

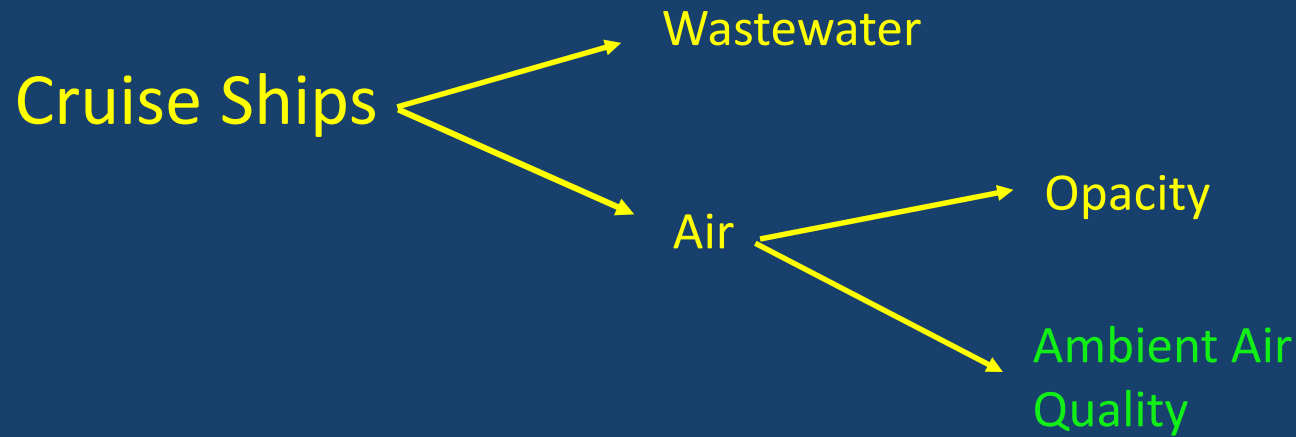
Cruise Ship Industry Potential Impact on Air Quality

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF AIR QUALITY and DIVISION OF WATER QUALITY

SEPTEMBER 12, 2018

Who at DEC Regulates Cruise Ships?



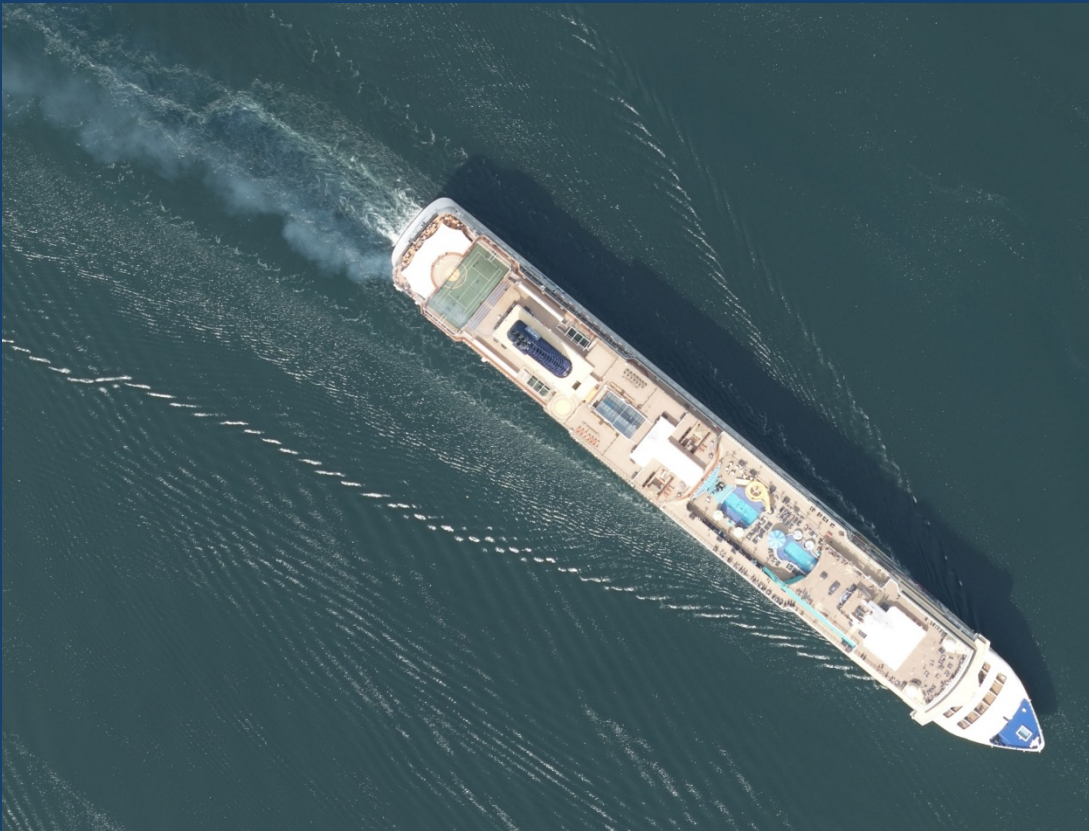
- ❖ Yellow – Division of Water Quality; Cruise Ships – Ed White
- ❖ Green – Division of Air Quality; Denise Koch

Emissions

- ❖ Exhaust Gas Cleaning (Scrubbers)
 - ❖ Emission Control Area (Annex VI) ECA
 - ❖ Starting in 2015 vessels must use fuel containing less than 0.1% sulfur or an approved equivalent method
 - ❖ Scrubbers authorized by EPA
 - ❖ Inspected and certified by Coast Guard
 - ❖ Annex VI does not cover all of Alaska – covers east of Kodiak Island.



Opacity



- ❖ All ships must comply with State's Opacity limits 18 AAC 50.070
 - ❖ State of Alaska has been monitoring vessel air emissions since 1970s, use EPA Method 9
 - ❖ Opacity limits are 20% with limited time exemptions for maneuvering and engine start up

Opacity Monitoring and Compliance

Opacity Readings Per Year Summary

Year	2014	2015	2016	2017	2018
Number of Readings	382	343	388	552	380*

Opacity Enforcement Action Per Year Summary

Year	2010- 2014	2015	2016	2017	2018
Violations	49	0	0	2	9*
Settlement totals	\$533,125	\$0	\$0	\$75,000	TBD

*As of September 7, 2018

Ambient Air Quality



- ❖ Federal Government established national ambient air quality standards (NAAQS) for the protection of public health.
- ❖ In 2000 an [Ambient Air Quality study](#) was conducted in Juneau due to concern about cruise ship opacity.
 - ❖ No exceedances of air quality standards were found in the 2000 study

2019 Ambient Air Quality Study

- ❖ ADEC Air Quality is planning an ambient air study for calendar year 2019.
- ❖ Purpose of 2019 Juneau Ambient Air Quality Study: Assess the impact of marine vessel opacity and bus traffic has on Juneau's Ambient Air Quality
 - ❖ Screening Level Study/Saturation Study
 - ❖ Large number of non-regulatory quality monitors to be set up in a grid like manner
 - ❖ Will select technologies to measure fine particulate matter (PM_{2.5}) and SO₂
 - ❖ Site selections yet to be made
 - ❖ Monitoring both during and outside of cruise ship season
 - ❖ Results of screening level study and available funding will determine future actions.

Public Input and Outreach

- ❖ Public meeting on cruise ship wastewater and air quality tentatively scheduled for Fall of 2018.
- ❖ Screening Level Study/Saturation Study
 - ❖ Site selections and permission needed if monitors are on private property
 - ❖ Private citizen agreements
 - ❖ ADEC will try to address areas of high concern



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