

North County Food Policy Council

Introduction to the NCFPC GIS Tool (August 2026)

The North County Food Policy Council, a working committee of The Alliance for Regional Solutions (www.regionalsolutions.net), is indebted to Palomar College for the partnership which makes this tool available. Spring and Fall semester GIS students contribute additions and updates for service-learning credit.

The purpose of this GIS mapping platform is to provide a quick visual understanding of how food insecurity affects different areas of the San Diego region, and what resources are available to address it. This visualization allows for planning to better direct existing resources, as well as plan for additional assistance. This document provides instructions on how to begin to navigate and use this tool. At the end of this document is a complete listing of all the individual map layers.

Spring 2026 Palomar College GIS students continued the work of updating mapped information by providing the most recent mapping of where single parent households and multi-generation households are concentrated. They also performed one-time analyses of these households, and the correlation of multi-generation households to the concentration of food insecurity. Periodic student studies can be made available for your information by request.

An advanced Palomar GIS intern helped us achieve a restructuring of this GIS platform, *making it much easier for users to navigate the list of 70+ map layers and find those which they want to see and work with.* More on this below.

This work add to the work of previous Palomar GIS students. Also notable is the map of “Estimated potential for backyard tree produce gleanings, by zip code”, added in Spring 2019, a polygon layer showing a calculated estimate by zip code of informal single family dwelling backyard tree fruit production, which gleanings operations should be able to recover; both to reduce solid waste, and for food assistance to the food insecure. This very conservative estimate comes from Karen Clay/My Momma’s Place, <https://mymommasplace.com/>

Pull up and explore this Web-based GIS tool using the navigation instructions below, to understand the layers and attributes for each layer. Also below is a complete listing of all of the GIS data layers available in this tool.

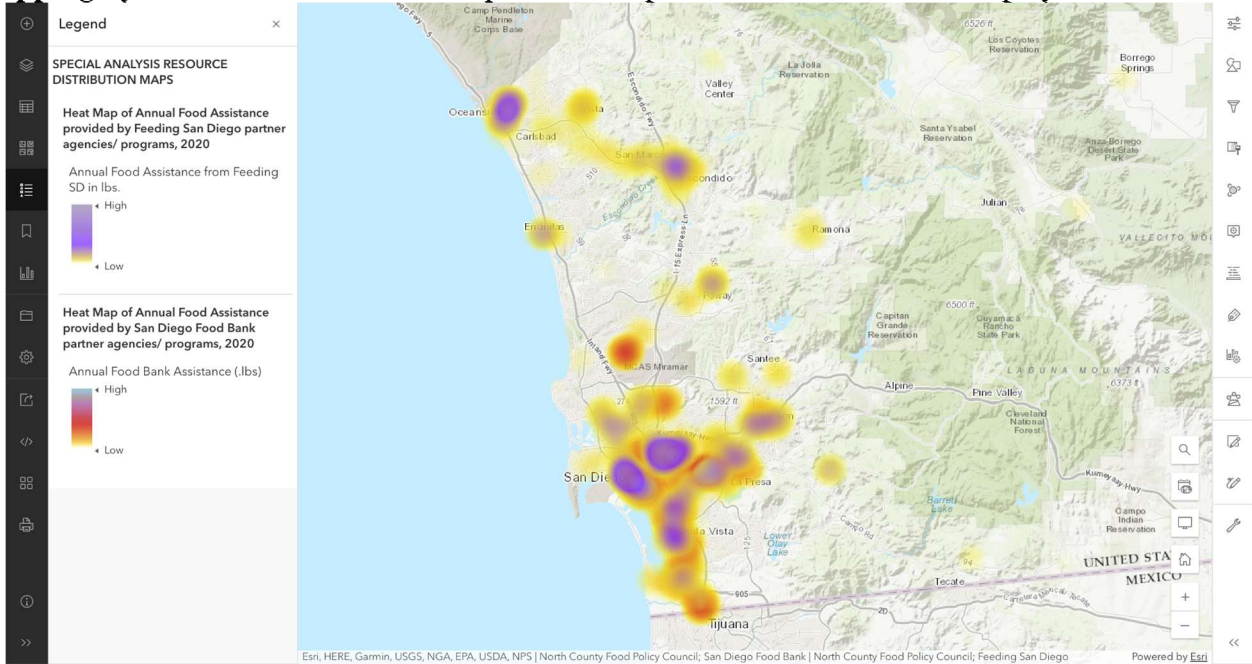
➤ **TIPS FOR EFFECTIVE MAP NAVIGATION AND ANALYSIS**

Each map layer is represented as either a **point, line, or polygon** on the map. For example, there are polygon layers showing census tract boundaries, cities’ boundaries, backyard gleanings potential, and the concentration of poverty in our region. Besides the polygon displays are also **point and line data layers** – all described below. Turn map layers on and off to see single items, or compare multiple items with each other.

To work more efficiently with this tool, it is helpful to not have too many layers active at the same time; **turn off crowded layers** to reduce visual cluttering, making the map easier to interpret. To provide more realistic context, such as identifying buildings or specific locations, switch to the **Imagery basemap** for clearer background detail. Make sure to zoom to the appropriate geographic scale, and use the **attribute tables** to extract numerical values when you need to report data or support findings.

➤ **ACCESSING AND NAVIGATING THE GIS TOOL**

From the **Alliance for Regional Solutions Web** home page (www.regionalsolutions.net), under **Committees** in the top menu bar, click on **North County Food Policy Council**. On that page, click the large button, “**GIS Mapping System**.” The current GIS map will load up, and the default screen display will look like this –



As noted above this GIS platform is now improved, making it much, much easier for users to find and work with desired map layers. With over 70 individual map layers which have been added over time in a random listing, it has been difficult for a user to find their desired maps. All the layers are now available in nine master categories:

- Basic Demographics
- Demographic Measures of Food Insecurity
- Food Assistance Agencies/Organizations/Programs
- Additional Potential Resources
- Public Transportation System
- SB 1383 Food Waste Generators (“second generation” data)
- SB 1383 Food Waste Generators (“first generation” data)
- Geographic Boundaries

Users can now click the arrow for a master category to bring up all its individual map layers. And the ninth category also added:

- Special Analysis Resource Distribution Maps

This is a set of eight pre-crafted analysis maps, to add to our understanding of food insecurity and resources – details below.

In the initial default screen, only some of the available data layers are **active** and displayed. There are many other maps that are not yet active – and YOU have the ability of turning on and off different layers (explained below). The current default display shows two of the pre-set analysis layers: “heat maps” showing the intensity of concentration of Feeding San Diego and San Diego Food Bank partners in our region, by the annual amount of food these partners received from the Food Bank and Feeding SD. (You can begin to see the value of these added analysis maps: this display shows us not just the geographic concentration of food assistance programs, but how much food assistance from these programs is concentrated where.)

➤ OVERVIEW OF MAP LAYERS:

There are many map layers that are **not active by default**, but you can turn them on! Most of these are **polygons (areas)**. Examples include:

- **City Boundaries** (very useful to see resources in specific jurisdictions).
- Backyard Gleaning Potential.
- Community Demographics Layers (Indicators of Potential Food Insecurity), such as:
 - Poverty levels
 - Hispanic/Black populations
 - Older adults (65+)
 - Children and youth (under 18)
 - Households receiving SNAP (food stamps)
 - Single parents/guardian households
- **Federally-defined** food insecurity.
- Households at or under 200% of the poverty line.

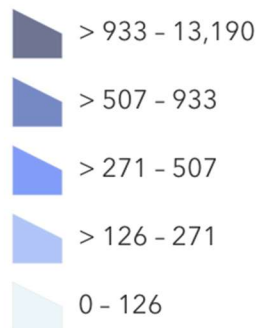
You can toggle these demographic layers on or off anytime (*instructions below*).

➤ UNDERSTANDING THE DISPLAY

On the right hand side of the screen is the mapping of the default layers. On the left-hand side, the **Legend** tab is showing, telling us which layers are active; you can scroll up and down to see all active layers when many are activated.

The Legend tab also explains the symbols and colors used on the map, and you can turn layers on or off to compare different information. For example, you might view nonprofit food assistance agencies/programs alongside schools or faith centers to see possible partnership opportunities.

Number of Hispanics and Latinos



As an example, this is a legend display for the absolute number of Hispanics and Latinos; the mapping is grouped and represented by color.

The style of the basemap (background map) can be changed. On the gray toolbar on the left-hand side, click on the Basemap button.

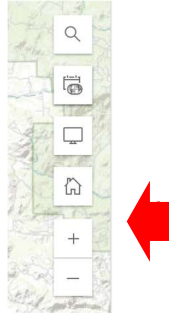


Different basemap styles are available (eg. Imagery, Streets, Topographic) — try them out to see which works best for your needs.

➤ NAVIGATING THE MAP:

On the map view area, you can:

- Mouse-click, hold and **drag the map** to move to different community areas.
- Mouse-click on any one **map feature** (point, line, or polygon) on the map, a pop-up will show information details (“attributes”) about it.
- Use **zoom buttons** on the lower-right corner. Zoom out to see the entire county, or zoom in closely to a specific location.



➤ TURNING LAYERS ON AND OFF:

On the gray toolbar on the far left-hand side, click on the “**Layers**” button.

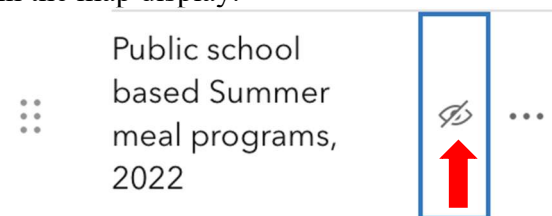


You will see the collection of the **master categories**, including demographic layers, food assistance agencies/programs layers, SB 1383 food generator layers, and the others.

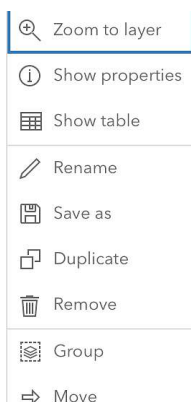
To view individual layers within a category, click the **expand arrow** located next to the **six dots icon** of that category.



Each layer has a **Show/Hide Toggle button** (eye symbol with a slash). Click this button to turn a layer **on** or **off** in the map display.



If you want to explore a layer in more detail or view its attribute data, you can open its data table. Most layers have an associated table that stores meaningful data such as names, values, and classification. To open it, click on the **three dots** next to the layer's name, then select the “**Show Table**” option. An attribute table will appear, allowing you to examine its data.



*Options displayed
after clicking the
three dots – select
‘Show Table’*

➤ **PRACTICAL USES**

Below are some common scenarios that you can analyze using this GIS tool.

1. Identifying Areas of High Food insecurity

Enable:

- i. % in persons/families in poverty
- ii. Nutrition insecurity rate
- iii. Households receiving SNAP
- iv. Monthly Missing Meals

2. Finding Partnership Opportunities

Enable:

- i. San Diego Food Bank/Feeding San Diego partner agencies
- ii. Public Schools
- iii. Faith Centers
- iv. Public Transit Routes
 - Look for overlapping areas with high needs and available partners

3. Planning Gleaning Activities

Enable:

- i. Backyard Tree Gleaning Potential
- ii. San Diego Food Bank/Feeding San Diego partner agencies
- iii. US Census Tract Boundary Outlines
 - Identify zip codes with high recoverable produce near distribution partners

4. Transportation-Based Food Access Analysis

Enable:

- i. Public Transit Routes
- ii. Public Transit Stops and Stations
- iii. Community Gardens and Farmers Markets

This is a good beginning for exploring the North County Food Policy Council GIS map, care of Palomar College. Below is a **complete listing of all of the data layers available** in this tool. There is much more information/functionality in this Web tool, which you are free to explore!

COMPLETE NCFPC GIS LAYER CATALOG

As noted, the multitude of map layers in this platform are made easier to find under the classification of like-layers in major categories. Following are the major categories, and the individual map layers under each.

BASIC DEMOGRAPHICS (population communities)

- Concentration of older age, 65+, absolute numbers, in census tracts, 2021
- Concentration of older age, 65+, by percent of total population, in census tracts, 2021
- Concentration of young age, 18 and under, absolute numbers, in census tracts, 2021
- Concentration of young age, 18 and under, by percent of total population, in census tracts, 2021
- Concentration of ethnicity Hispanic, absolute numbers of persons, in census block groups, 2022

- Concentration of ethnicity Hispanic, by percent of total population, in census block groups, 2022
- Concentration of racial group Black, absolute numbers of persons, in census block groups, 2022
- Concentration of racial group Black, by percent of total population, in census block groups, 2022

DEMOGRAPHIC MEASURES OF FOOD INSECURITY

- Families living in poverty — % of families, in census block groups, 2022
- Families living in poverty — absolute numbers, in census block groups, 2022
- Concentration of persons in poverty, % of total families, in census block groups, 2023
- Concentration of persons in poverty, absolute numbers, in census block groups, 2023
- Persons unemployed — absolute number of labor force, in census block groups, 2022
- Persons unemployed — % of labor force, in census block groups, 2022
- Single parent or guardian households, % of total households, in census tracts, 2024
- Single parent or guardian households, # of such households, in census tracts, 2024
- Concentration of food insecurity (US Census/USDA defined), % of population, in census tracts, 2016
- Nutrition insecurity rate (200% of poverty) by census tract, 2023 (San Diego Hunger Coalition)
- Nutrition insecurity rate (200% of poverty) by zip code, 2022 (San Diego Hunger Coalition)
- Households Receiving Food Stamps/SNAP, by census tracts, 2023
- Estimated Persons CalFresh Eligible But Not Enrolled by Zip Code, 2024
- Public schools by % student enrollment qualifying for subsidized meal, 2020
- Estimated Monthly Missing Meals, 2024

FOOD ASSISTANCE AGENCIES/ORGANIZATIONS/PROGRAMS

- San Diego Food Bank partner agencies/ programs, by program type, 2024
- Feeding San Diego partner agencies/ programs, by service type, 2024
- Public school based Summer meal programs, 2022
- Public Schools with San Diego Food Bank Backpack Programs, 2023
- Public Schools with San Diego Food Bank School Pantries, 2023

ADDITIONAL POTENTIAL RESOURCES

- Estimated potential for backyard tree produce gleaning, by zip code
- Food outlets by type (5 categories, County Health licensed), 2021
- Public schools countywide, by type (elementary, middle, high, preschool, adult, virtual, other), 2020
- Healthcare Facilities, countywide, 2021
- Farmers markets, countywide, 2020
- Community gardens, countywide, 2022
- Places of Worship, 2024
- Faith Centers

PUBLIC TRANSPORTATION SYSTEM

- Public transit routes (bus, trolley, rail), countywide, 2023
- Public transit stops and stations, countywide, 2023

- Public transit access areas (¼ mile radius around stops/stations), countywide, 2023

SB 1383 FOOD WASTE GENERATORS (“SECOND GENERATION” DATA)

- County of San Diego unincorporated, SB1383 commercial edible food generators, Tier 1
- County of San Diego unincorporated, SB1383 commercial edible food generators, Tier 2
- City of Coronado, SB1383 commercial edible food generators, Tier 1
- City of Coronado, SB1383 commercial edible food generators, Tier 2
- City of Chula Vista, SB1383 commercial edible food generators, Tier 1
- City of Chula Vista, SB1383 commercial edible food generators, Tier 2
- City of Encinitas, SB1383 commercial edible food generators, Tier 1
- City of Encinitas, SB1383 commercial edible food generators, Tier 2
- City of Solana Beach, SB1383 commercial edible food generators, Tier 1
- City of Solana Beach, SB1383 commercial edible food generators, Tier 2

GEOGRAPHIC BOUNDARIES

- Municipal boundaries, all cities and unincorporated county areas
- U.S. Census tracts, boundary outlines, 2022
- U.S. Census tract block group boundary outlines, 2022

SB 1383 FOOD WASTE GENERATORS (“FIRST GENERATION” DATA)

- County of San Diego unincorporated, SB1383 commercial edible food generators, by business type
- City of Imperial Beach, SB 1383 generators of potentially recoverable food, by type of generator, 2020
- City of Imperial Beach, SB 1383 generators of potentially recoverable food, by volume of food waste, 2020
- City of Poway, SB 1383 generators of potentially recoverable food, by type of generator, 2019
- City of Poway, SB 1383 generators of potentially recoverable food, by volume of food waste, 2019
- City of Encinitas, SB 1383 generators of potentially recoverable food, by type of generator, 2019
- City of Encinitas, SB 1383 generators of potentially recoverable food, by volume of food waste, 2019
- City of Solana Beach, SB 1383 generators of potentially recoverable food, by type of generator, 2019
- City of Solana Beach, SB 1383 generators of potentially recoverable food, by volume of food waste, 2019
- City of Chula Vista, SB 1383 generators of potentially recoverable food, by type of generator, 2019
- City of Chula Vista, SB 1383 generators of potentially recoverable food, by volume of food waste, 2019
- City of Del Mar, SB 1383 generators of potentially recoverable food, by type of generator, 2018
- City of Del Mar, SB 1383 generators of potentially recoverable food, by volume of food waste, 2018
- City of La Mesa, SB 1383 generators of potentially recoverable food, by volume of food waste, 2018
- City of La Mesa, SB 1383 generators of potentially recoverable food, by type of generator, 2018
- City of Oceanside, SB 1383 generators of potentially recoverable food, by type of generator, 2018
- City of Oceanside, SB 1383 generators of potentially recoverable food, by volume of food waste, 2018
- City of Vista, SB 1383 generators of potentially recoverable food, by type of generator, 2018
- City of Vista, SB 1383 generators of potentially recoverable food, by volume of food waste, 2018

- City of San Marcos, SB 1383 generators of potentially recoverable food, by type of generator, 2018
- City of San Marcos, SB 1383 generators of potentially recoverable food, by volume of food waste, 2018
- City of Escondido, SB 1383 generators of potentially recoverable food, by type of generator, 2019
- City of Escondido, SB 1383 generators of potentially recoverable food, by volume of food waste, 2019

SPECIAL ANALYSIS RESOURCE DISTRIBUTION MAPS

- Availability of San Diego Food Bank food assistance partners compared to Census Tracts of Persons in Poverty
- Availability of Feeding San Diego food assistance partners compared to Census Tracts of Persons in Poverty
- Availability of all food assistance partners compared to Census Tracts of Persons in Poverty
- Heat map of Annual Food Assistance provided by Feeding San Diego partner agencies programs in 2020
- Heat map of Annual Food Assistance provided by San Diego Food Bank partner agencies programs in 2020
- Heat map of annual food distributed at public schools through School Pantry Program (Feeding San Diego) in 2023
- Heat map of annual food distributed at public schools through Food 4 Kids Backpack Program (San Diego Food Bank) in 2023
- Heat map of public schools based Summer Meal Programs in 2022