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)
- 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.
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

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Readings</td>
<td>382</td>
<td>343</td>
<td>388</td>
<td>552</td>
<td>380*</td>
</tr>
</tbody>
</table>

### Opacity Enforcement Action Per Year Summary

<table>
<thead>
<tr>
<th>Year</th>
<th>2010-2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violations</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>9*</td>
</tr>
<tr>
<td>Settlement totals</td>
<td>$533,125</td>
<td>$0</td>
<td>$0</td>
<td>$75,000</td>
<td>TBD</td>
</tr>
</tbody>
</table>

*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 (PM2.5) and SO$_2$
    - 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
Contact Information

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- Cruise Ship website  
http://dec.alaska.gov/water/cruise-ships/