NORTH CAROLINA COMMUNITY MAPPING SYSTEM AND ENVIRONMENTAL JUSTICE TOOL NAVIGATION

The N.C. Department of Environmental Quality launched the beta version of the North Carolina Community Mapping System at the Environmental Justice and Equity Board meeting on May 22, 2019. This Mapping System is evolving as DEQ staff receive feedback from community members. As such, the look/feel of the Mapping System may change as this feedback incorporated. If navigational changes occur, this "how-to" document will be revised accordingly.

When you first enter the Community Mapping System, you will see a map with different navigation elements. This map is one of two main parts of the Mapping System application.

The first part displays permits and incident report layers managed by NCDEQ in a map format. The second part – the Environmental Justice (EJ) Tool - displays demographic and health information. The following section will detail how to navigate both parts of the Mapping System.

PERMIT AND INCIDENT MAP

The home screen for the permit and incident map displays the State of North Carolina with county boundaries. To see incidents, use the + button in the top-left corner or the mouse to zoom in. There are two toolbars on the permit and incident map: one at the upper-left corner of the map and one at the bottom-center of the map.

Bottom-Center Toolbar

This toolbar displays (from left to right) the Legend, Basemap Gallery, Info Summary and Screening.

Legend

The Legend shows what each colored shape/dot on the map represents. Legend items will appear when the map is zoomed in enough for dots to appear. Many of the shapes/dots are the Regulated Facilities layers identified in the North Carolina Community Mapping System Glossary of Terms document.

Basemap Gallery

The Basemap Gallery allows the user to change the underlying base of the map. The default is open street map view. However, this can be changed to see satellite imagery, topography and more.
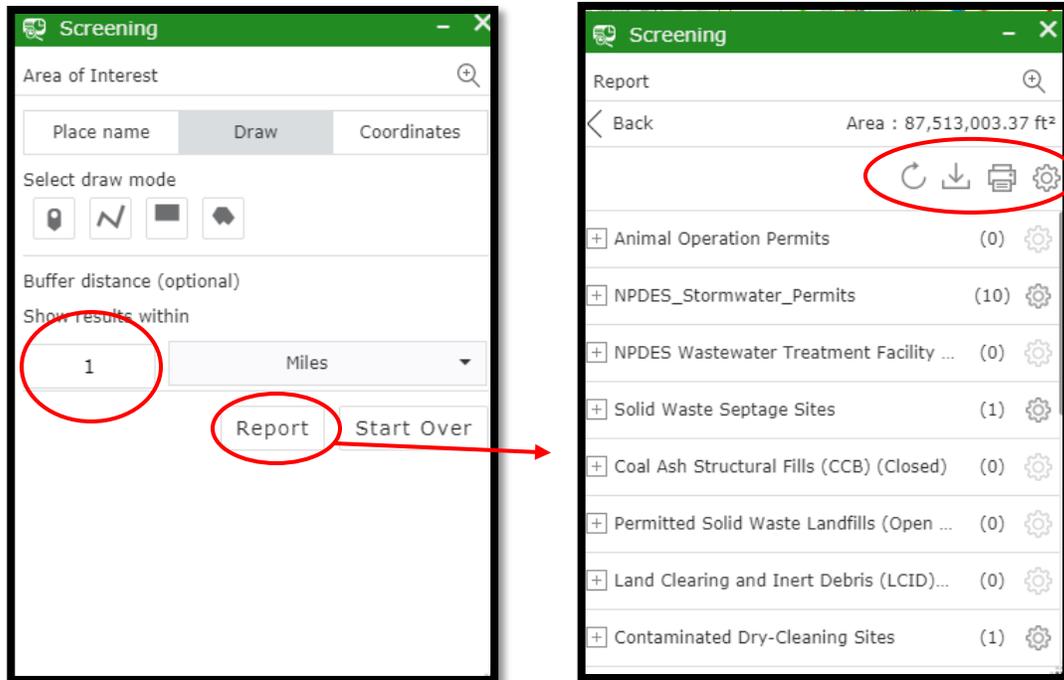
Info Summary

This Info Summary tool shows which permits and incidents are in the current map view. If a layer appears faded, there are no permits or incidents of that type in the current map view. The Info Summary also displays the number of permits and/or incidents in the current map view. As the user zooms in and out or moves the map around, the numbers will adjust accordingly.

Screening

The Screening tool allows users to create custom points and shapes on the map. Under Areas of Interest, users can enter a location by searching the address, drawing the site, using one of four drawing modes, or entering in the coordinates for the desired location. After the desired location is selected, the user can add a "buffer" distance. For example, if a user wants to know what, if any, regulated facilities are within a mile of his or her home address, the user can place a marker on the address and then type "1" into the box beside the miles drop-down menu (shown below). The user can then click "Report" to see a list of all of the permits and incidents located within one mile of the address. The user can then download the report as a spreadsheet and print the report in a pdf format using the toolbar in the upper-right corner of the reports page.
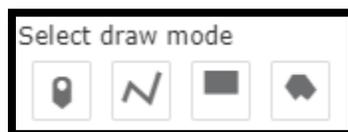
The toolbar (shown below) in the upper-right corner of the screening tab's report has four symbols (from left to right): Refresh, Download, Print and Show Results In.
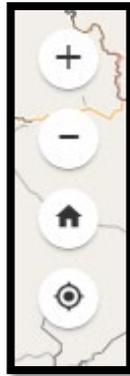

The refresh button allows users to refresh the results on the report. The download button allows users to download the report. When clicked, the user will be shown a drop-down menu of three choices for download format: CSV, File Geodatabase or Shapefile. The print button allows users to print the report, with several options for the print layout. The symbol that looks like a gear allows the user to change the scale in which the results are shown. When clicked, the user will be shown a drop-down menu of several options for distance measurements.

There are four different modes for drawing shapes on the map. They are (from left to right) Point, Polyline, Extent and Polygon. When a mode is selected, it will give the user step-by-step instruction on its use as the user is drawing.

Upper-Left Toolbar

The toolbar in the upper-left corner of the main map (shown below) allows user to navigate around the map. The tools include zoom in, zoom out, a home button that will zoom out to display the entire state and a locate button that switches the map view to the user's current location. Additionally, users can search any address or place using the search function at the top of the map.

Miscellaneous Icons

 Show Map Overview

This tool allows users to pan wider areas on the map. When clicked, the icon will display a smaller, pop-up map with a dark gray rectangle. Users can move the rectangle on the pop-up map to pan on the main map.
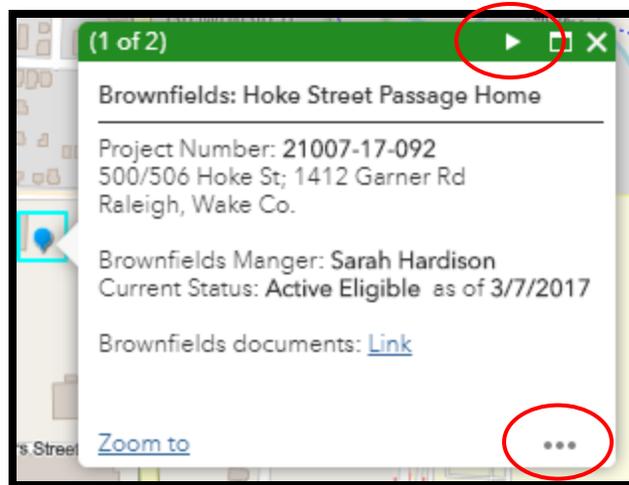
 Attribute Table

This tool allows users to view the Attribute Table, which presents the detailed underlying data for the facilities in the current map view in spreadsheet format. When clicked, a table will be displayed at the bottom of the page.
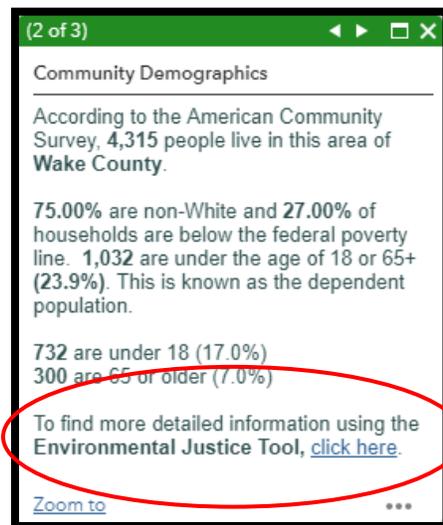
Pop-Up Display

Click on any site to see a pop-up with detailed information on the incident or permit. The pop-up window will show information like the site name, address, permit number and which section of NCDEQ regulates the site. Many pop-up windows also link to documents on the particular permit or incident report. By clicking the three dots in the lower-right corner (shown below), users can choose to "Pan to," which shifts the site to the center of the map view; "Add a marker," which allows users to add a marker and effectively bookmark that site; and "View in Attribute Table," which will bring up a table that shows the underlying data for the site. The Attribute Table may provide more information than what is in the pop-up display.

To learn more about demographic and health data around a site, the user can either (1) click the arrow on the green bar (shown above) at the top of the pop-up display, or (2) click anywhere around the site/location of interest. The pop-up display will show some basic demographic facts about that census tract.
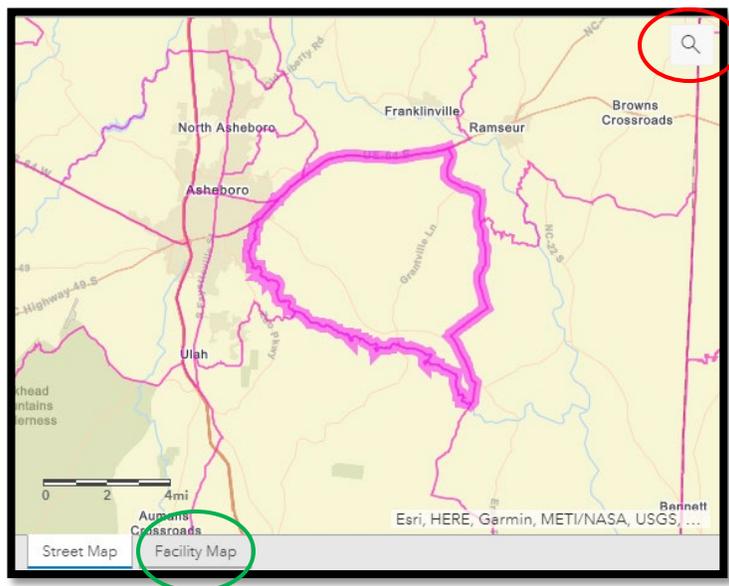
To go to the Environmental Justice Tool, click the blue underlined section of **"To find more detailed information using the Environmental Justice Tool, click here."** at the bottom of the pop-up window (shown below).

ENVIRONMENTAL JUSTICE TOOL

The Environmental Justice Tool displays the Demographic and Health information for a selected area. When the user clicks on the "click here" section of the Community Demographics pop-up window (shown above), a different browser tab will open with a new map and tool. The map view shown in this will display the census tract in which the site that was clicked to open the pop-up window is located. The census tract boundaries
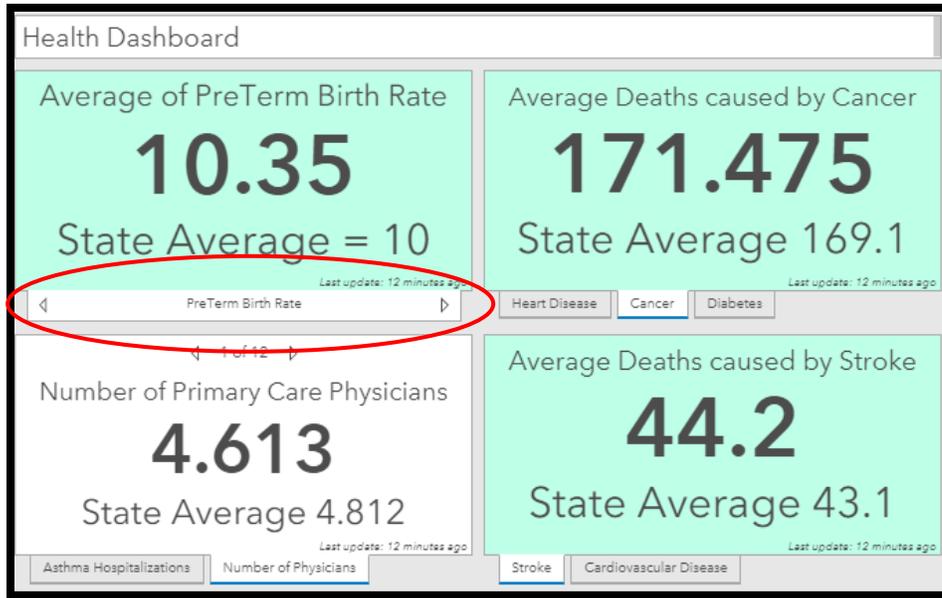
will momentarily flash bright pink (as shown in the example below). Users can move and navigate the map in the view at any time. The Demographics and Health Dashboards will adjust based on the area in view. A search button (the magnifying glass) at the upper-right corner of the map allows users to search any address. Users can click the "Facility Map" tab (shown in the green circle below) to see permitted facilities and incidents displayed.
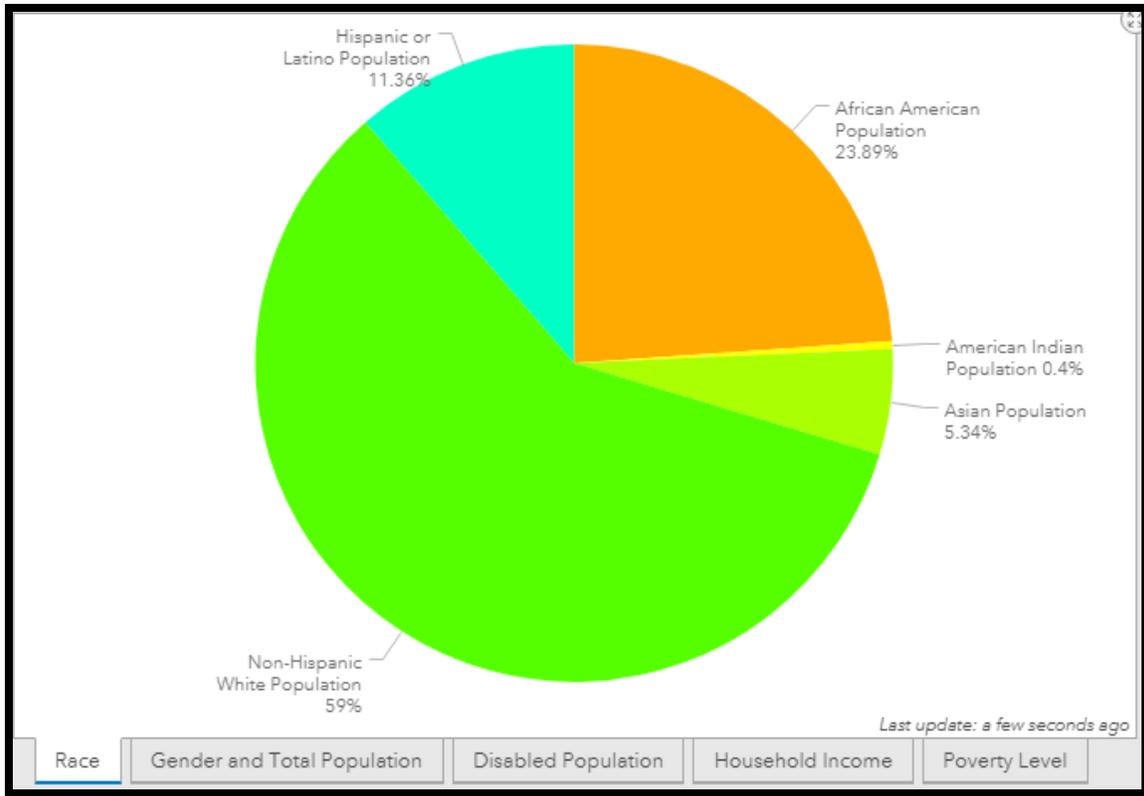

Health Dashboard

The N.C. Department of Health and Human Services (NCDHHS) provides health data at the county level. Data shown on the Health Dashboard (shown below) represents the overall county average, not the census tract average. If the map view shows two or more counties, the health rates displayed are the average rates of *all counties visible on the map*, even if the entire counties are not in view. If triangles appear next to the health rate (see Preterm Birth Rate below), the user can navigate between health rates using the triangles. If no triangles are present, the user can navigate between health rates by clicking the tab for each rate.

Each health rate display tab also shows the state average rate for that topic for comparison. See the Glossary of Terms section for more information on how each rate is defined. Health data (except for asthma hospitalization) is managed and updated by NCDHHS. NCDEQ will be manually updating asthma hospitalization data.
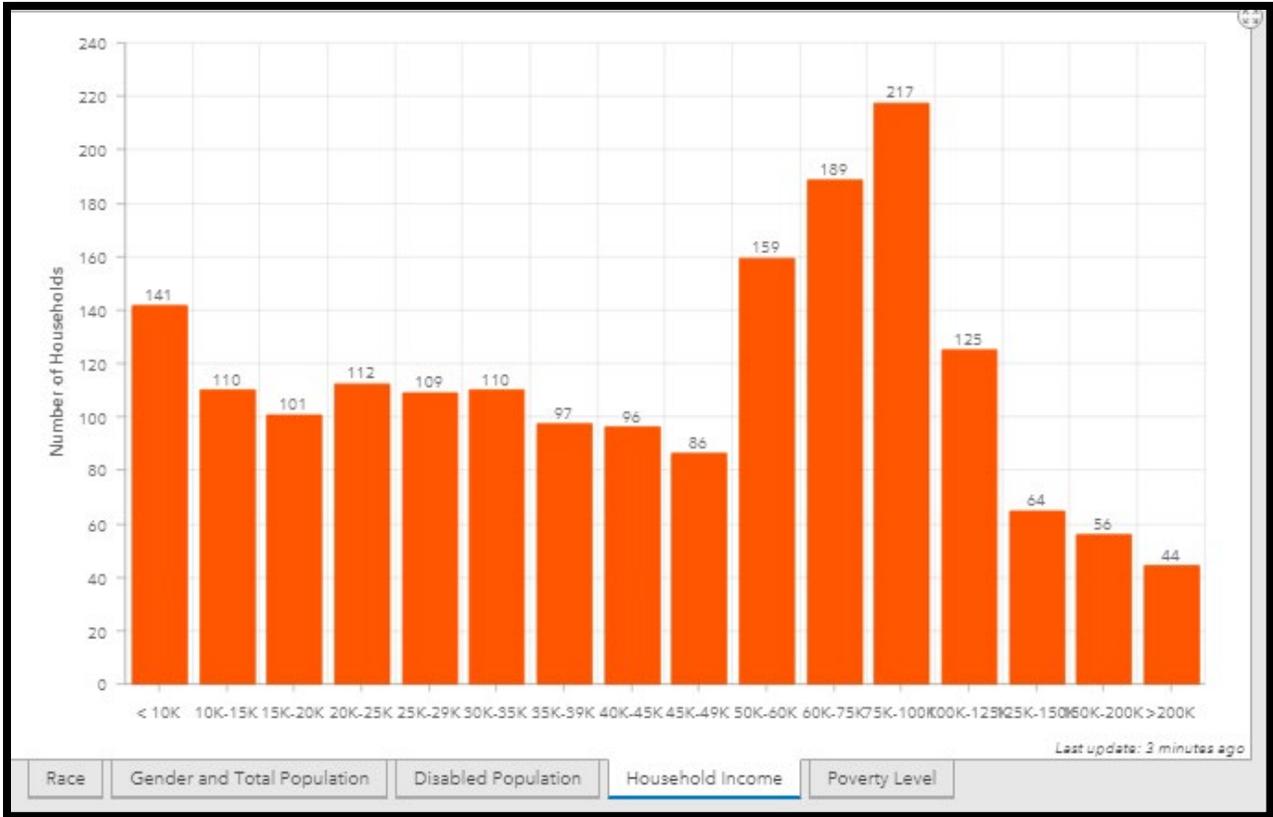
Demographics Dashboard

The Demographics Dashboard displays information on the census tract level from the 2017 five-year estimate American Community Survey (ACS). More information can be found on how each demographic group is defined in the Glossary of Terms. Like the Health Dashboard, the population makeup shown is an average of the area in the map view. However, the average is for all *census tracts* shown in the map extent, not counties. Graphs and charts will adjust accordingly as the user moves and zooms the map.

Example of Demographics Dashboard pie graph that shows racial makeup for a region.

Example of Median Household Income bar graph. This graph shows the income distribution in a given area. For example, the user can see from this graph that most common household income range is $50,000 to $100,000 in this area.