

AB 617

Protecting Community Health

**Board Retreat
January 17, 2018**

Greg Nudd
Deputy Air Pollution Control Officer



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

AB 617 background

- Originated in negotiations regarding the extension of Cap & Trade program (AB 398)
- Responds to advocates' concerns with continued high levels of air pollution in local communities
- Directly addresses toxics and criteria pollutants in the most impacted communities

AB 617 program components

- Community selection
- Monitoring
- Emission reduction action plans
- Emissions inventory
- Incentives
- BARCT Update/Clearinghouse

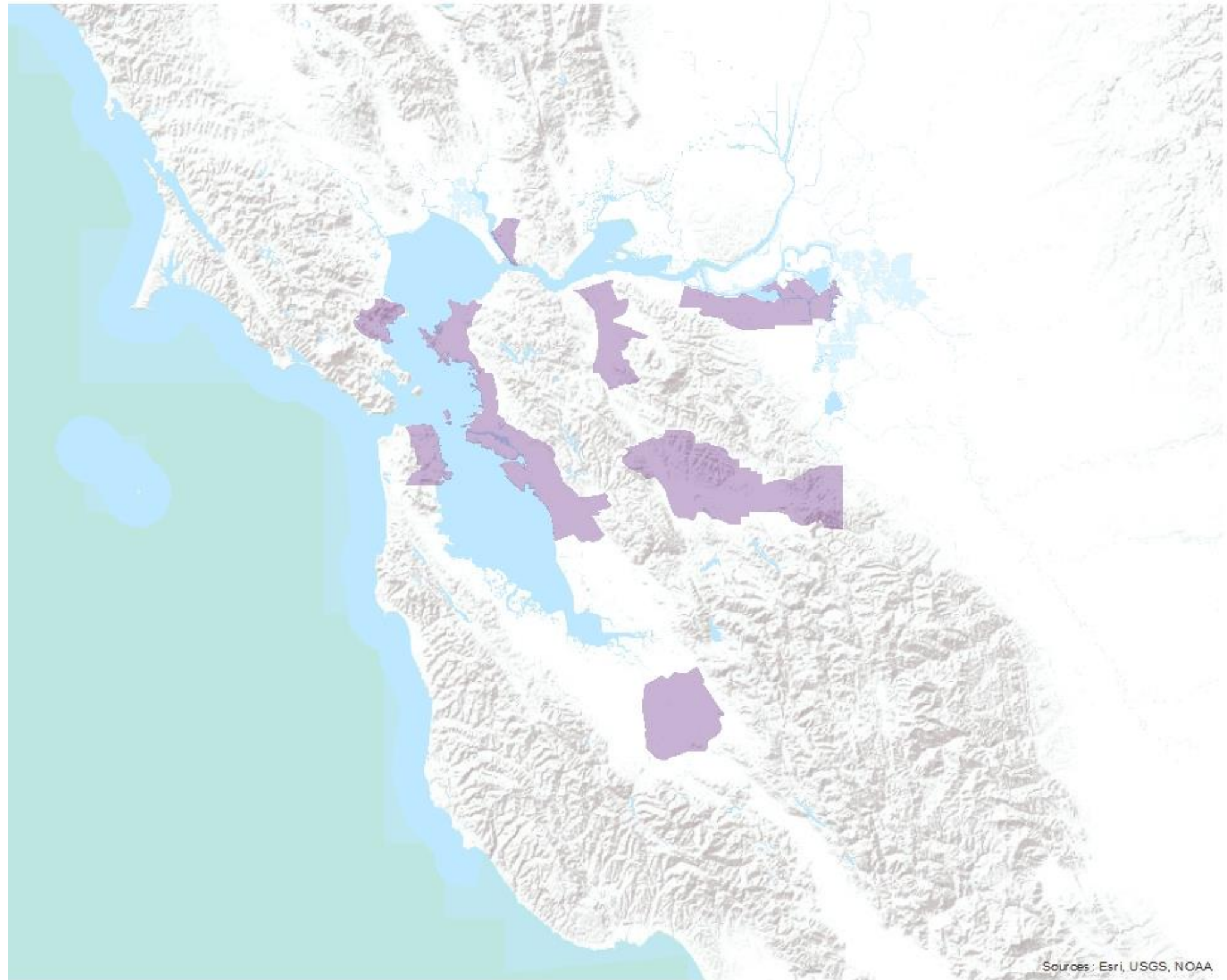
Community Selection

State requires districts to work with communities to select all areas in the region that have a “high cumulative exposure burden” and therefore require community monitoring and/or actions plans.



Community Selection – Criteria Under Consideration

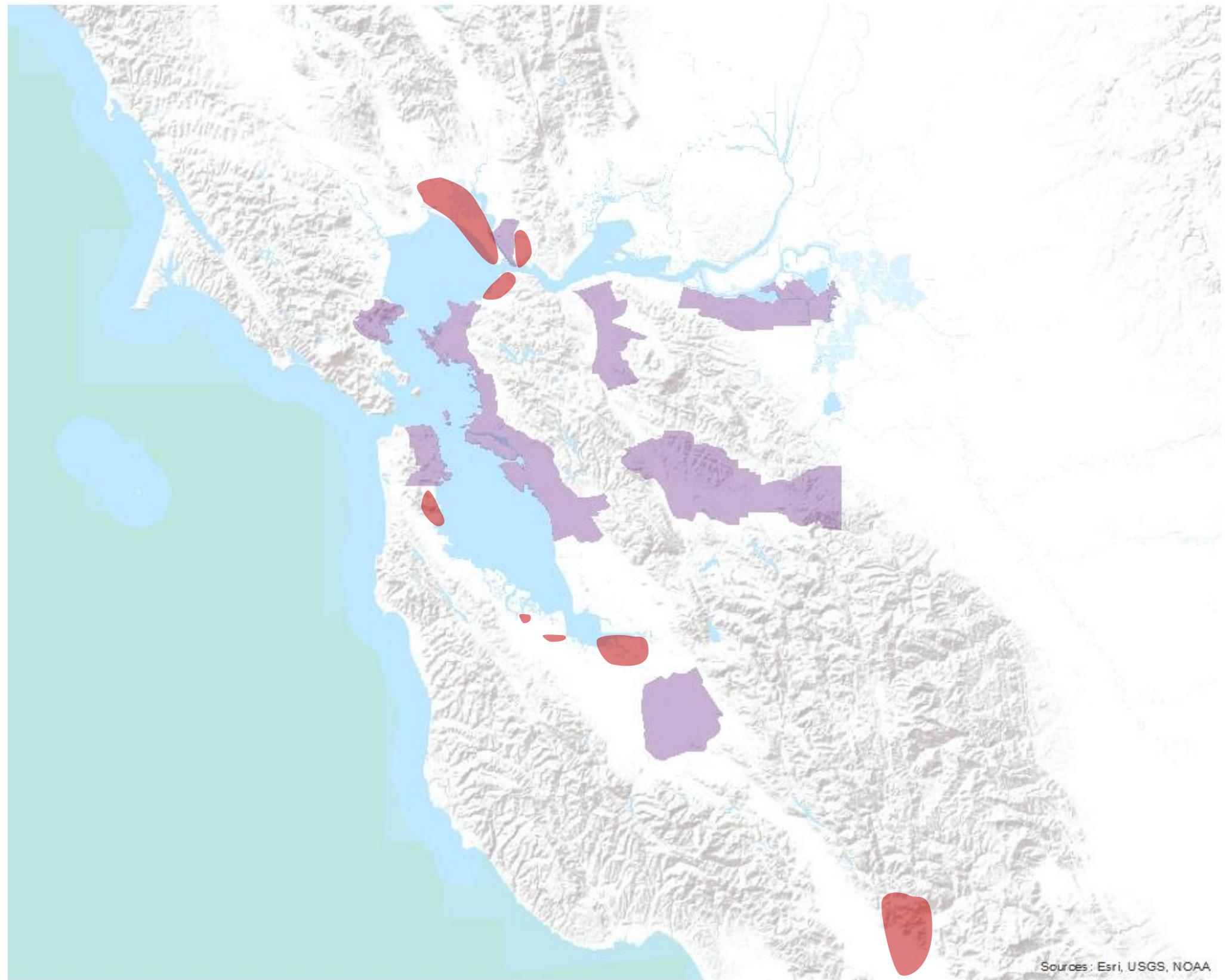
- CARE



Sources: Esri, USGS, NOAA

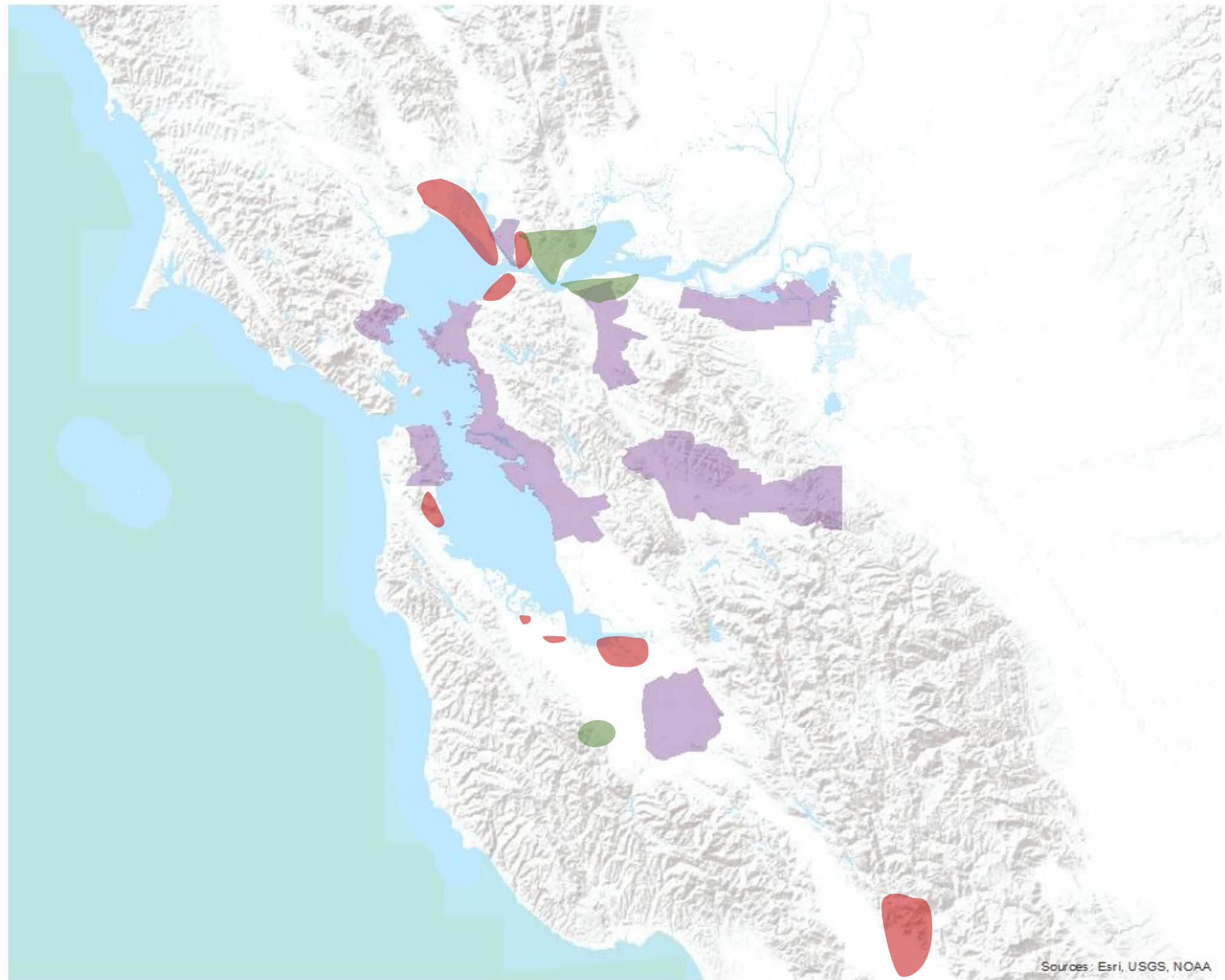
Community Selection – Criteria Under Consideration

- CARE
- Additional health impacted areas



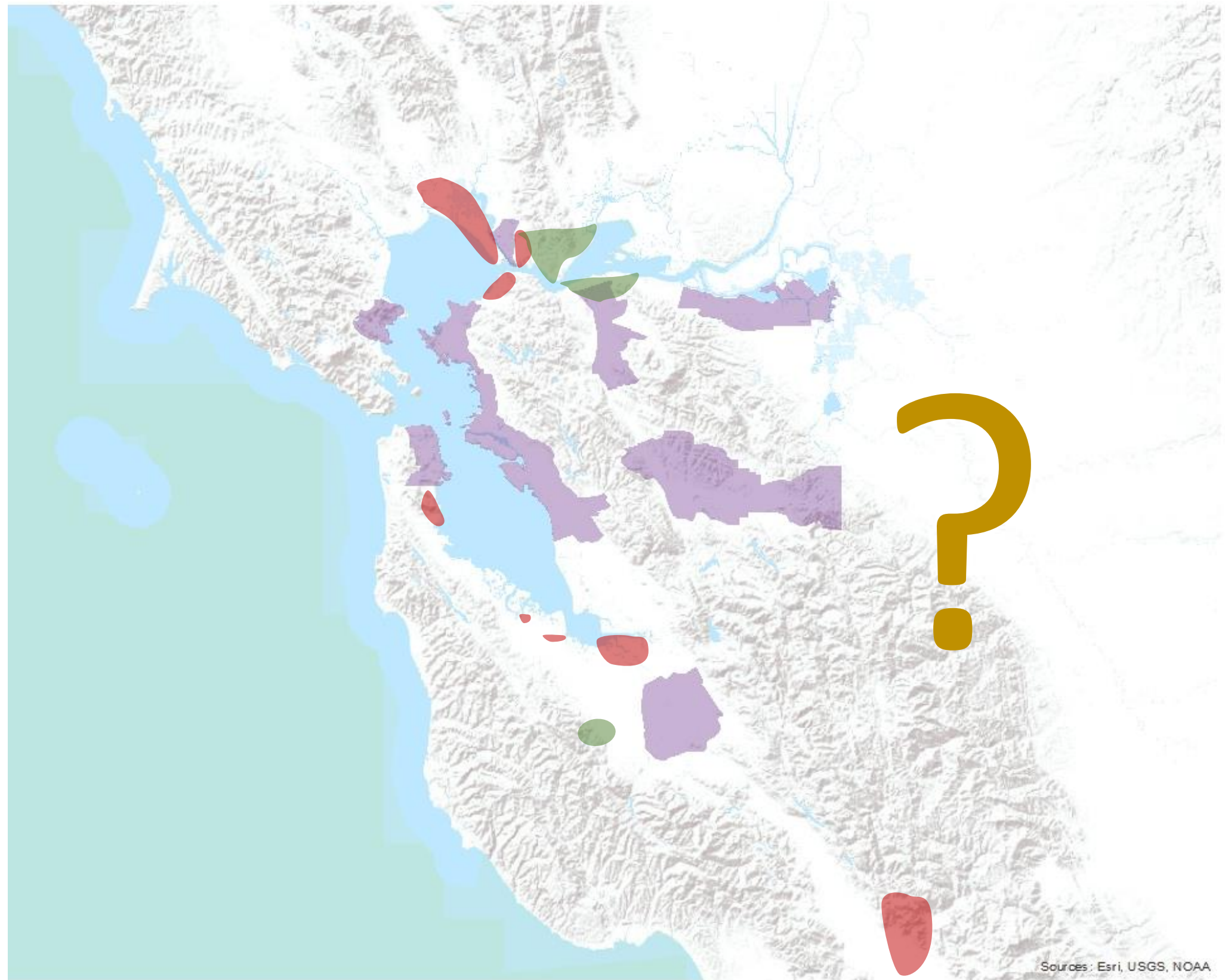
Community Selection – Criteria Under Consideration

- CARE
- Additional health impacted areas
- Other areas with large facilities



Community Selection – Criteria Under Consideration

- CARE
- Additional health impacted areas
- Other areas with large facilities
- Self-nominated



Examples of Potential Communities

West Oakland

- ✓ CARE
- ✓ Add'l Health Large Facility

- High PM_{2.5} concentrations
- Very high mobile source emissions
 - Port of Oakland largest single source of DPM
 - Roadways contribute significantly to PM_{2.5}
- Low stationary source emissions

- High health burden
- High socio-economic vulnerability
- Concerns about new development at Port of Oakland and Oakland Army Base

Richmond

- ✓ CARE
- ✓ Add'l Health
- ✓ Large Facility

- Moderate PM_{2.5} concentrations
- Very high stationary sources emissions
 - Chevron refinery, chemical plant, landfills, water treatment facility
- High mobile source emissions

- High health burden
- High socio-economic vulnerability

Eastern SF

- ✓ CARE
- ✓ Add'l Health Large Facility

- Moderate PM_{2.5} concentrations
- High mobile source emissions
- Low stationary source emissions

- High health burden; especially in Bay View and Market / Van Ness
- Very high socio-economic vulnerability; especially in Bay View, Chinatown, Tenderloin

- High O₃ concentrations; moderate PM_{2.5} concentrations
- Moderate mobile source emissions

- Low health burden
- Low socio-economic vulnerability

Vallejo

- ✓ CARE
- ✓ Add'l Health Large Facility

- High PM_{2.5} concentrations
- Low mobile and stationary source emissions
 - Mobile source emissions higher than stationary

- Very high health burden
- High socio-economic vulnerability

Community Plans

- Local air quality conditions and impacts
- Emission reduction targets
- Sources
 - stationary
 - mobile (including indirect/magnet)
- Emissions inventory by source
- Specific emission reduction strategies
- Implementation schedule
- Enforcement plan
- Method for tracking progress



Air Pollution Monitoring

Levels of air pollution in a community are affected by

- Natural background
- Emissions from a combination of sources
- Transport from other areas in our air basin and outside our air basin
- Meteorology
- Chemical reactions
- Topography

Air pollution levels are a complex mixture that changes widely in time and location

Air pollution monitoring needs to be designed around a specific question to increase the likelihood of success



Air Pollution Monitoring

- Monitoring approach is linked to specific objective
- Current monitoring is to characterize regional population exposure, including the effect of common nearby sources (e.g. gas stations, freeways)
- Communities that have a unique source or combination of sources that could lead to elevated air pollution above the normal urban levels, need more monitoring
- Identifying persistent and intermittent hot spots and teasing apart contributing sources quantitatively robustly requires a combination of monitoring methods



Community Monitoring Methods

Screening to identify issues

- Conducted by district and communities
- Mobile monitoring
- Dense network of low-cost sensors
- Satellite and other remote observations
- Observations other than pollution concentrations
- May help track progress

Special studies to quantify contribution of sources

- Advanced techniques to isolate and quantify source contribution
- need speciation of PM or toxics to differentiate sources
- combination of ambient and source monitoring

Fixed sites using well-documented methods are still needed to anchor screening, track regional air quality and meet state and federal requirements



Community Monitoring

- Needed for input in community action plans and to track their effectiveness
- Must be done in addition to existing regional monitoring efforts (more resources)
- Other new challenges and opportunities
 - Each community needs a unique plan design based on community-identified concerns.
 - Data must be available and meaningful to the public
 - More data = more problems with data collection, communications, and management
 - Requires ongoing planning and evaluation to ensure effectiveness
- Expect CARB's statewide monitoring plan in October 2018



Emissions Inventory

- Annual stationary source emissions reporting for facilities:
 - already subject to mandatory GHG reporting
 - emits 250 tons/year or more of any nonattainment pollutant/precursor
 - has an “elevated prioritization score” based on cancer or noncancer impacts
- Uniform statewide annual reporting for criteria and toxic emissions
- Direct reporting to state of stationary sources emissions
- Third party verifier



Incentives

\$50 Million:

- Reduce diesel from mobile sources
- Prioritize impacted communities
- Dirty fleet replacement
- Voluntary participation
- Under contract by June 30, 2019
- Funds spent by June 30, 2021



Best Available Retrofit Control Technology

- Non-attainment pollutants
- Determine Best Available Retrofit Control Technology
- Coordinate with state and other districts
- Adopt BARCT implementation schedule by Dec. 2018
 - include Cap & Trade sources
 - consider:
 - benefits to local community
 - cost effectiveness
 - air quality attainment benefits
 - Implementation deadline is Dec. 31, 2023



Best Available Retrofit Control Technology

- Carbon Calciner
 - NO_x : low NO_x burners
- Cement Manufacturing
 - PM: baghouses
 - SO_2 : hydrated lime injection
- Fiberglass Manufacturing
 - PM: wet gas scrubber & baghouse
- Storage Tanks
 - ROG: domes on high volatility sources
 - ROG: flares or thermal oxidizers
- Landfills
 - PM: best practices
 - ROG: flares, improved capture efficiency



Best Available Retrofit Control Technology

- Marine Terminals
 - ROG: flares or thermal oxidizers
- Refinery FCCU/CO Boilers
 - PM: ammonia injection optimization or wet gas scrubber
 - SO₂: wet gas scrubber or optimized DeSO_x additive
- Refinery Fuel Gas Combustion
 - PM: good combustion practice
 - SO₂: caustic treatment or hydrotreatment
- Sulfuric Acid Plants
 - SO₂: cesium-promoted catalyst



AB 617 Statutory & Program Deadlines

| DATE | MILESTONE |
|--------------------------|--|
| March 9, 2018 | Deadline for communities to self-nominate |
| April 18, 2018 | Initial list of all possible impacted communities submitted to ARB |
| July 31, 2018 | Final submittal of list of communities for monitoring and plans to ARB – ranked for year 1; years 2 through 6 |
| October 1, 2018 | ARB selects Year 1 communities for monitoring and/or planning |
| June 30, 2019 | Initial round of grant funds contracted out |
| July 1, 2019 | Air District deploys community monitors |
| October 1, 2019 | Air District adopts community action plan(s) |
| December 31, 2023 | BARCT must be implemented |

Early Actions

- Risk Reduction Action Plans in West Oakland and San Francisco - *leveraging their experience for future plans*
- Community monitoring in Richmond – *characterize exposure and determine pollutant sources*



Jan 31 2018
Regional Public Workshop



Feb 2018
Outreach Plan



Feb 2018
Begin Community Meetings
Air District Board Meeting



April 18 2018
Final Selection of ALL
Possible Communities



Extra - Sample Communities

Pittsburg . Antioch



✓ CARE
Add'l Health
Large Facility

- Moderate PM_{2.5} concentrations
 - High stationary source emissions
 - Chemical plant, chrome plating, power plant, metal melting, landfills
 - Moderate mobile source emissions
- Very high health burden
 - Very high socio-economic vulnerability

San Jose

✓ CARE
Add'l Health
Large Facility

- High PM_{2.5} and toxic concentrations; high PM₁₀ concentrations
- Very high mobile source emissions
- High stationary sources emissions

- Low health burden
- Moderate socio-economic vulnerability; high in Little Saigon

Concord

✓ CARE
Add'l Health
Large Facility

- Moderate PM_{2.5} concentrations
 - Very high stationary sources emissions
 - data centers
 - High mobile source emissions
- High health burden; very high east of Vine Hill
 - High socio-economic vulnerability; Very high at Ellis Lake/Meadow Homes

East Oakland

✓ CARE
Add'l Health
Large Facility

- Moderate concentrations of PM_{2.5}
- High mobile source emissions
 - Airport, Oracle Arena, Coliseum, distribution centers, roadways
- Moderate stationary source emissions
- Diesel and other TACs cancer risk equal
- Highest health burden
- Highest socio-economic vulnerability