

Proximity of Potential Waste Facilities to Low-income Communities & Environmentally Sensitive/Conserved Areas in San Diego County

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Introduction:

In 2009, the County of San Diego Office of Emergency Services located potential sites where debris can be dumped in case of an incident or disaster. These maps seek to determine if what are now considered environmentally sensitive areas (ESA) or conserved lands (CL) overlap with potential waste facilities decided in 2009. In addition, to analyze if these potential waste facilities are mostly near or in disadvantaged communities (\$51,026-\$38,270) and severely disadvantaged communities (less than \$38,270).

*Please note that the waste facilities data is from 2009 and the other data layers were most recently updated in 2019 -21'. It is not certain if these waste sites are currently operating or ever operated in these potential areas. It is also unknown if ESA or CL were flagged as so in 2009.

Research Questions:

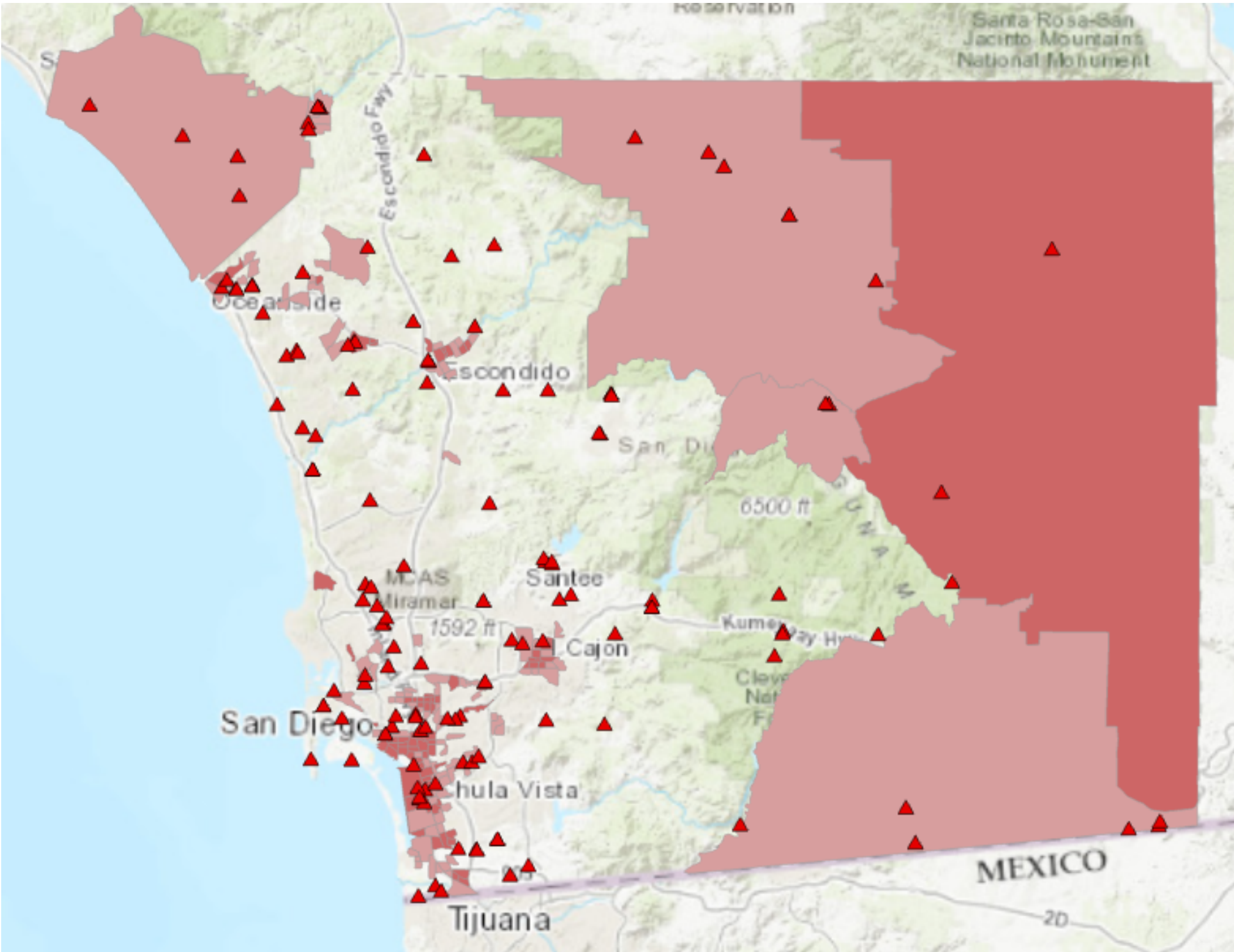
- 1. What are the proximity of potential waste facilities to environmentally sensitive areas and conserved lands?
- 2. Are potential waste facilities located mostly near or in low-income areas?

Methods:

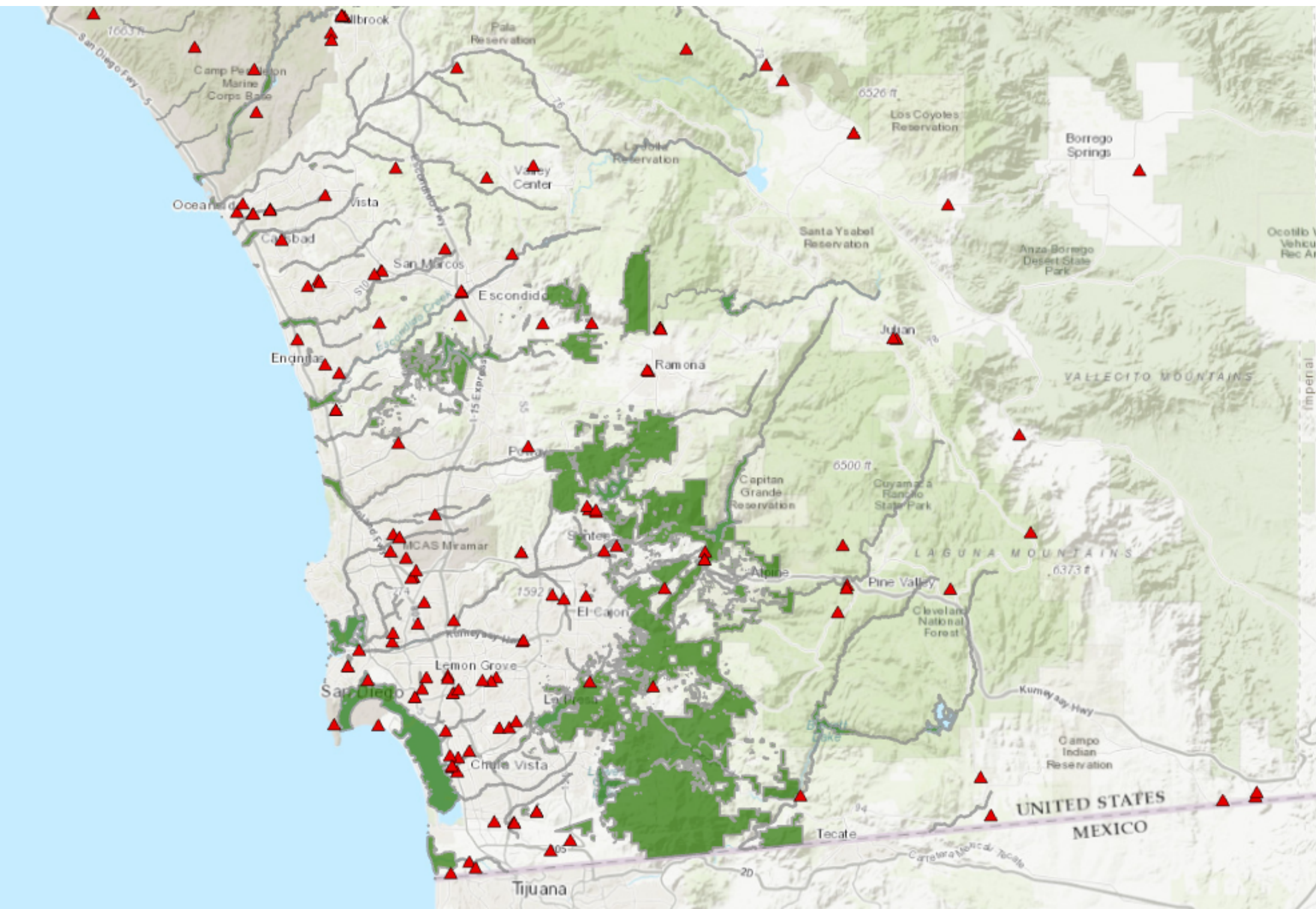
Data layers were retrieved from SanGIS Regional GIS Data Warehouse and California Department of Fish and Wildlife BIOS. All maps were made using ArcGIS Pro. To create the maps I first used the 'select by attribute' tool then 'export features' to simplify the waste sites data layer to only include the county of San Diego. I used the same tools to simplify the disadvantaged community data to San Diego. To make the map easier to read I used the 'dissolve' tool for the environmentally sensitive areas (ESA) and conserved lands (CL) layers. Dissolving also made it possible for me to count how many times a waste site feature intersects in ESA and CL polygons. To count the times waste sites intersected I used the 'spatial join' tool. I used the same method to count the intersection of waste sites in disadvantaged/severely disadvantaged communities.

Results:

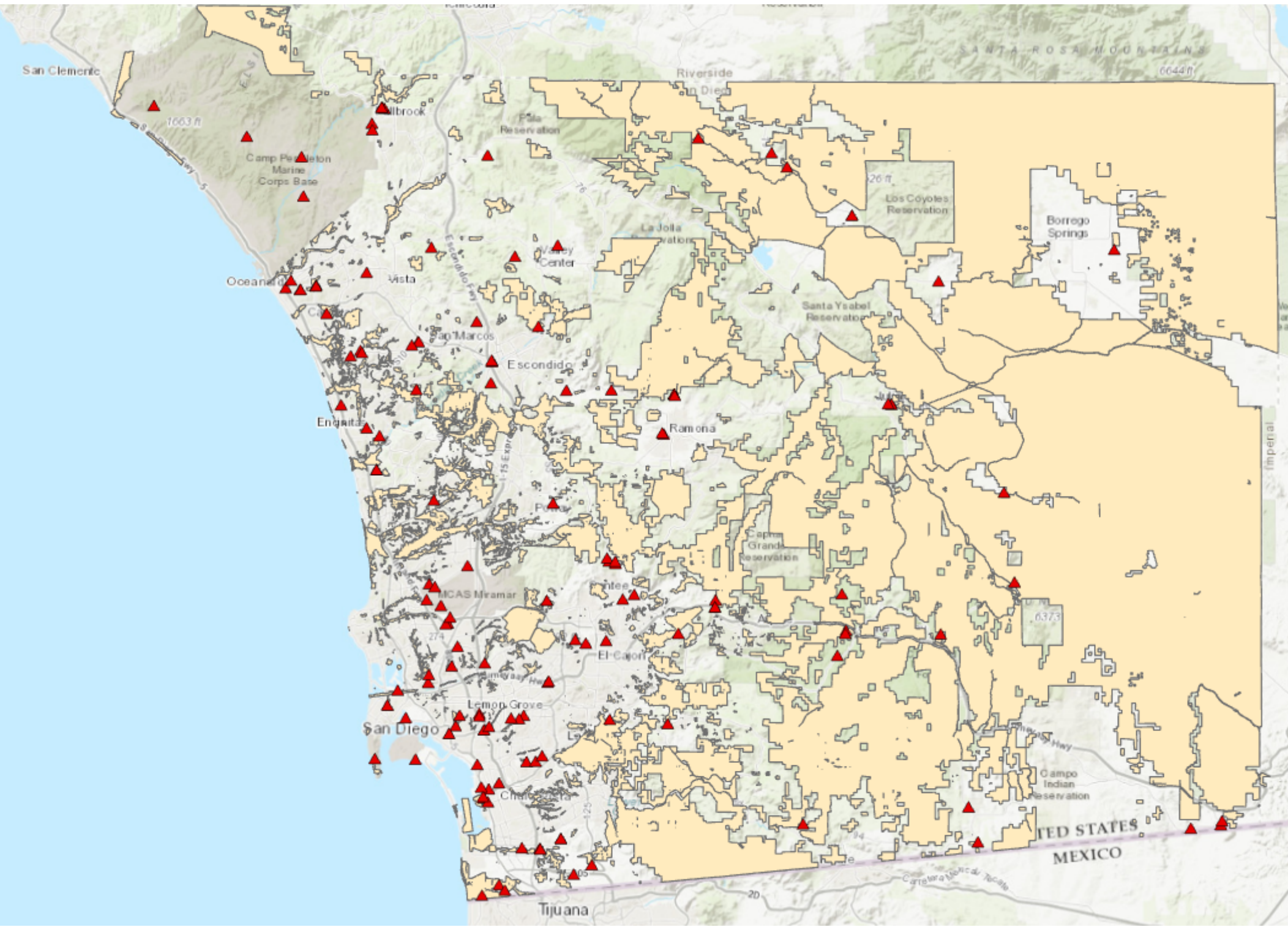
Waste Facilities in Communities



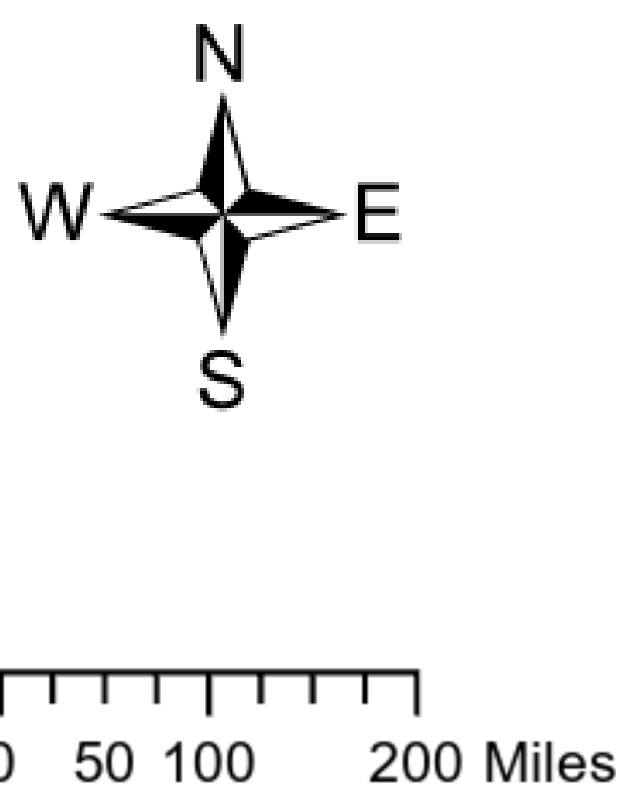
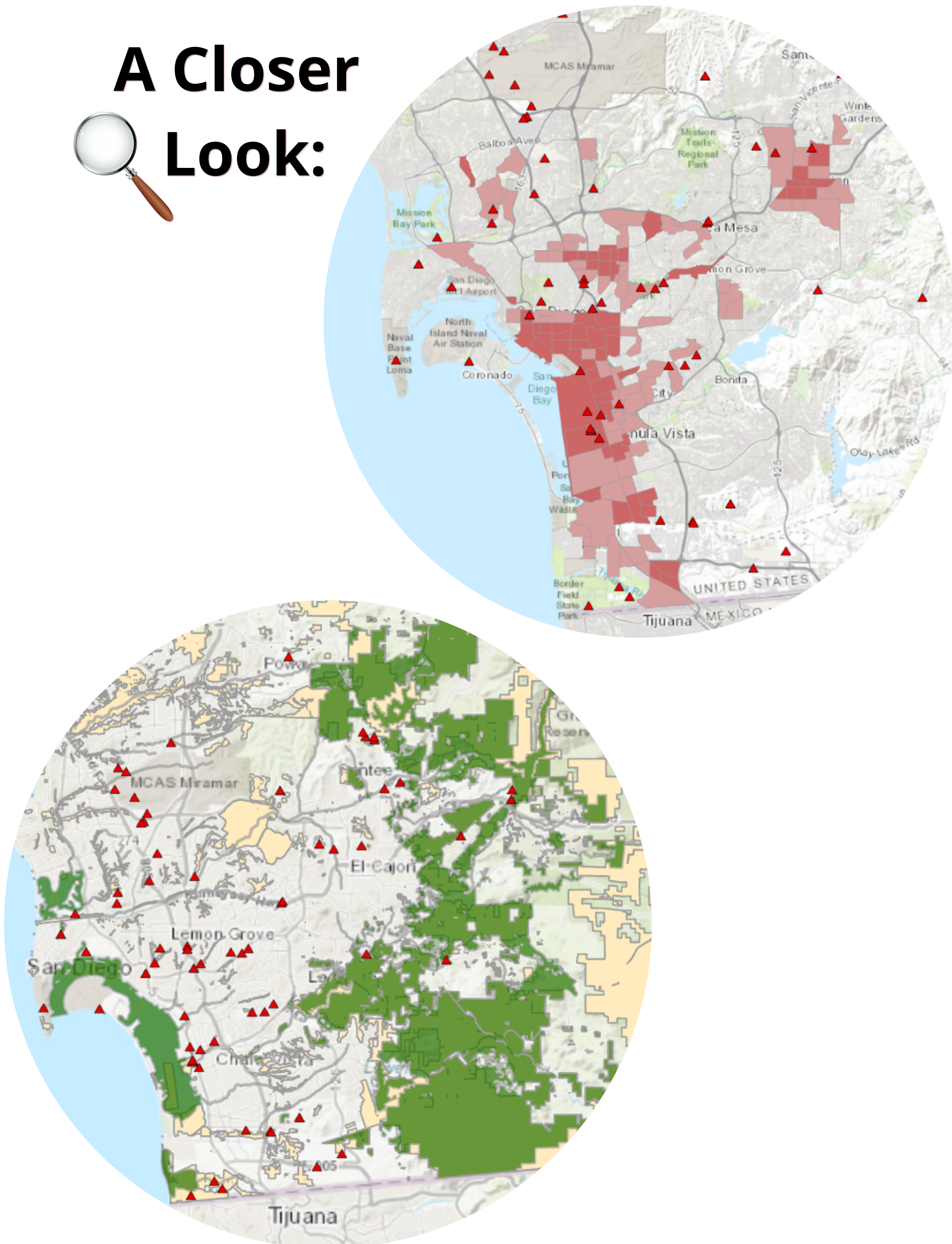
Waste Facilities in Environmentally Sensitive Areas



Waste Facilities in Conserved Lands



A Closer Look:



Legend

- ▲ Potential Waste Facilities
- Disadvantaged Community
- Severely Disadvantaged Community
- Environmentally Sensitive Areas
- Conserved Lands

Conclusion:

Potential waste facilities do intersect in ESA, CL, and disadvantaged/severely disadvantaged communities. They overwhelmingly intersect in communities that are considered disadvantaged and severely disadvantaged communities in comparison to higher-income communities and ESA and CL areas. The map shows 8 waste facilities overlapping in areas that have been flagged as environmentally sensitive areas. Waste facilities also overlap 17 times in areas that have been marked as conserved lands.

More waste facilities are near and in disadvantaged and severely disadvantaged communities. There are 56 potential waste facilities that intersect disadvantaged and severely disadvantaged communities. In South San Diego the waste facilities are heavily concentrated in zones indicated as severely disadvantaged.

Potential Waste Facilities	Location
56	Disadvantaged & Severely Disadvantaged Communities
17	Conserved Lands
8	Environmentally Sensitive Areas

Work Cited:

1. SanDAG GIS. *Waste_Facilities*. County of San Diego Land Use and Environmental Group GIS. February 2009. San Diego Geographic Information Source-JPA. March 22, 2020. <http://www.sangis.org/download/index.html>

2. SanDAG GIS. *Environmentally_Sensitive_Areas*. County of San Diego Land Use and Environmental Group GIS. March 2019. San Diego Geographic Information Source-JPA. March 22, 2020. <http://www.sangis.org/download/index.html>

3. SanDAG GIS. *Conserved_Lands*. SANDAG Technical Services. October 2021. March 22, 2020. San Diego Geographic Information Source-JPA. <http://www.sangis.org/download/index.html>

4. BIOS. *Disadvantaged Communities by Census Tract - 2012-2016 - DWR [ds2886]*. U.S. Census Bureau California Department of Water Resources (DWR).March 2021. <https://map.dfg.ca.gov/metadata/ds2886.html>