Preliminary Commercial Harbor
Craft Emission Inventory

Public Workshop
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Mobile Source Analysis Branch

Outline

- Data sources
- Methodology
- Preliminary results
- Next steps
Data Sources

- Population data from multiple sources
  - U.S. Coast Guard registration data
  - CA Department of Fish & Game registration data
  - Port of Los Angeles Emission Inventory ARB Survey (2002)
  - ARB 2003 Port/Harbor/ Marina Survey
- Engine specific data used to derive emission rates from ARB’s Commercial Harbor Craft Survey
- Zero hour emission factors, attrition rates, deterioration factors from ARB’s OFFROAD model

Differences from Previous Inventories

- Single, integrated model with flexibility
- More detailed calculations
  - Use available engine specific data instead of average when calculating emission rates
- Forecast of future year emissions based on fleet growth, engine deterioration, fleet attrition
- Covers 100 miles from shore (GMERP 24 miles)
- Updated data
  - Engine useful life and annual operating hours
Logic of the Model

Inventory Methodology

- **Population**
  - Estimated county population from data sources
  - Estimated number of engines per vessel from survey
  - Applied vessel type specific growth factors
  - Applied vessel type specific attrition rates

- **Activity**
  - Annual operating hours by engine
  - Vessel type specific load factor

- **Emission Factors**
  - Based on OFFROAD; adjusted for marine cycles
  - Includes deterioration and fuel correction factors
Estimated Statewide Emissions

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<th>2004</th>
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NOx Emissions by Vessel Type

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PM Emissions by Vessel Type

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ROG Emissions by Vessel Type

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Next Steps

- Verify and validate
- Integrate SOx emissions
- Refine spatial distribution
- Modify according to comments
- Incorporate proposed regulations to support regulatory analysis

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