What I am going to cover:

2018 Vessel Speed Reduction (VSR) request

Share a few results from the 2017 VSR data analysis

Ship strike and acoustic impact risk reduction studies underway

Share paper we published on ship traffic along the California Coast

Industry Engagement

New collaboration with the Air Quality Management District

Marine Mammal Commission grant and next steps
2018 Vessel Speed Reduction (VSR):

Who: Vessels 300GT or larger

When: May 1- November 15, 2018

Where: San Francisco Traffic Lanes

What: Request vessels transit at speeds not in excess of 10 knots.

Why: Reduce the risk of lethal ship strikes, with a secondary outcome of reducing ocean noise and air pollution.
How Vessel Speed Reduction request is communicated:

Dear Mariners,

NOAA’s Office of National Marine Sanctuaries (ONMS) will be issuing a voluntary Vessel Speed Reduction (VSR) effective May 1 – November 15, 2015 for the San Francisco Traffic Separation Scheme (TSS) within the Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries to protect whales listed under the Federal Endangered Species Act, the Marine Mammal Protection Act, and the National Marine Sanctuaries Act. ONMS recommends all vessels 100 gross registered tons or larger reduce speeds to 10 knots during this time period. We request your company’s commitment to the voluntary VSR to protect endangered whales that annually migrate to this area in summer and fall to feed within the sanctuaries. The combination of commercial shipping traffic, recreational whale viewing, and concentrations of whales in feeding areas, increases the risk of ship strikes to whales that can result in severe injury or death to whales. Between 1988 and 2011, there were 100 documented large whale ship strikes along the California coast.

NOAA’s National Marine Sanctuaries is moving to this type of fixed-date voluntary VSR in order to:

- Reduce vessel strikes and the lethality of strikes to threatened and endangered whales in the marine sanctuaries;
- Establish predictable start and end dates for industry that brackets peak periods of whale abundance in the sanctuaries; and
- Address the lack of time series, real-time data documenting shifting distribution and abundance of whales in the area.

NOAA is committed to the long-term protection of the nationally significant marine resources of the sanctuaries by enhancing marine safety and environmental awareness in the maritime community. During the VSR, NOAA will be monitoring AFS to assess the industry’s commitment to this effort. We encourage vessel owners to report whale sightings to whales@noaa.gov, or through the Whale Alert App. Your support of the voluntary 10 knot vessel speed request during whale season will help reduce strikes and protect whales within the national marine sanctuaries.

Thank you in advance for your commitment to protecting endangered and threatened whales.

Sincerely,

[Signatures]

Daniel F. Howard, Superintendent
Cordell Bank National Marine Sanctuary

Maria Brown, Superintendent
Gulf of the Farallones National Marine Sanctuary

Figure 3. San Francisco Traffic Separation Scheme (TSS) within national marine sanctuaries.
2017 Vessel Transits by Type During the NMS San Francisco Vessel Speed Reduction

- **Cargo** (60.5%)
  - 2224 vessels

- **Tanker** (23.0%)
  - 844 vessels

- **Big Tow** (3.2%)
  - 117 vessels

- **Military** (1.1%)
  - 39 vessels

- **Other** (3.5%)
  - 127 vessels

- **Passenger** (3.2%)
  - 119 vessels

- **Pleasure** (0.4%)
  - 16 vessels

- **Spare** (0.7%)
  - 27 vessels

- **Towing** (4.4%)
  - 160 vessels

- **Tug** (0.1%)
  - 4 vessels
Percent of Total 2017 Transits Relative to 10, 12 and 15 Knot Speed Thresholds

- **Above 15 Knots**: 12%
- **15 Knots or less**: 29%
- **12 Knots or less**: 14%
- **10 Knots or less**: 45%

Legend:
- Above 15 Knots
- 15 Knots or less
- 12 Knots or less
- 10 Knots or less
2017 Transits VSR Active vs Not Active

- Percent Distance Traveled 15 Knots or less:
  - VSR Active: 3533
  - VSR Not Active: 2382

- Percent Distance Traveled 12 Knots or less:
  - VSR Active: 2471
  - VSR Not Active: 1311

- Percent Distance Traveled 10 Knots or less:
  - VSR Active: 1160
  - VSR Not Active: 601
<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Transits (all tonnage)</td>
<td>7109</td>
<td>7274</td>
<td>7473</td>
</tr>
<tr>
<td>VSR Transits (300gt, May 1-November 15)</td>
<td>3785</td>
<td>3614</td>
<td>3944</td>
</tr>
<tr>
<td>% Transit Distance &lt;10 knots, all transits</td>
<td>28.7%</td>
<td>45.3%</td>
<td>44.9%</td>
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<tr>
<td>% Transit Distance &lt;10 knots, tanker</td>
<td>28.8%</td>
<td>35.9%</td>
<td>42.8%</td>
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<tr>
<td>% Transit Distance &lt;10 knots, passenger</td>
<td>4.3%</td>
<td>2.8%</td>
<td>26.6%</td>
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<tr>
<td>Reporting Companies</td>
<td></td>
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<td>109</td>
</tr>
<tr>
<td>Sanctuary Vessel Speed Reduction (VSR)</td>
<td>2017 Cooperation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
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<td></td>
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<tr>
<td>Channel Islands NMS VSR</td>
<td>≈ 17%</td>
<td></td>
<td></td>
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<tr>
<td>Greater Farallones and Cordell Bank NMS VSR</td>
<td>≈ 45%</td>
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Average Cargo Vessel Transit Speed by Traffic Lane

2017 vs 2010

<table>
<thead>
<tr>
<th>Traffic Lane</th>
<th>Average Speed 2010</th>
<th>Average Speed 2017</th>
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<tbody>
<tr>
<td>North Inbound 2010</td>
<td>16.8</td>
<td>14.8</td>
</tr>
<tr>
<td>North Outbound 2010</td>
<td>17.6</td>
<td>11.6</td>
</tr>
<tr>
<td>West Inbound 2017</td>
<td>13.2</td>
<td>14.2</td>
</tr>
<tr>
<td>West Outbound 2017</td>
<td>14.2</td>
<td>11.2</td>
</tr>
<tr>
<td>South Inbound 2017</td>
<td>17.1</td>
<td>15.5</td>
</tr>
<tr>
<td>South Outbound 2017</td>
<td>15.5</td>
<td>11.3</td>
</tr>
</tbody>
</table>

Average Vessel Transit Speed in Knots
Exploring ship traffic variability off California

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\section*{Article Info}

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\section*{Abstract}

Seaborne trade continues to grow and is an important component of the global economy. Threats from shipping to marine ecosystems include oil spills and other water pollution, air pollution, anchor scouring, biological invasions, container loss, chronic noise, and collisions between ships and large whales. Shipping and its associated threats can be influenced by a suite of regulations and economic events. The dynamic nature of ship traffic can be characterized using ship tracking data from automatic identification system (AIS) technology. These data enhance our ability to analyze the ecological threats from commercial shipping as a component of spatially
5 Key messages

1. We are seeing a large difference in cooperation between when the VSR is active vs not active.

2. There is a significant difference between cooperation for San Francisco Traffic Lanes vs the Santa Barbara Channel.

3. The emission reductions of the VSR are significant.

4. Ship traffic has slowed down considerably over the last decade.
A partnership for cleaner air, safer whales, and quieter oceans
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Sapphire Award for Cooperation
NOAA's Greater Farallones & Cordell Bank National Marine Sanctuaries Recognize
Celebrity Cruises
For cooperation with the 2015 voluntary 10-knot vessel speed request during whale season, which improves air quality, helps reduce the risk of fatal ship strikes, and protects whales within national marine sanctuaries.
Questions?