

## Reducing Emissions from Marine Shipping Update on Local Initiatives

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**Partners:**  
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**National Marine Sanctuary**  
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**District Community Advisory Council**  
**March 12, 2014**

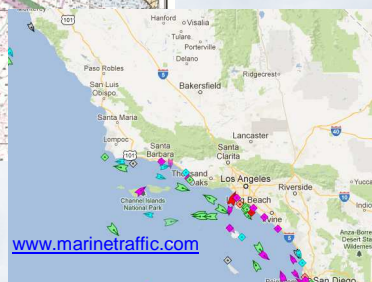
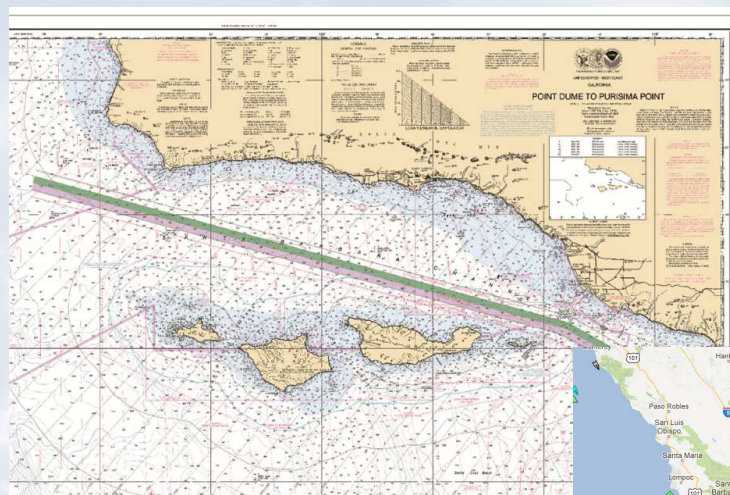


Inspiration Pt, Anacapa Island,  
Santa Barbara County



[www.OurAir.org](http://www.OurAir.org)

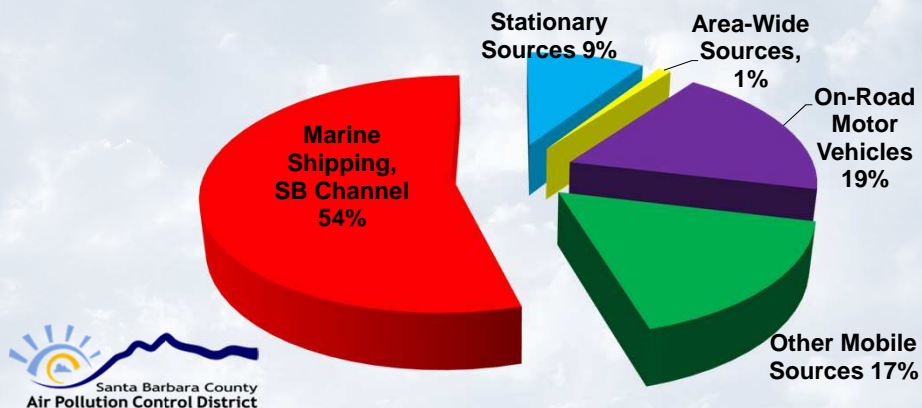
## Santa Barbara Channel Shipping Lanes



## NO<sub>x</sub> Emissions from Shipping in Santa Barbara County

- Large emissions source
  - Threatens ability to attain ozone standards

### County Sources of NO<sub>x</sub> (2010 Clean Air Plan)



## Other Pollutants from Shipping

- Reactive organic compounds (ROC)
- Particulate matter (PM)
  - Air toxics
- Sulfur dioxide (SO<sub>x</sub>)
- Climate pollutants
  - Greenhouse gases (GHG – carbon dioxide and other)
  - Black carbon



## Regulatory Framework

- **Low-sulfur fuel standards for SOx –reduce particulates and air toxics in addition to SOx emissions**

35,000 ppm (Global)

10,000 ppm (ECA—200 na. miles out)

1,000 ppm (California --24 na. miles out)

1,000 ppm starting January 2015 (ECA—200 na. miles out).

- **NOx engine emission standards**

Tier 1 for existing engines: 15-20% NOx reduction (Global)

Tier 2 for **new** engines: 20% NOx reduction started Jan 2011. (Global)

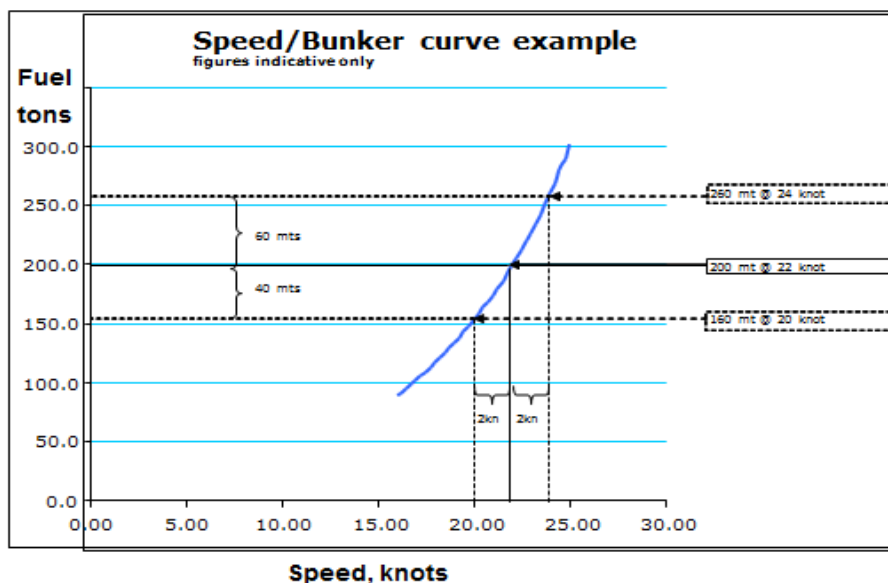
Tier 3 for **new** engines: 80% NOx reduction starting Jan 2016 (ECA)

- **California:**

No NOx or GHG Rules for shipping

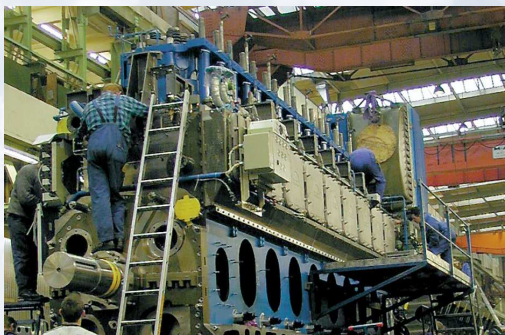


## Vessel Speed Reduction (VSR) Strategy



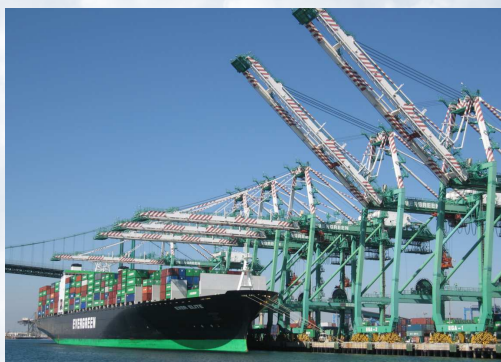
## VSR Strategy

- Near-term NOx reductions
- Near-term GHG reductions
- No capital investment
- Need for partnerships



## Outreach

- Meetings/discussions:
  - Other agencies (air districts, California Air Resources Board, U.S. EPA, European Environment Association)
  - Shipping companies and associations
  - Emissions experts
  - Ports





## Marine Shipping Solutions Group



Delivering Sustainability - Challenges and Opportunities

SBCAQMD - Feb. 24, 2012  
Lee Kinsinger  
Director, Environment & Sustainability  
Maersk Line

Marine Shipping Solutions Workshop

Carter Atkins  
Port of Los Angeles  
Environmental Management Division

Bruce Anderson, Principal  
Air Quality Director  
Starcrest Consulting Group, LLC

Santa Barbara County Air Pollution Control District  
Santa Barbara  
8 November 2012

THE PORT

STARCREST CONSULTING GROUP, LLC

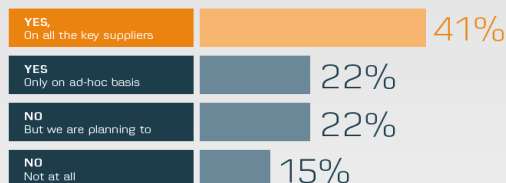
Santa Barbara County Air Pollution Control District

## Maersk: customers demanding more sustainable supply chains.

- The feedback of more than 300 of customers: 41%: "Yes we consider sustainability in our sourcing decisions"



### Sustainability in sourcing decisions



FROM CUSTOMER PERCEPTION SURVEY 2010

## Maersk: Clean Cargo Working Group

- >80% of containers shipped globally part of the study group
- Annual Environmental Data Collection
- Standardized CO<sub>2</sub> analysis
  - Third party verification
  - Supply chain footprints, can compare carriers, publish trade lane averages.



## Ports: VSR Incentive Programs

- Ports of LA and Long Beach



## Marine Shipping Solutions Group: Whale Researcher

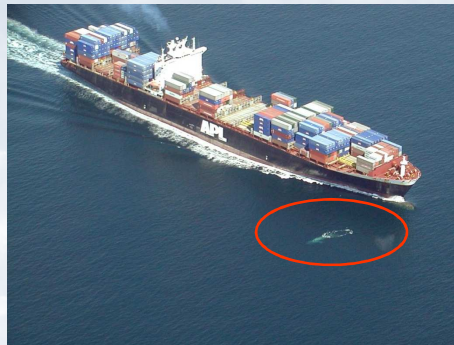
- Potential for common ground: reducing ship speeds to 12 knots reduces likelihood that ship strike will be fatal by 50%



John Calambokidis  
Cascadia Research

## Whales in the Channel

- Endangered blue, fin, and humpback whales migrate through Santa Barbara Channel region
- Several confirmed deaths due to ship strikes in the region





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- Santa Barbara County  
Air Pollution Control District





## VSR Incentive Strategy

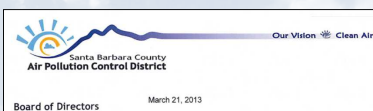
- Incentive based; voluntary
- Extension of Ports program model
- Verification of speed reduction via AIS
- Verification of GHG reduction
  - Global pollutant; international mechanisms evolving
- Proposed for CA Cap-and-Trade auction revenues



## Support for VSR Incentive Initiative



Sanctuary Advisory Council  
CHANNEL ISLANDS NATIONAL MARINE SANCTUARY



### Additional Support from:

Santa Barbara Foundation, California Coastal Commission, Bay Area Air Quality Management District, U.S. Navy, City of Santa Barbara, County of Santa Barbara, Central Coast Coalition, CAPCOA, Beach Erosion Authority for Clean Oceans and Nourishment, California Ocean Protection Council, California State Senator Hannah Beth Jackson, Maersk Line



## Where Are We Today?



- Funding:
  - No Cap-and-Trade funds available FY 12-13
  - VSR Identified in CARB 2013 Scoping Plan
  - Distribution of Cap-and-Trade funds FY 14-15 still uncertain
    - Exploring & pursuing other funding opportunities



## Strengthening Partnership Buy-in

- Convening Assessment
  - 13 Interviews with over 20 individuals
- Unanimous support for an effort to address marine shipping issues in the Santa Barbara Channel region.



## Safe Passage

### Balancing the Needs of Humans, Whales and Ships in Santa Barbara County

- Problem: Impacts From Marine Shipping
- Community Benefits:
  - Cleaner Shipping
  - Cleaner Air
  - Protecting Endangered Species
  - Safer Navigation
  - Reduced Conflict with Ocean Users
  - Sustaining Tourism
- Solutions: Working Group Action Plan & VSR Trial



## Working Group

- Established Jan 2014
  - Channel Islands National Marine Sanctuary Advisory Council Working Group
- Multi-Stakeholder Membership
  - Air Pollution Control District, U.S. Navy, U.S. Coast Guard, NOAA, shipping industry, whale researchers, Marine Exchange, environmental organizations
- Comprehensive & Integrated Strategy Action Plan



Channel Islands National Marine  
Sanctuary Advisory Council





## VSR Trial

- Proof of concept
- Financially incentivize small number of ships
- Upcoming whale season  
(June- October)



John Calambokidis, Cascadia Research



## Power of Partnerships

- District information
  - [ourair.org/itg/shipemissions.htm](http://ourair.org/itg/shipemissions.htm)
  - [twitter.com/OurAirSBC](https://twitter.com/OurAirSBC)
- Project Partners:
  - Mary Byrd, [ByrdM@sbcapcd.org](mailto:ByrdM@sbcapcd.org)
  - Brian Shafritz, [ShafritzB@sbcapcd.org](mailto:ShafritzB@sbcapcd.org)
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