



CalEnviroScreen 3.0

A Tool for Evaluating
California Communities

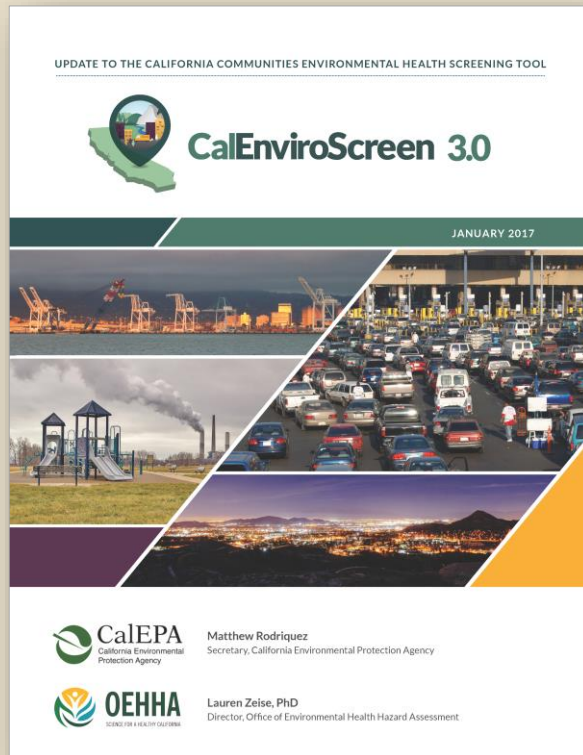
CalEPA Tribal Advisory Committee Meeting
December 13, 2017

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CalEnviroScreen 3.0

Released January 2017



- Analysis of relative burdens in California communities from pollution and population vulnerability
- 20 indicators combined into a single score
- Census tract scale

Available at: <http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>



Overview

- Importance of the CalEnviroScreen tool to tribes
- How the tool is constructed
- How to use the tool and access data
- Examples of potential updates and data gaps specific to tribes

Importance of CalEnviroScreen tool for tribes

- Many communities in California, including Native American communities on tribal lands, face multiple sources of pollution and an increased vulnerability to the effects of pollution.
- To help identify impacted communities, CalEPA and OEHHA developed a screening tool— CalEnviroScreen.
- Accurate identification of the most impacted and vulnerable communities can help ensure these communities are being prioritized for investments, planning, and decision making.



Using CalEnviroScreen

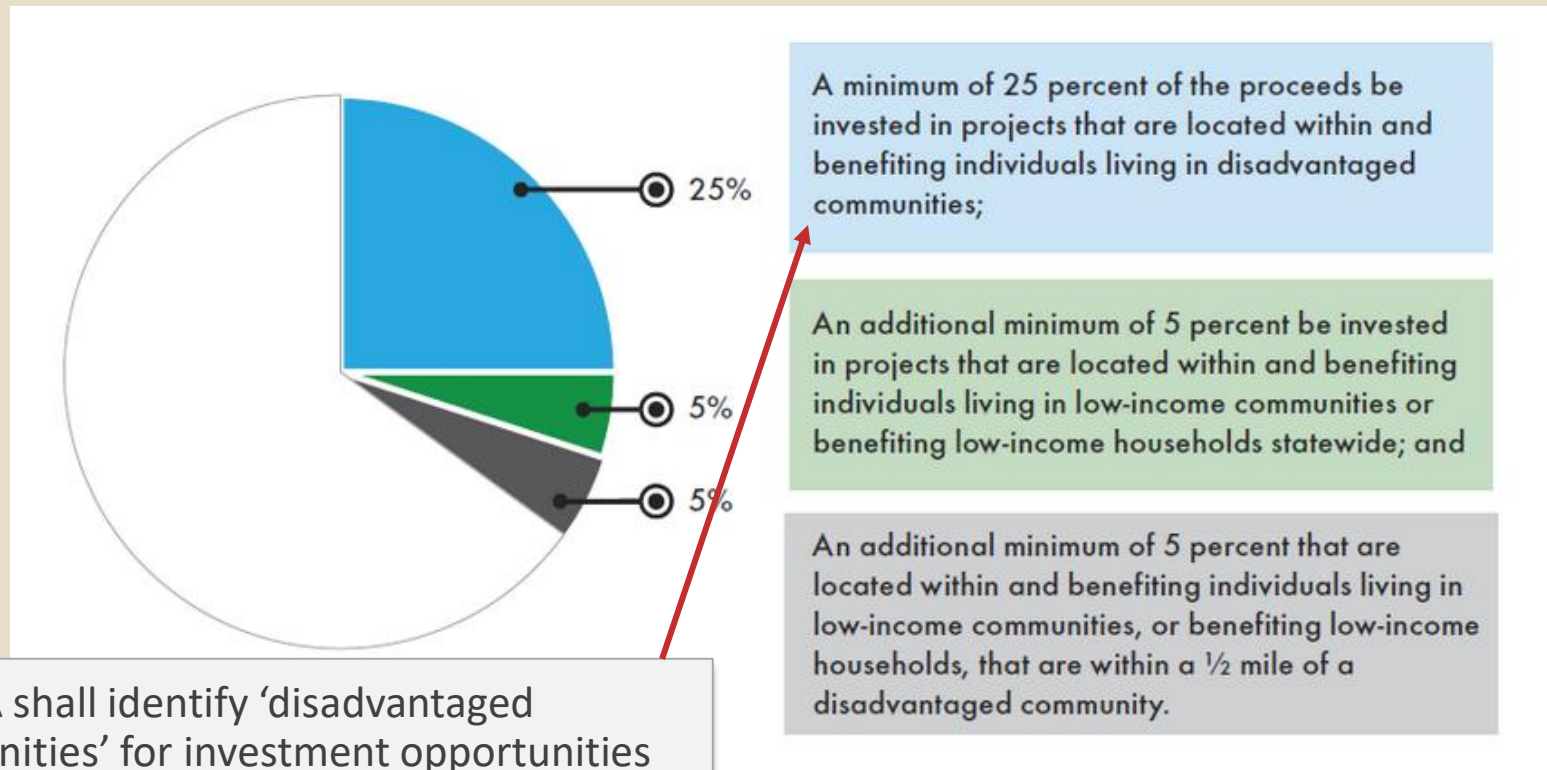
Ongoing planning and decision-making within CalEPA

- EJ Small Grant Program
- EJ Enforcement Taskforce
- Trainings and outreach

Using CalEnviroScreen

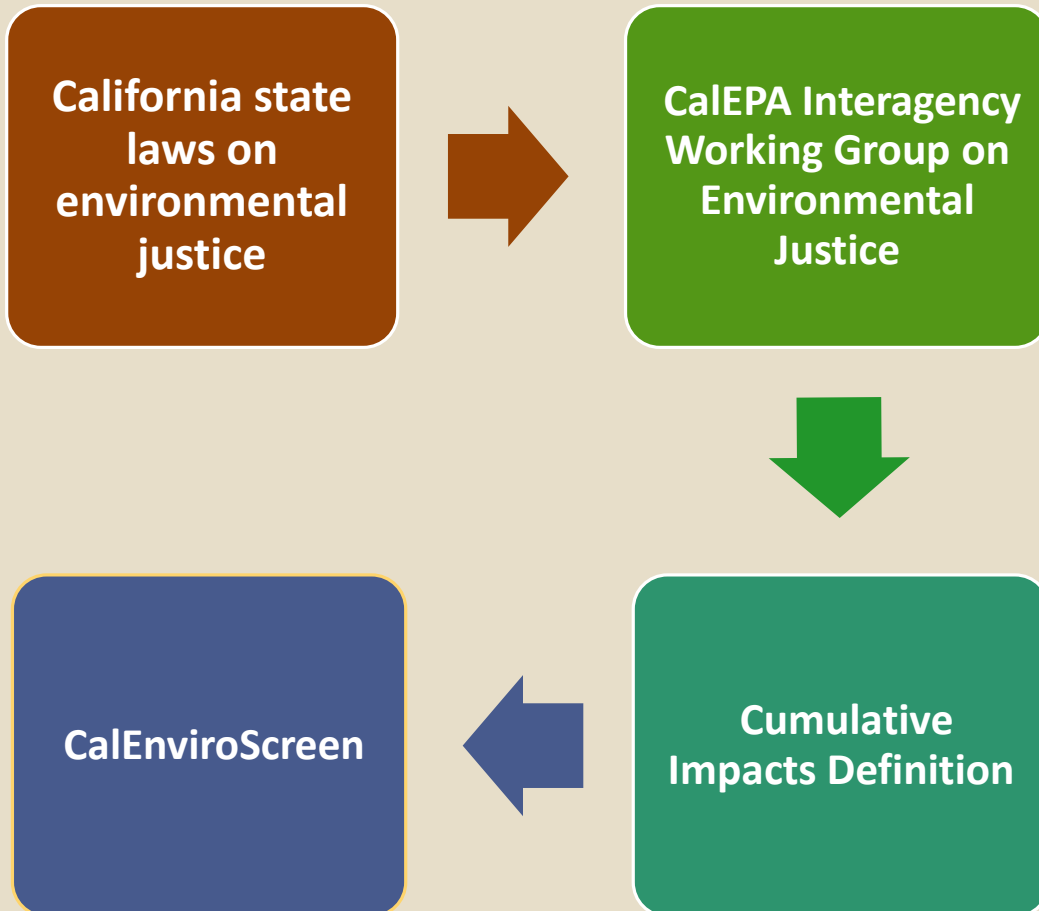
SB 535 (de León, 2012) and
AB 1550 (Gomez, 2016)

Disadvantaged and Low-income Communities Investments



“CalEPA shall identify ‘disadvantaged communities’ for investment opportunities based on **geographic, socioeconomic, public health** and **environmental hazard** criteria.”

Development of CalEnviroScreen

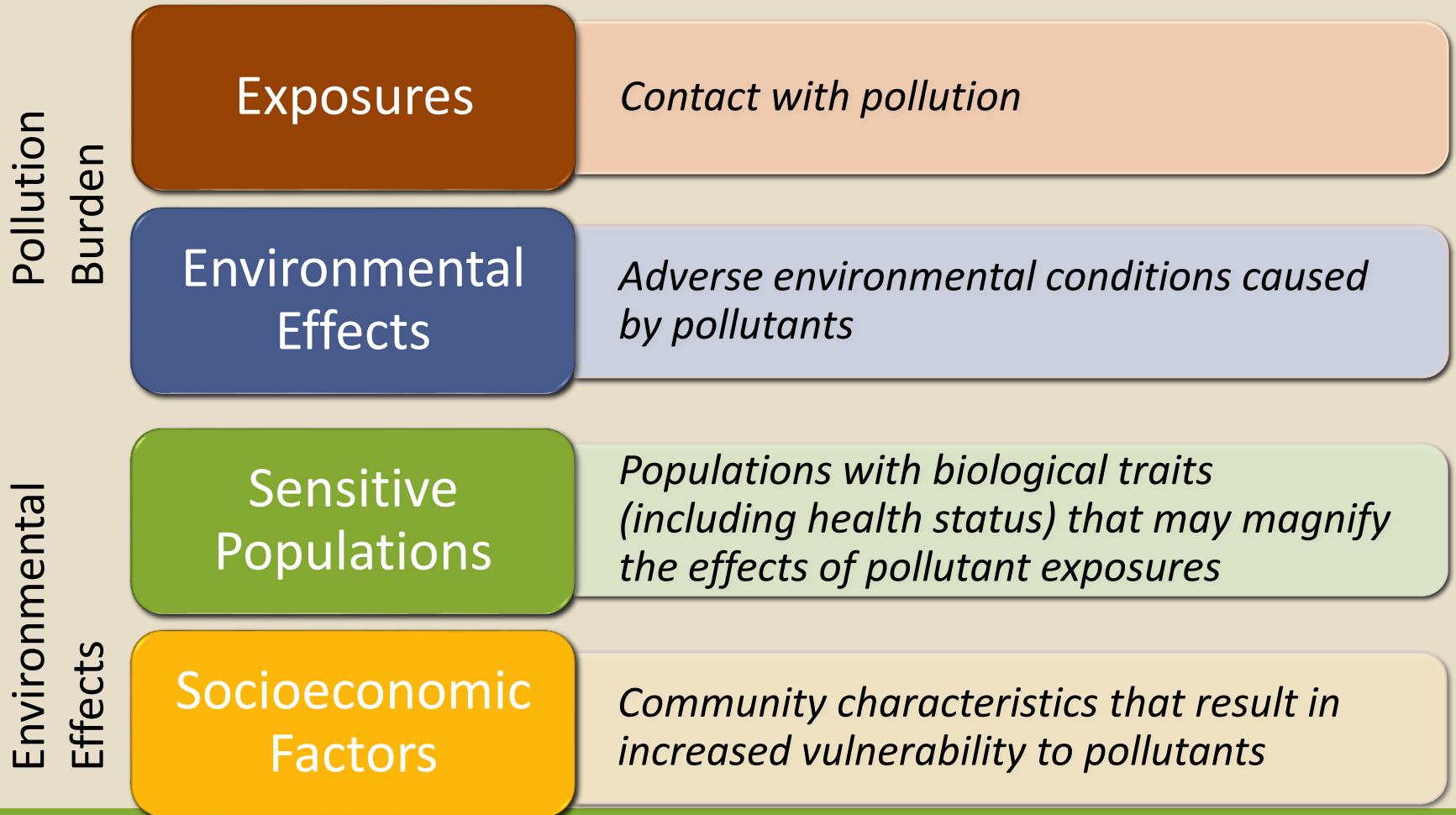


“...exposures, public health or environmental effects from the combined emissions and discharges in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts will take into account sensitive populations and socioeconomic factors, where applicable and to the extent data are available.”

CalEnviroScreen Process



CalEnviroScreen Model



The CalEnviroScreen Model

- ❖ Compares pollution levels in communities



- ❖ Examines if communities are more vulnerable to pollution



- ❖ **Identify communities that have high pollution and high vulnerability**

Features of Screening Tool

- Relatively simple
- Combines information from multiple media























- Data (indicators) represent multiple factors
 - *Exposures, environmental conditions, population sensitivity, health conditions, and socioeconomic factors*
- Provides information at roughly community scale
 - *Geography based (census tract)*
- Allows for comparison between geographic areas
 - *Relative ranking*

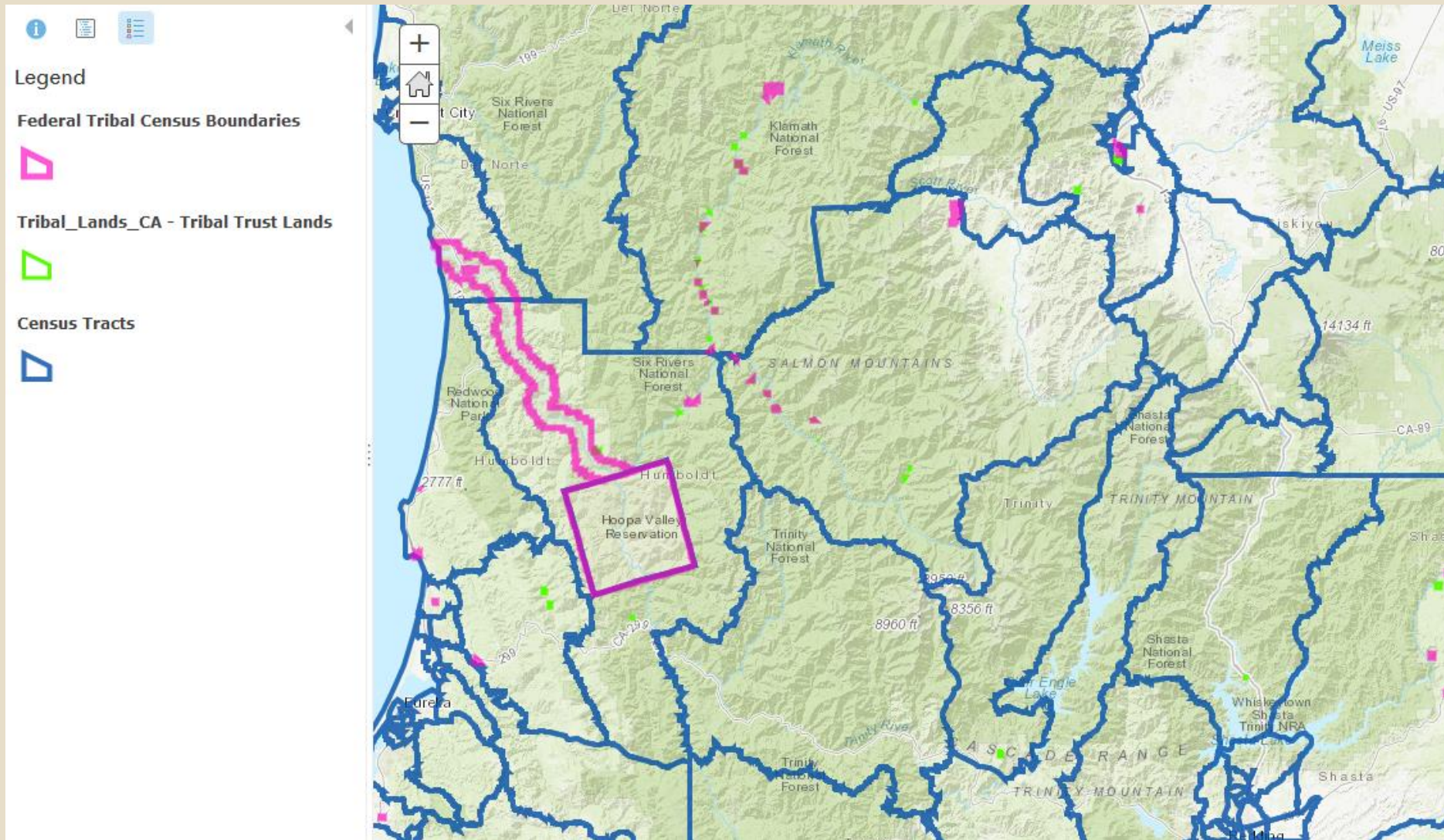


CalEnviroScreen 3.0

Indicators

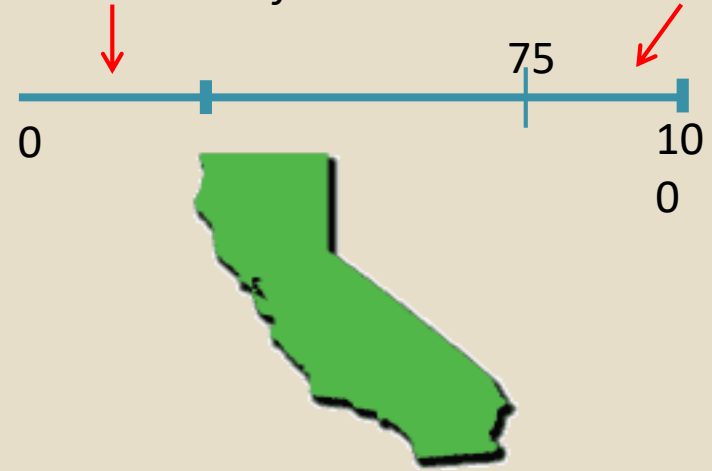
Pollution Burden		Population Characteristics	
Exposures	Environmental Effects	Sensitive Populations	Socioeconomic Factors
 <p>Ozone</p>  <p>PM2.5</p>  <p>Diesel Particulate Matter</p>  <p>Drinking Water Contaminants</p>  <p>Toxic Releases from Facilities</p>  <p>Traffic</p>  <p>Pesticide Use</p>	 <p>Solid Waste Sites and Facilities</p>  <p>Cleanup Sites</p>  <p>Groundwater Threats</p>  <p>Impaired Water Bodies</p>  <p>Hazardous Waste Generators and Facilities</p>	 <p>Asthma</p>  <p>Cardiovascular Disease</p>  <p>Low Birth Weight Infants</p>	 <p>Educational Attainment</p>  <p>Housing Burden</p>  <p>Linguistic Isolation</p>  <p>Poverty</p>  <p>Unemployment</p>

Geographical Unit: Census Tracts

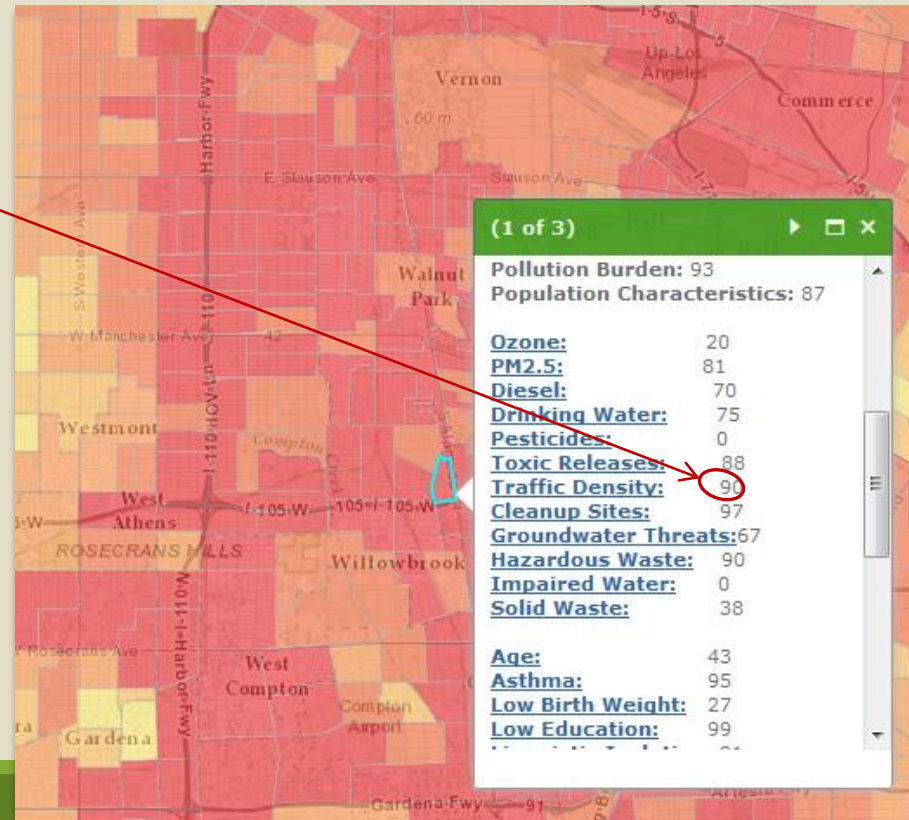


Indicator Scoring

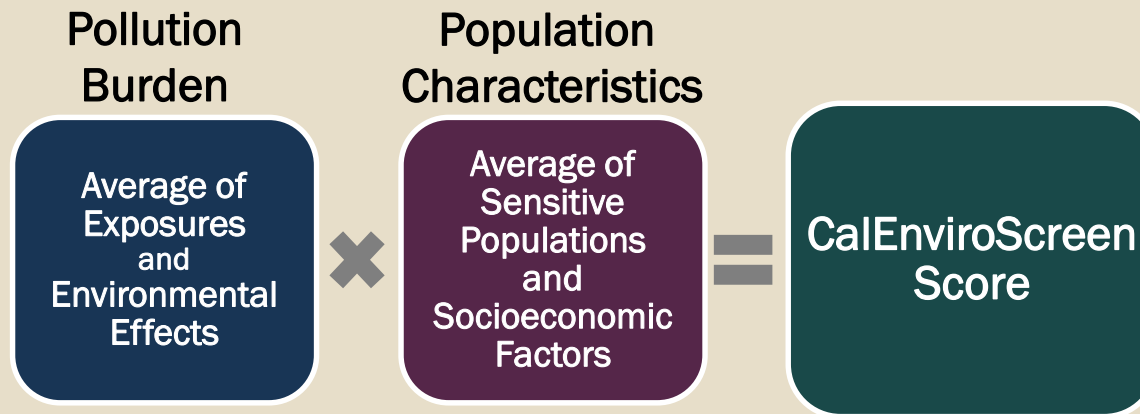
All tracts in CA fall somewhere on this line



- For each indicator, all census tracts are scored using percentiles:
 - For example, this Los Angeles census tract has a 90th percentile traffic density, meaning its traffic density is higher than 90% of all other census tracts in California.
- The percentile represents a relative score for each of the 20 indicators



Calculating CalEnviroScreen Scores



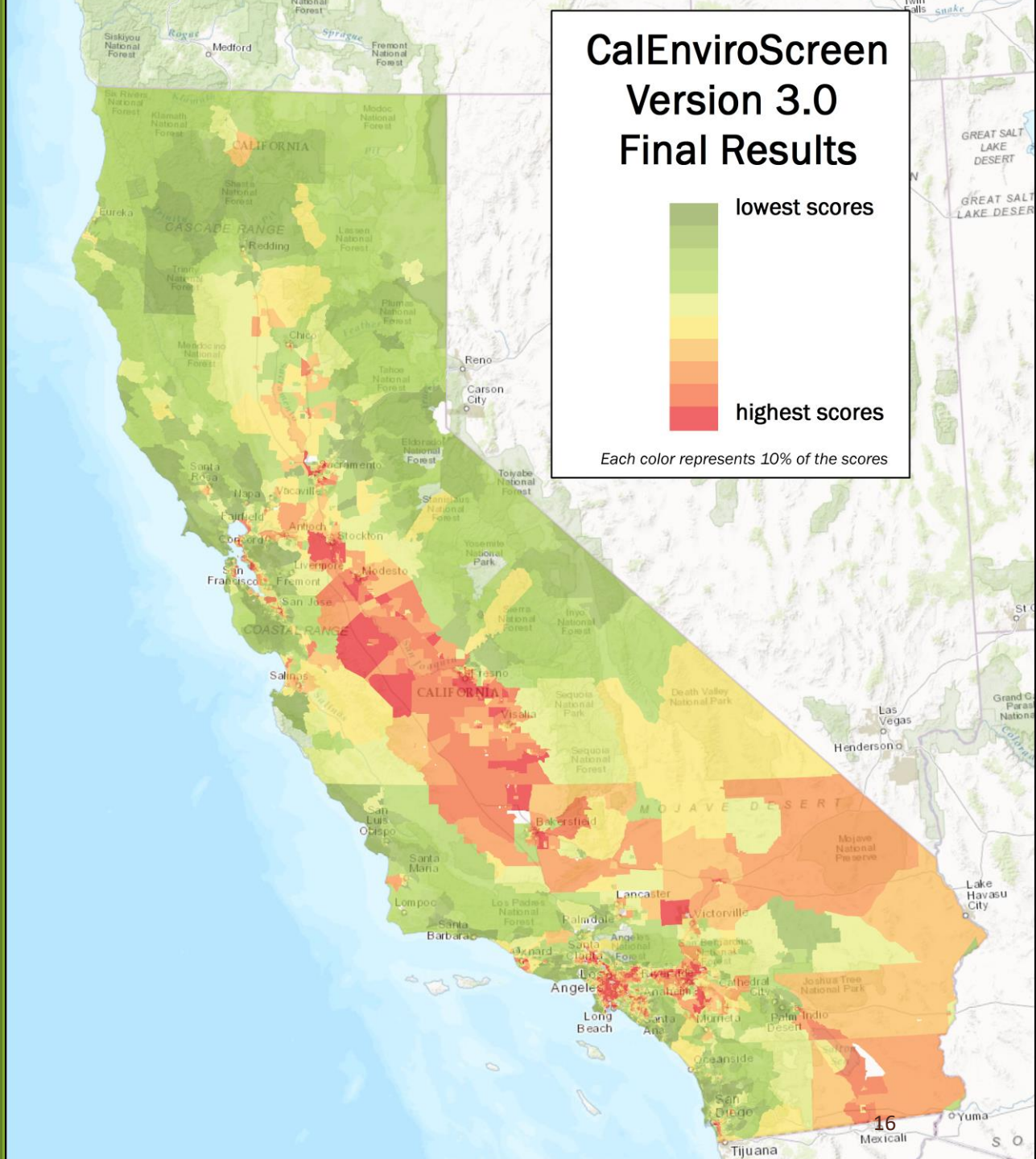
- CalEnviroScreen score is calculated by combining all indicator scores; allows for comparison of different areas
- Higher scores mean greater pollution burdens and population vulnerability.
- The highest 75-100th percentile (top 25%) represent “disadvantaged communities” under SB 535.





Results

Available as an
interactive web
map



Legend

Federal Tribal Census Boundaries

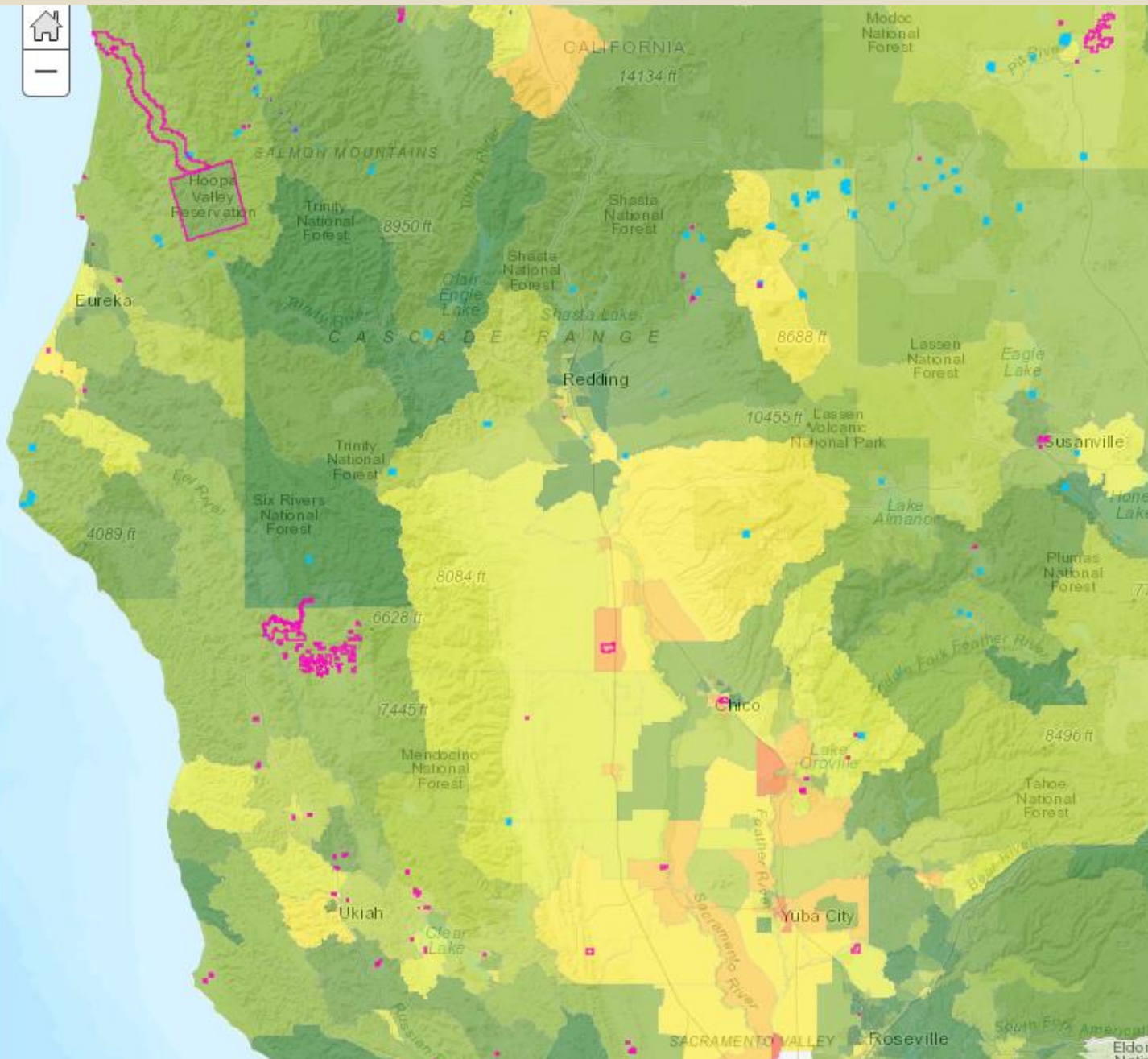


Tribal_Lands_CA - Tribal Trust Lands



CalEnviroScreen 3.0 Results

- 91 - 100% (Highest Scores)
- 81 - 90%
- 71 - 80%
- 61 - 70%
- 51 - 60%
- 41 - 50%
- 31 - 40%
- 21 - 30%
- 11 - 20%
- 1 - 10% (Lowest Scores)



Pollution Burden Population Characteristics Overall Results

Pollution Burden Ozone PM 2.5 Diesel PM Drinking Water Pesticides Toxic Releases Traffic Cleanups Groundwater Hazardous Waste Impaired Waters



What are pesticides?

Pesticides are chemicals used to control insects, weeds and plant diseases. Over 1,000 pesticides are registered for use in California. They are applied to fields by air, by farm machinery, or by workers on the ground.

Farmworker families and other people who live near fields can be exposed to pesticides, both outdoors and inside homes. Exposure to high levels of some pesticides can cause illness right away or conditions such as birth defects or cancer later in life.

More information can be found in the [Pesticide chapter](#) in the CalEnviroScreen 3.0 report.



Pesticide Results

Census Tract 6047000901 has 3,970 people.

This indicator represents the reported use of 70 hazardous and volatile pesticides in 2012-2014. Only pesticides used on agricultural commodities are included in the indicator. The data is averaged over the census tract area, and some application may be adjacent to (instead of within) the census tract.

This census tract has an estimated

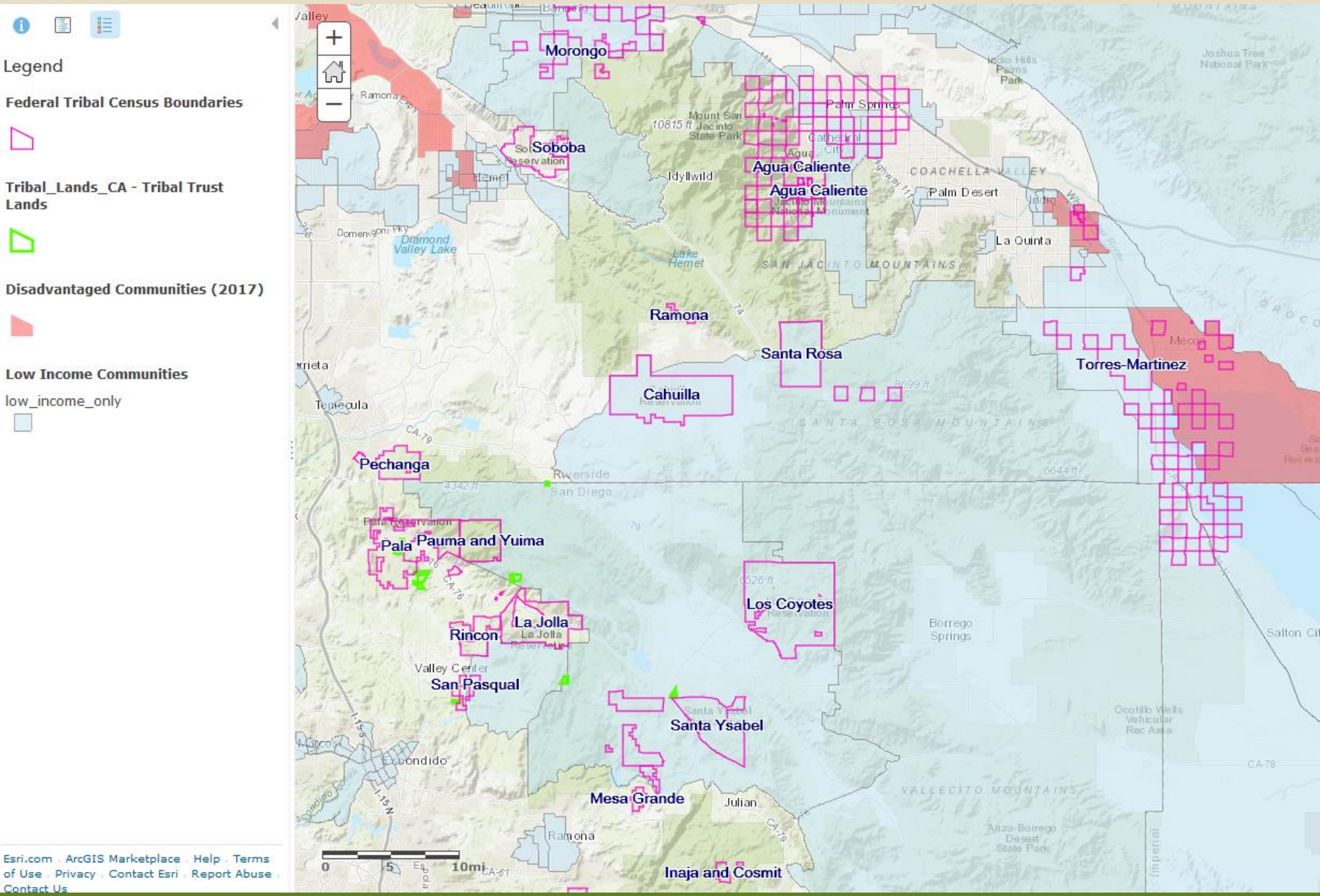
LEGEND

No Ag-Pesticides Applied

Pesticides Percentile

- > 90 To 100
- > 80 To 90
- > 70 To 80
- > 60 To 70
- > 50 To 60
- > 40 To 50
- > 30 To 40
- > 20 To 30

Map of Disadvantaged Communities, Low-Income Communities & Tribal Boundaries



Legend

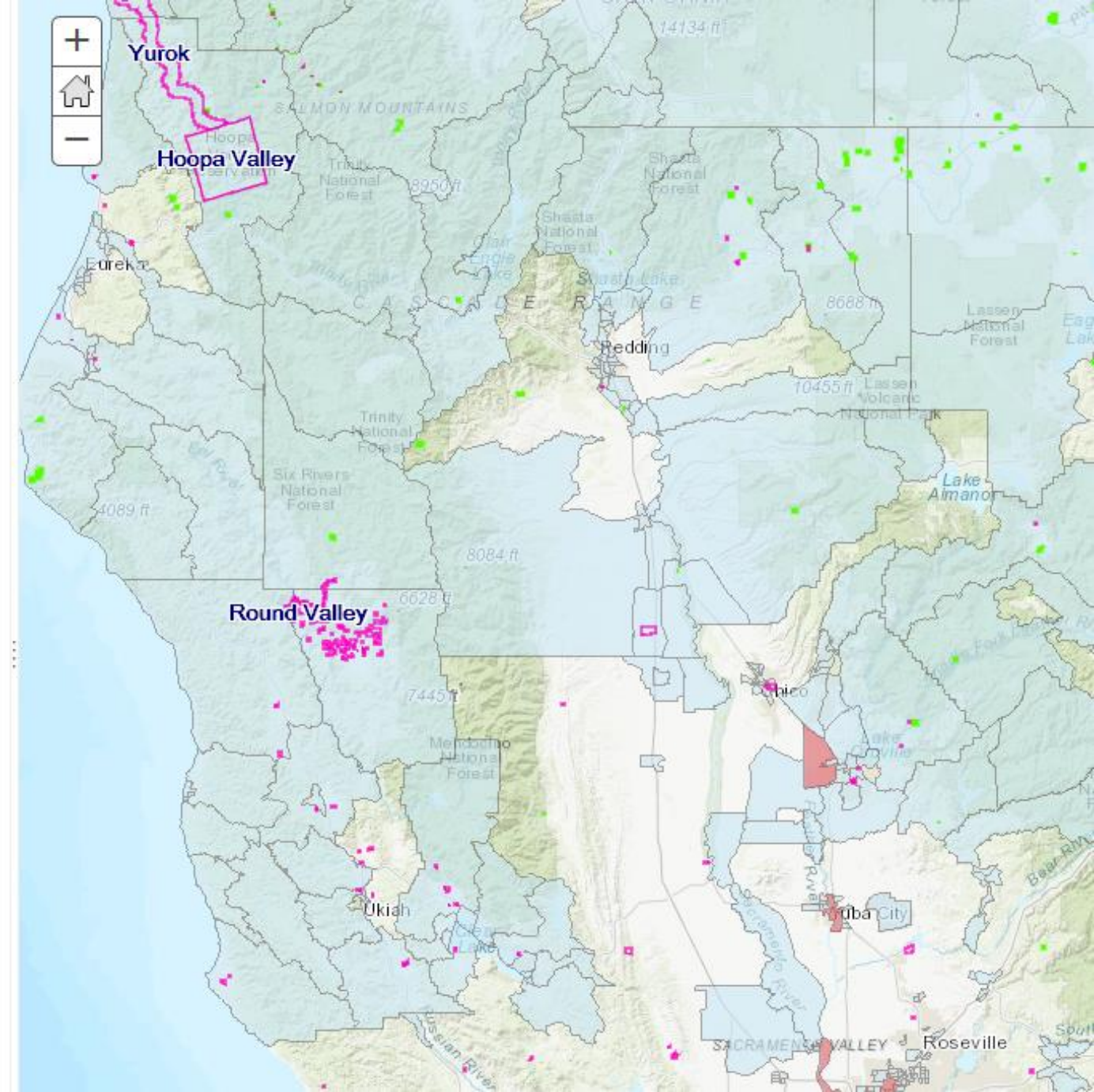
Federal Tribal Census Boundaries

Tribal_Lands_CA - Tribal Trust Lands

Disadvantaged Communities (2017)

Low Income Communities

low_income_only



Key Tribal Gaps

- Census tract boundaries do not always align with tribal lands and communities.
- Many of the indicators in the current version of CalEnviroScreen have limited or no data on tribal lands.
 - For pollution data—lack of information on pesticide use, drinking water contamination, and impaired water bodies for example.
 - Additional pollution impacts not captured in the tool.
 - For socioeconomic data—lack of information on asthma and heart attacks emergency department visits and potential undercounting in census data.

Drinking Water Data

Data Gaps:

- Water systems operated by tribes are not in CA's drinking water monitoring database.
 - We have identified 92 water systems operated by tribes.
 - Is it possible to access and integrate data from these water systems?
- Our current method uses data from groundwater monitoring for areas of the state not served by a public water system.
 - Assumption that tribal water systems use groundwater.
 - Is it common for tribal water systems to use surface water from rivers or lakes as a source of drinking water?

Tribal Name: BIG VALLEY RANCHERIA WATER

PWSID: 90605164

Pop Served: 3135

Water Type: Ground water

Status: Active

From EPA's SDWIS

CalEnviroScreen Data used

ArsenicAvg 0

ChromHeAvg <null>

CadmiumAvg 0

DBCPAvg <null>

LeadAvg <null>

NitrateAvg 2.159149

PerchAvg 0

PCEAvg 0

TCEAvg 0

TCPAvg 0

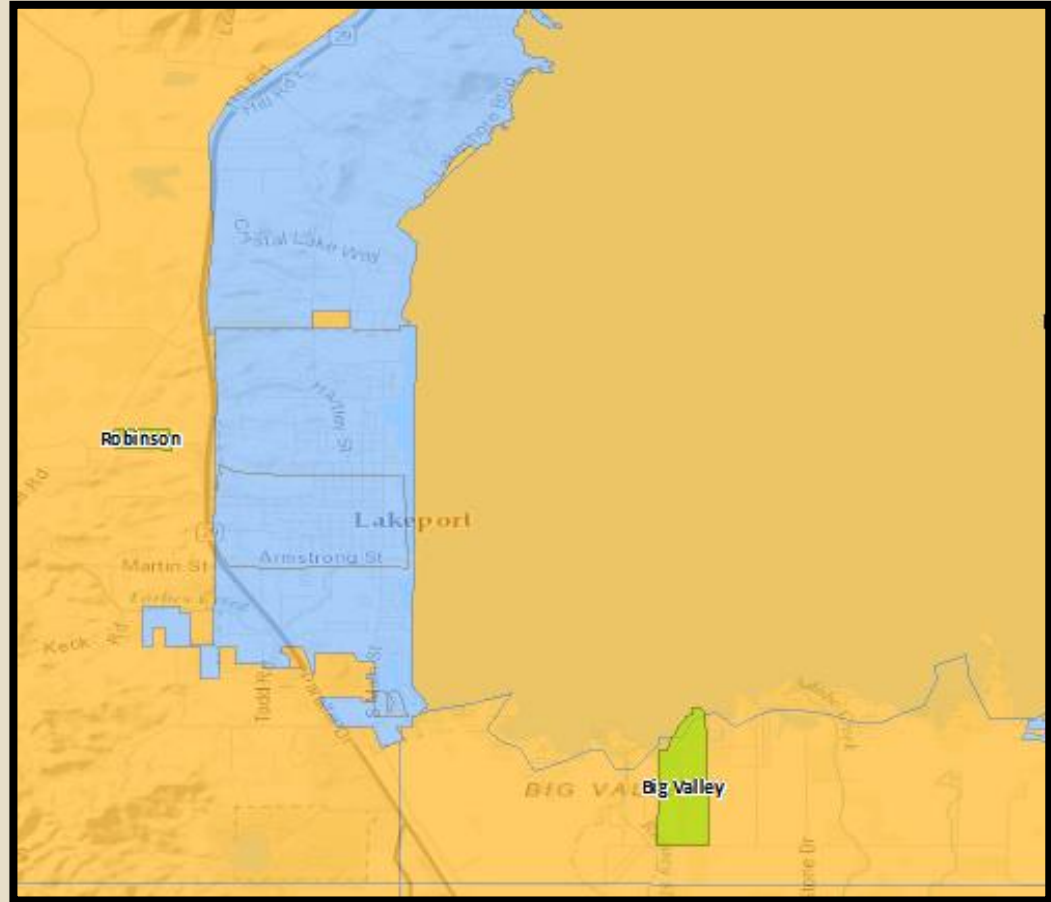
THMAvg 0.2

CombRadAvg <null>

UranAvg <null>

MCLViol <null>

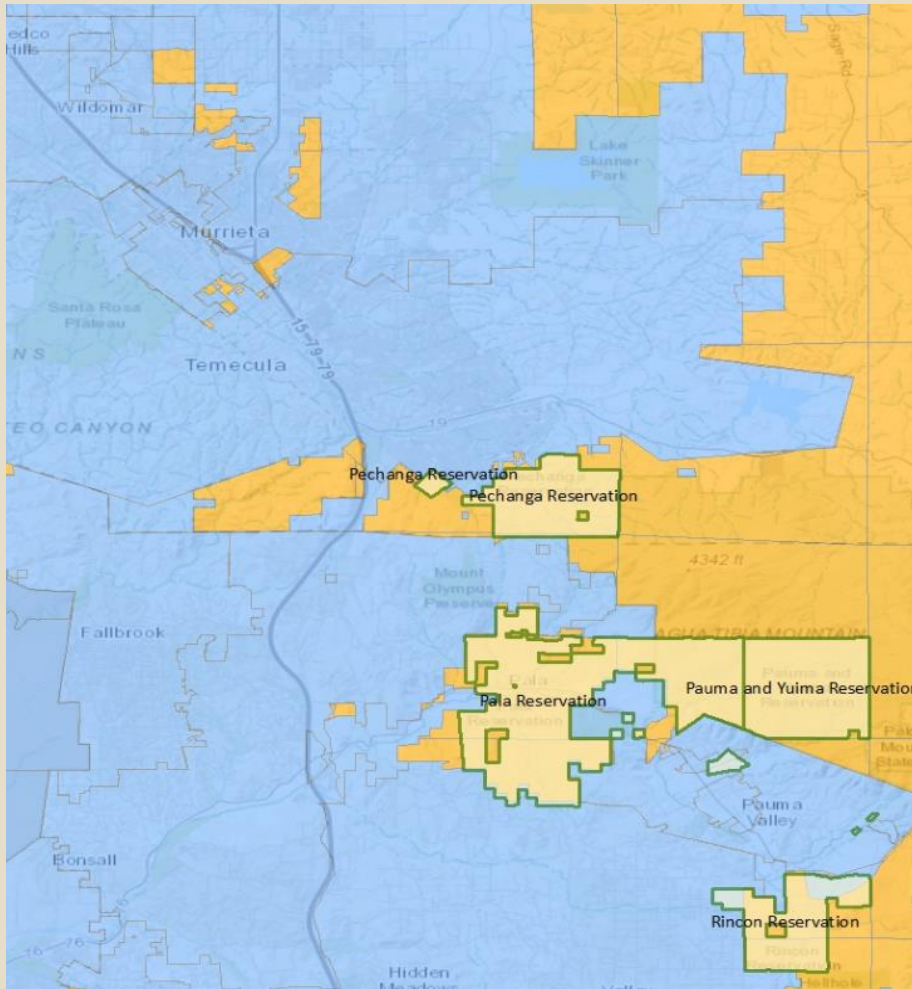
TCRViol <null>



Blue= Public Water System

Orange= Assigned Groundwater (no PWS)

Green= Census Tribal Boundary



CalEnviroScreen Data used

Penchanga

ArsenicAvg	0
ChromHeAvg	<null>
CadmiumAvg	0
DBCPAvg	<null>
LeadAvg	0
NitrateAvg	2.799154
PerchAvg	0
PCEAvg	0
TCEAvg	0
TCPAvg	<null>
THMAvg	<null>
CombRadAvg	<null>
UranAvg	3.4475
MCLViol	<null>
TCRViol	<null>

Pala North

ArsenicAvg	0
ChromHeAvg	<null>
CadmiumAvg	1
DBCPAvg	<null>
LeadAvg	0
NitrateAvg	47.505
PerchAvg	4
PCEAvg	<null>
TCEAvg	0.5
TCPAvg	<null>
THMAvg	<null>
CombRadAvg	<null>
UranAvg	<null>
MCLViol	<null>
TCRViol	<null>

Blue= Public Water System

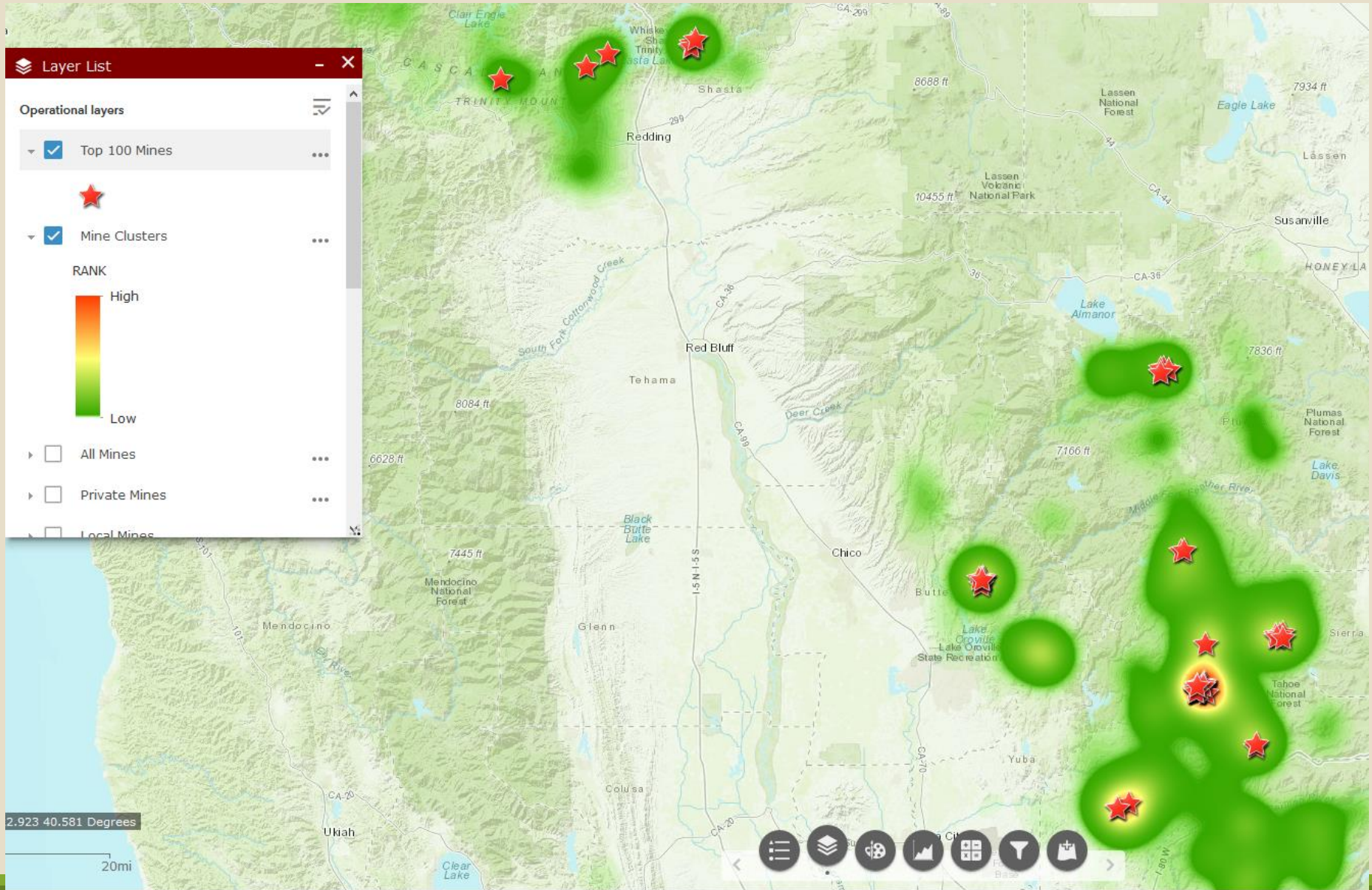
Orange= Assigned Groundwater (no PWS)

Green outline = Census Tribal Boundary

New data: Mine Pollution

- OEHHA has heard that pollution from historical mines is an impact to rural communities, including Tribes.
- Contaminants from mines can travel to nearby waterbodies and some mines are also hazardous waste cleanup sites.
- DTSC is working on collecting and analyzing mine data:
 - There are over 40,000 mines in CA.
 - DTSC project is to weight mines based on impacts to the environment and human health.
 - OEHHA is evaluating this project to see how it can fit into CalEnviroScreen.

Map of Mines



New Data: Wildfires

- Wildfires in CA have increased in frequency & intensity over the last 10 years. Many fires have impacted tribal lands.
- CalFire maintains a database of all fires including perimeter data and ARB has characterized emissions and transport from some of these fires.
- OEHHA is exploring options to characterize these fires based on perimeter, emissions and proximity to include as an indicator.



Wildfire activity around Clear Lake (2016)



Questions and Discussion