

The North American ECA

Matt Haber

US EPA

Air Enforcement Division

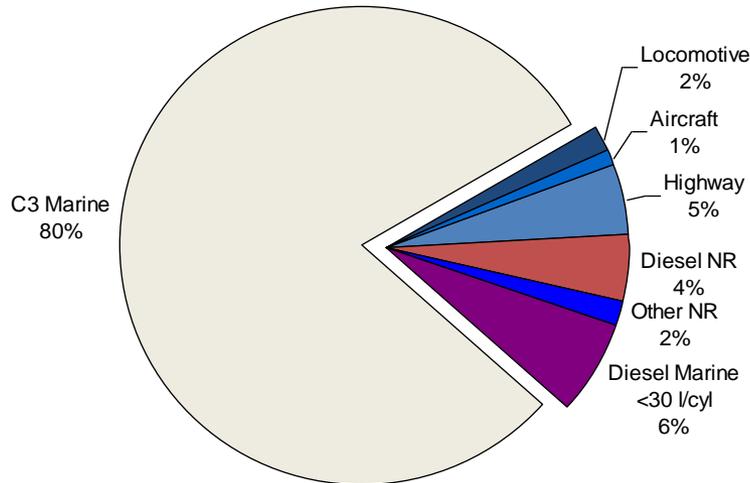
Office of Enforcement and Compliance Assurance

EEK! An ECA

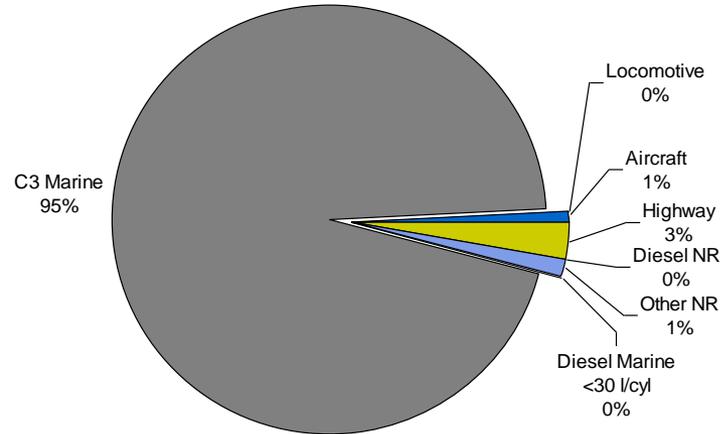
- Impact of Ship Emissions
- What is the ECA?
- How will it be enforced?

Impact of Ship Emissions

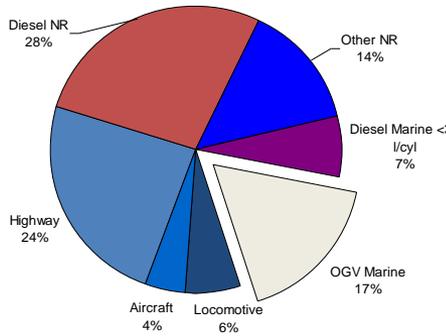
2009 Mobile Source SOx Inventory



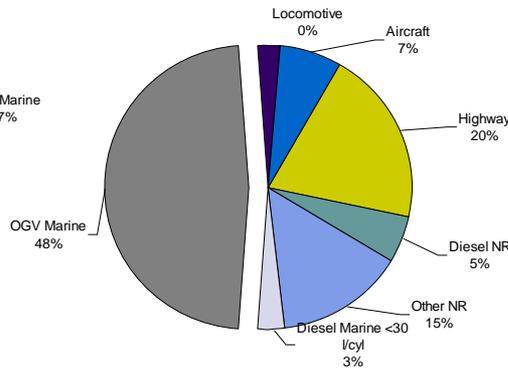
2030 Mobile Source SOx Inventory



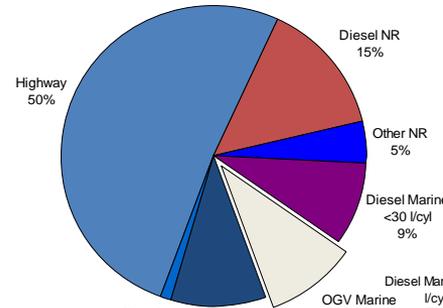
2009 Mobile Source PM2.5 Inventory



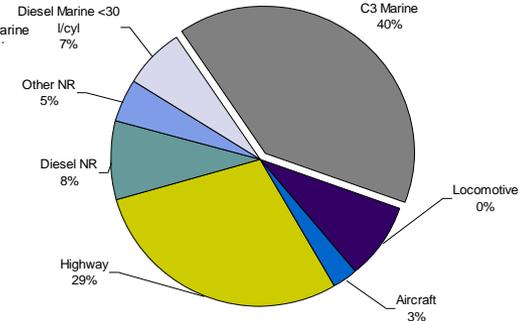
2030 Mobile Source PM2.5 Inventory



2009 Mobile Source NOx Inventory



2030 Mobile Source NOx Inventory



Sulfur standard, 2008 Annex VI Amendments*

- “Global standard”** (Regulation 14.1)
 - 4.5% < 2012
 - 3.5% (2012-19)
 - 0.5% 1 Jan. 2020
- Emission Control Area (ECA) standard (Reg. 14.4)
 - 1.5% < Jul. 2010
 - 1.0% to 1/7/2010
 - 0.1% 1 Jan. 2015

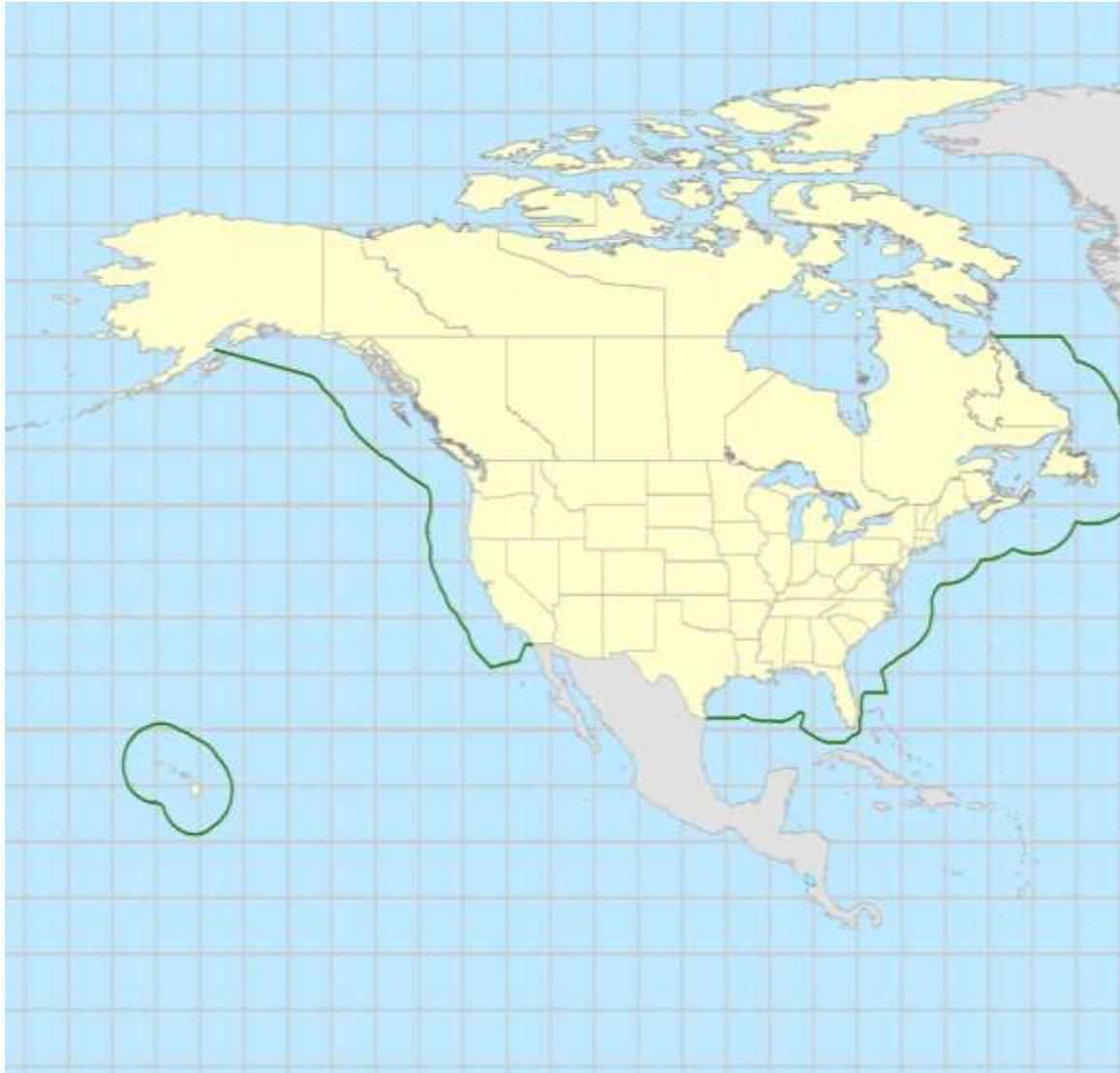
*All dates are subject to 12 month grace period. Reg. 14.7.

** The 2020 Global Standard is subject to feasibility review in 2018; may be delayed to 2025.

North American ECA – History

- Proposal for North American ECA introduced by the U.S. and Canada.
- July 2009: France joined as a co-proposer on behalf of its island territories of Saint-Pierre and Miquelon.
- March 26, 2010: MARPOL Annex VI amended to include designation of the North American ECA.
- Amendment entered into force on July 1, 2011.
- ECA sulfur requirements effective July 1, 2012.

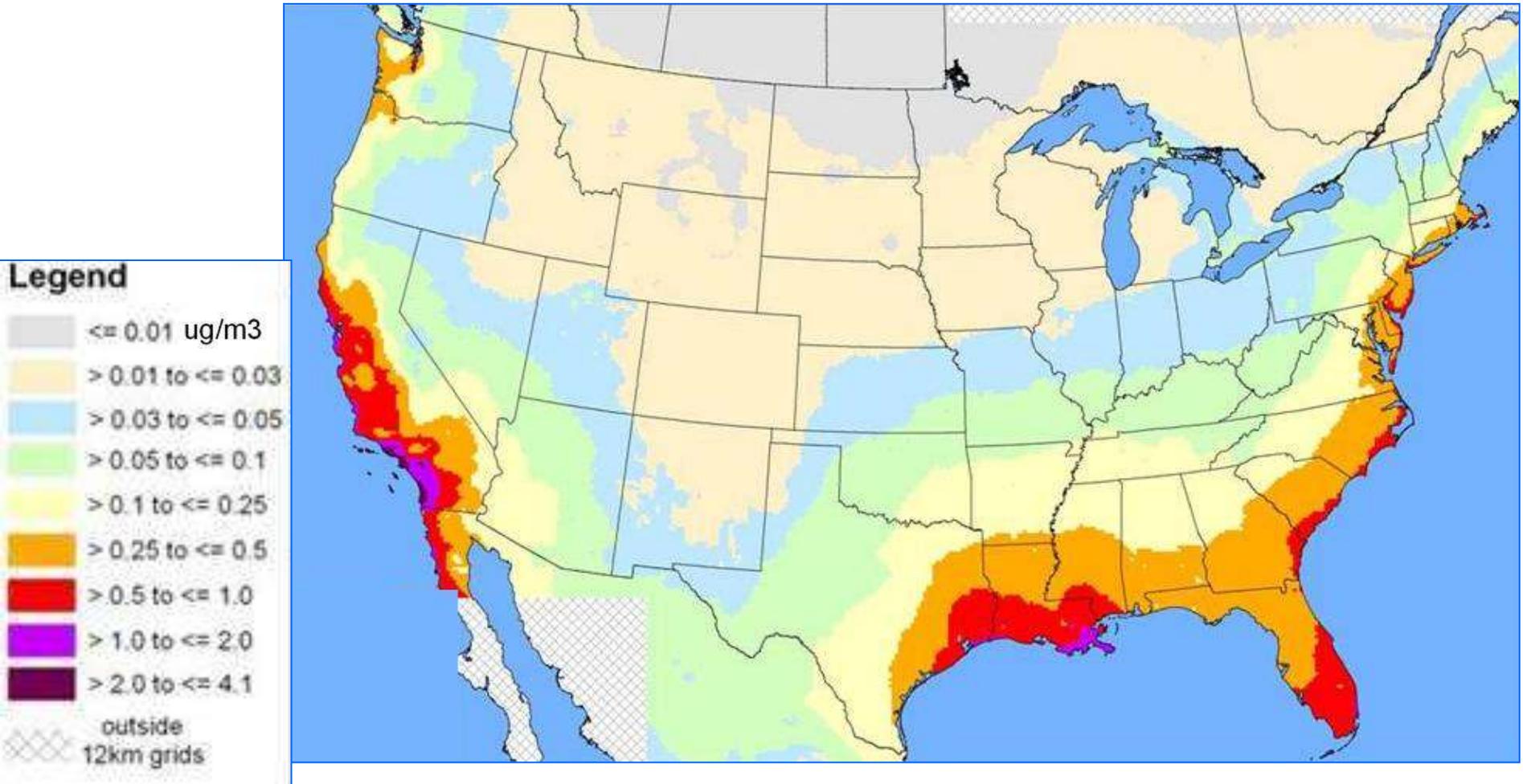
North American ECA Boudaries



North American ECA – Benefits

- Compliance with ECA standards is expected to result in annual reductions starting 2020 of:
 - 320,000 tons of NO_x
 - 90,000 tons of PM-2.5
 - 920,000 tons of SO_x
 - 23%, 74% and 86% reduction of predicted levels absent the ECA
- ECA benefits include preventing as many as 14,000 premature deaths and relieving respiratory symptoms for nearly 5 million annually.

Benefits—PM-2.5



EPA 40 CFR Part 1043 Regulations

- Codify MARPOL Annex VI requirements
- apply Annex VI requirements to U.S. internal waters, or “ECA-associated areas”
- exemption for Great Lakes steamships (1043.95(a))
- “hardship waiver” available for other Great Lakes ships (1043.95(b))
- apply Annex VI requirements to non-Party vessels
- describe procedures, requirements for Engine International Air Pollution Prevention Certificates

Enforcement

- On board
- Shoreside

On Board

- Ship/engines have required certificates
- Operation of ship complies with Annex VI/ECA requirements
- Proper fuel is used
- Technical File, Record Book of Engine Parameters and other records are properly maintained

Shoreside

- Fuels meet sulfur requirements
- Records are maintained/reports submitted
- Marker and labeling requirements are met
- Other requirements of Annex VI and the CAA are met

Remedies

- USCG specific remedies
- Civil Penalties
- Injunctive Relief
- Criminal Liability

International Air Pollution Prevention Certificate

- Required for inspected vessels greater than 400 gross tons engaged in international routes
 - CG issues, amends, revokes
- Pre-cert inspection includes:
 - **SO_x**
 - **Bunker Delivery Notes**
 - **Bunker Samples**
 - Ozone Depleting Substances (ODS)
 - New installations of ODS prohibited after May 19, 2005 (with the exception of HCFCs, which are permitted until January 1, 2020).
 - Shipboard Incineration
- Volatile Organic Compounds
 - If a vessel is equipped with a vapor recovery system, the system must be in compliance with 46 CFR Part 39

MOU Between USCG and EPA to Enforce Annex VI

- USCG and EPA entered into a Memorandum of Understanding to enforce the provisions of Annex VI.
- <http://www.epa.gov/compliance/resources/agreements/caa/annexvi-mou062711.pdf>

MOU—Significant Provisions

- USCG and EPA agree to mutually cooperate in implementing Annex VI
- USCG and EPA agree to jointly develop protocols for carrying out enforcement activities on board ships, in ports and at facilities
- Roles are based primarily on each agencies areas of expertise
- USCG has primary authority to conduct ship inspections, examinations and investigations. EPA may request to or USCG may request that EPA attend or assist in on board activities.
- EPA has primary authority to verify compliance with fuel oil availability and quality requirements (shoreside fuel requirements)
- Both USCG and EPA have authority to take enforcement actions. Actions may be referred from one agency to the other.

Questions?