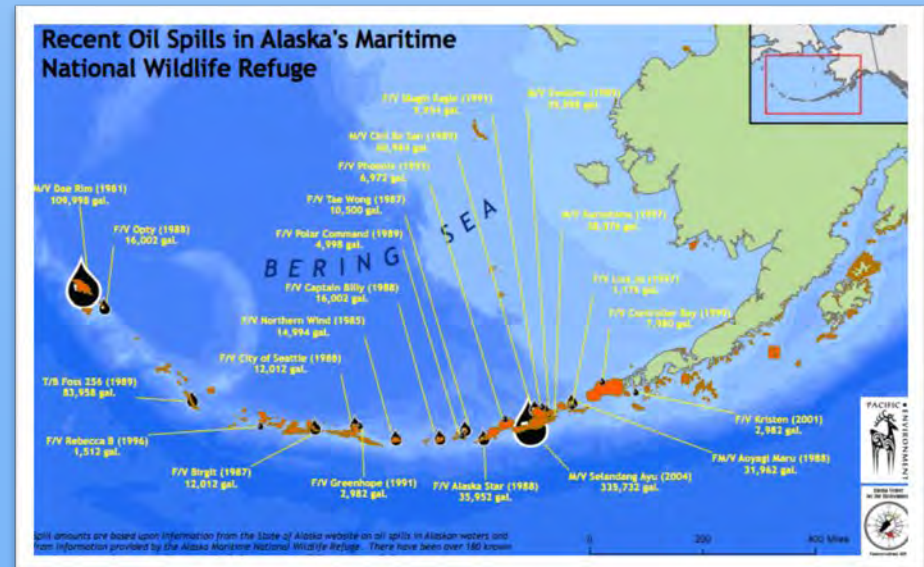
Arctic Issues: Shipping Passages

- Ice-free shipping lanes expected in the future
- Trade in Northern Route unlikely to open for decades
- Will prompt greater need for better port facilities



Arctic Issues: Marine Transportation Risks

- Large volume spills
- Challenging operating conditions
 - Remote areas with limited response capacity
 - Weather and sea states
 - Winter darkness
 - Short open water season
 - Capabilities of vessels and crew
- Need to manage collateral operations and contractors and staff new to the Arctic



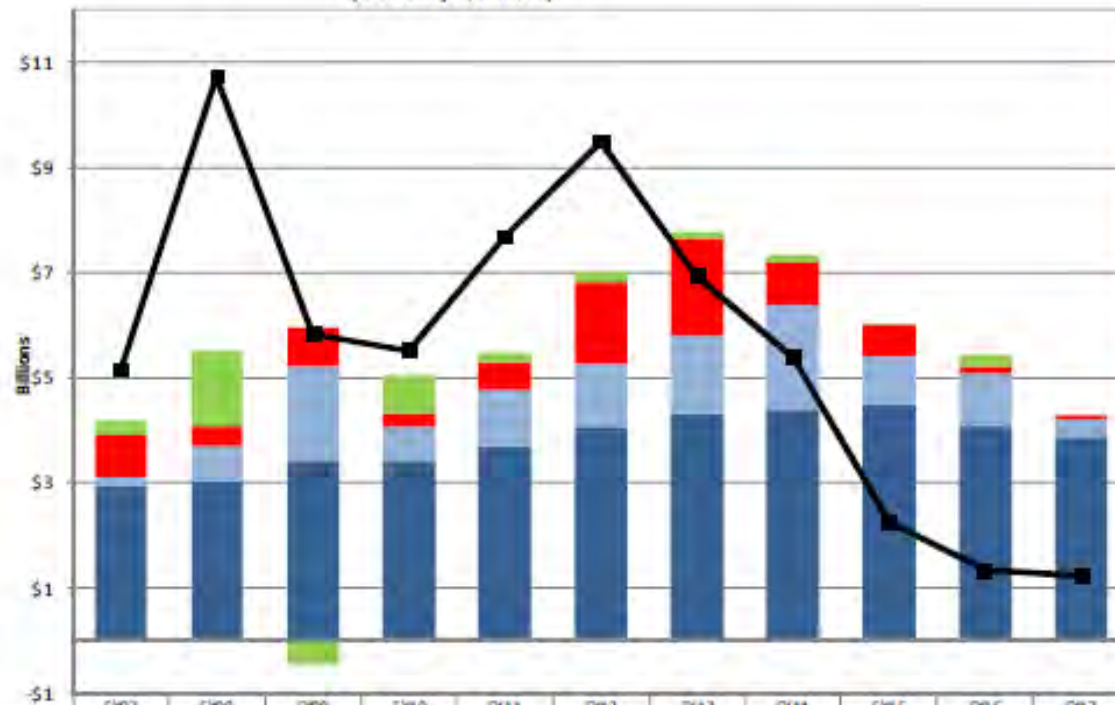
DEC Mission and Authorities

- Protect human health and the environment
- Enforce environmental standards
- Issue and enforce permits limiting pollution risks
- Prevent, prepare, and respond to spills
- Collaborate with local governments, tribes, federal agencies, and neighboring governments



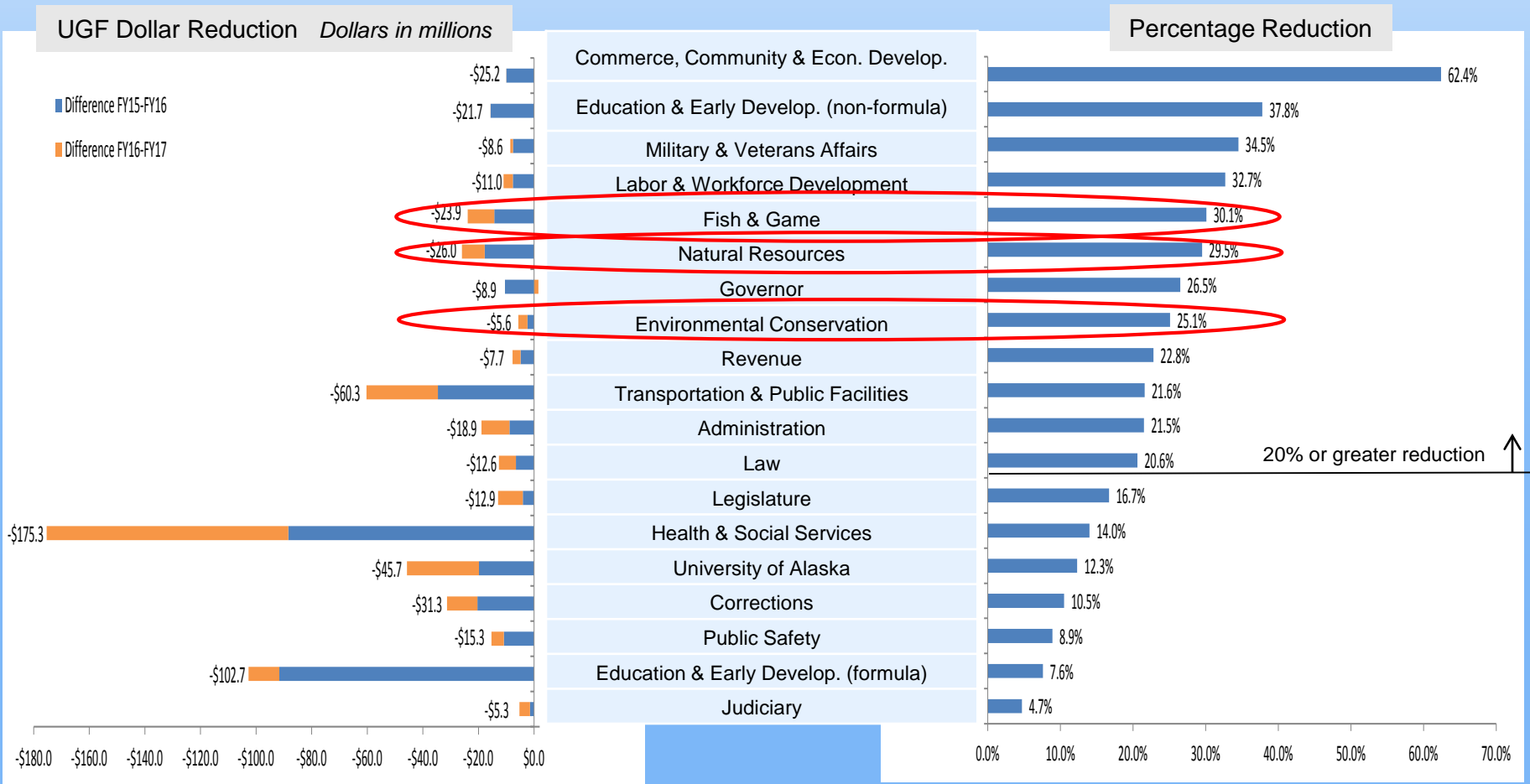
State Fiscal Challenge

Figure 1: Total Agency Operating Budgets, Statewide Items and Capital Budget Compared to Revenue
(UGF Only-\$billions)



	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
Supplementals	0.3	1.4	(0.5)	0.7	0.2	0.2	0.1	0.1	0.0	0.2	--
Capital	0.8	0.4	0.7	0.2	0.5	1.6	1.9	0.8	0.6	0.1	0.1
Statewide Items	0.2	0.7	1.8	0.7	1.1	1.2	1.5	2.0	0.9	1.0	0.3
Agency Operations	3.0	3.0	3.4	3.4	3.7	4.1	4.3	4.4	4.5	4.1	3.9
TOTAL BUDGET	4.2	5.5	5.5	5.0	5.5	7.0	7.8	7.3	6.0	5.4	4.3
UGF Revenue	5.2	10.7	5.8	5.5	7.7	9.5	6.9	5.4	2.3	1.3	1.2
Revenue Covers % of Expenditures	123%	195%	106%	110%	140%	135%	89%	74%	38%	25%	29%

FY2015—FY2017 UGF Reduction by Department



Executive Branch Agencies FY2017 Operating Budget



Partnerships

■ Arctic Shipping

- Alaska and British Columbia MOU signed by Alaska's Governor and the Premier of the Province of British Columbia on November 25, 2015

■ AEA

- Renewable Energy & Energy Efficiency

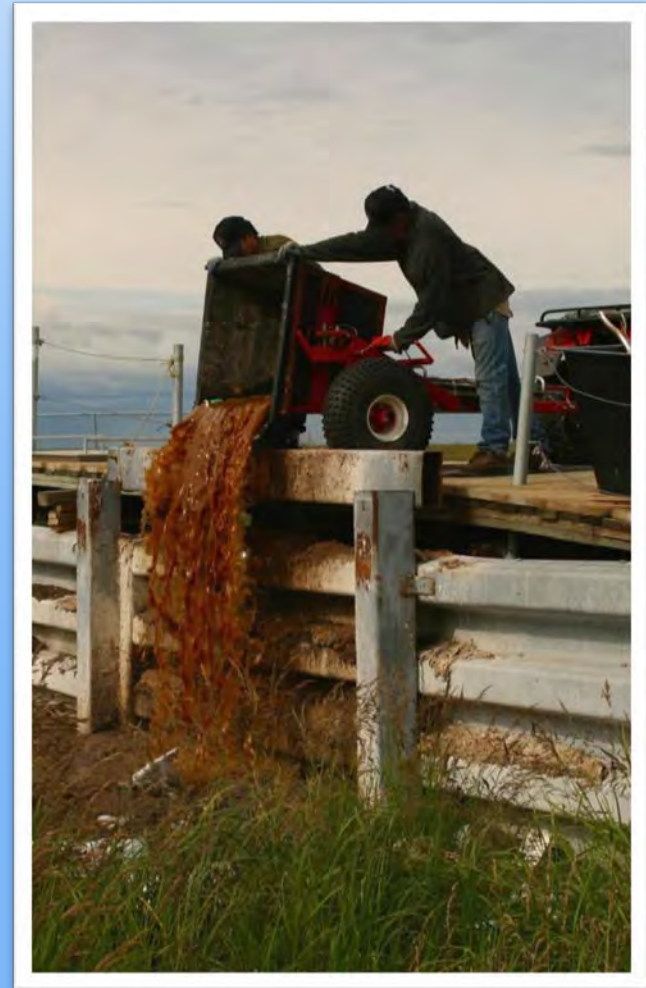
■ Water Innovations for Healthy Arctic Homes (WIHAH) –

- Cohosted by DEC and State Department
- International conference
- Making delivery of water and sewer services more reliable, affordable, and sustainable; Alaska Water and Sewer Challenge

Tackling the Challenges



Alaska Water and Sewer Challenge



Tackling the Challenges



Victim of Climate Change, a Town Seeks a Lifeline



Year
2027
2022
2017
2012
2007

Cultural and Social-Economic Impacts

- Small, remote communities with high percentages of indigenous peoples
- Tied to use of the land
- Local interest in sustainability and long term resiliency
- Involvement in planning and permitting decisions

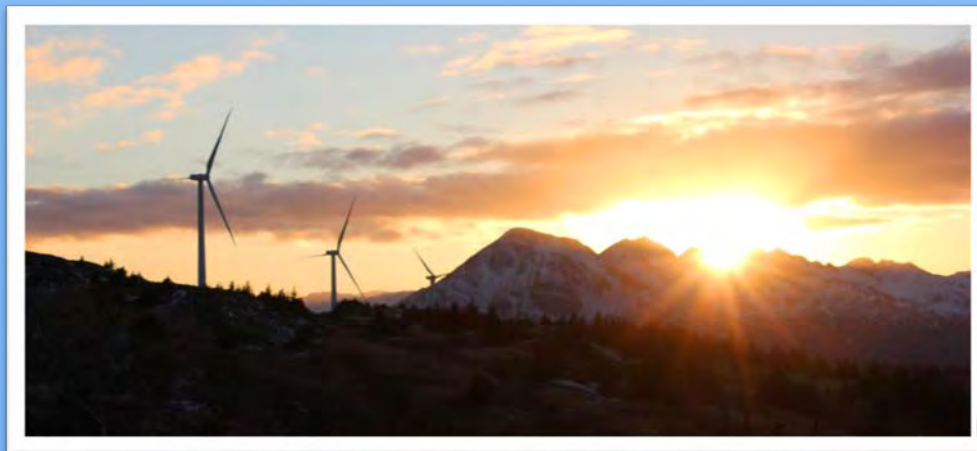


Newtok Elders, photo by Lisa Charles.

Current Federal Regulation

Green House Gases

- Subpart W – GHG reporting for oil and gas facilities
- Clean Power Plan — temporary Alaska deferral
- Council on Environmental Quality – new NEPA guidance
- New requirements relating to fugitive methane and flaring (new and modified O&G facilities)



Potential Future Federal Regulation Green House Gases

- Fugitive Methane and Flaring from existing O&G Facilities



Moving Forward, Partnerships



Thank you!



Alaska Department of Environmental Conservation

<http://dec.alaska.gov/>