CAPE COD
COMMISSION

WatershedMVP

(Multi-Variant Planner)

Application created by the
Cape Cod Commission

COUNTY OF BARNSTABLE
MASSACHUSETTS

The Problem

CAPE COD
COMMISSION

- Decades of population growth on Cape Cod are significantly degrading our marine water quality, stressing many of our bays beyond possible recovery.
- Cape Cod's environment and its economy are intricately intertwined.
- The cost of doing the wrong thing is only outweighed by the cost of doing nothing.

WatershedMVP

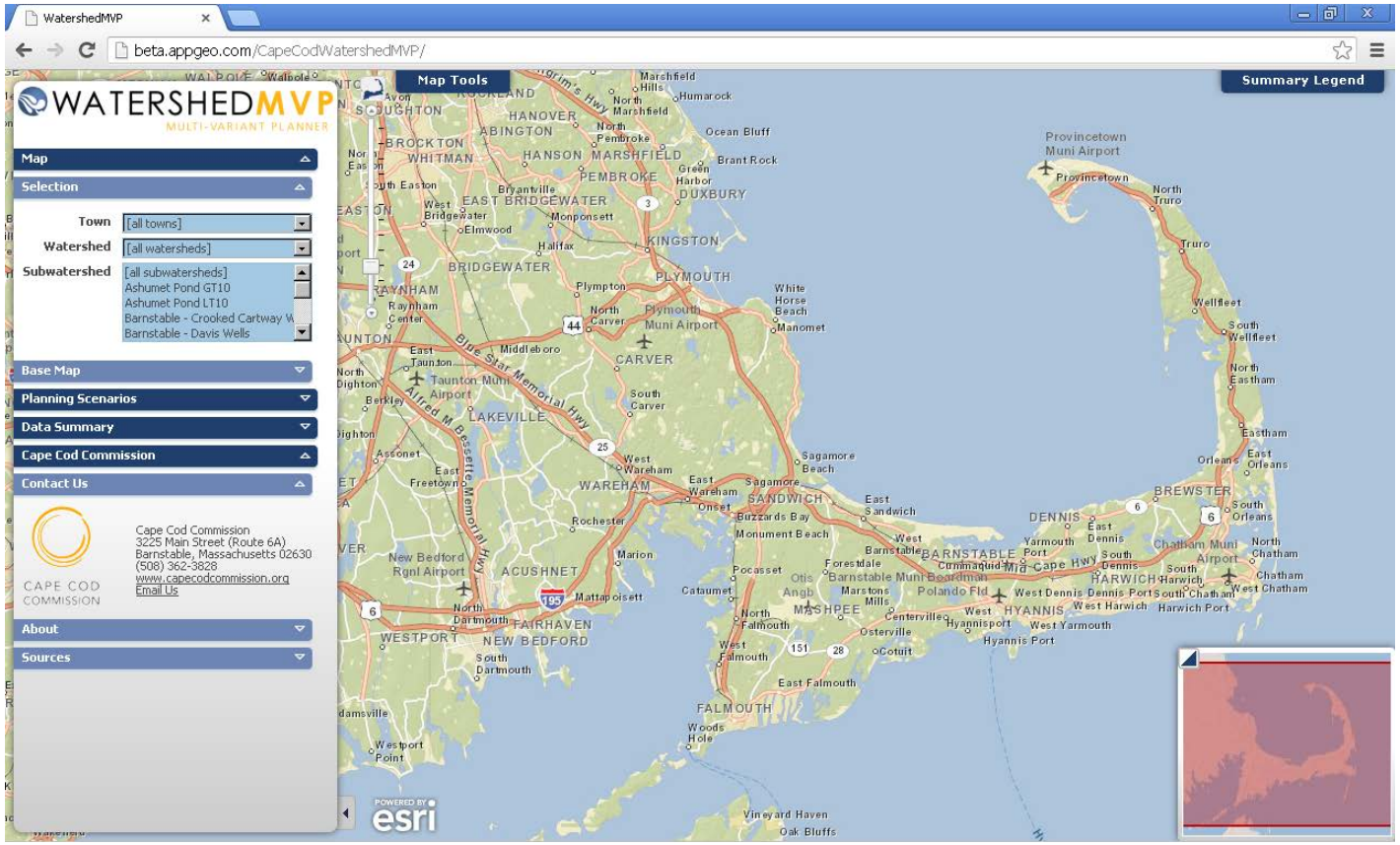
CAPE COD COMMISSION

- **Innovative ArcGIS Server application that uses geometrics to combine parcel based land use, water use and build-out data in a spatial environment**
- **Allows a user to compare various wastewater treatment scenarios in a scalable format.**
- **Presents data and calculations in a fast and easy web-based experience.**
- **An effective technical tool for planners and a powerful tool for citizens.**
- **Re-engages "the majority"**
  - Makes participation easier and democracy more convenient by driving public discussions toward the lowest cost, most sustainable solutions to our most urgent problems.

WatershedMVP

CAPE COD COMMISSION

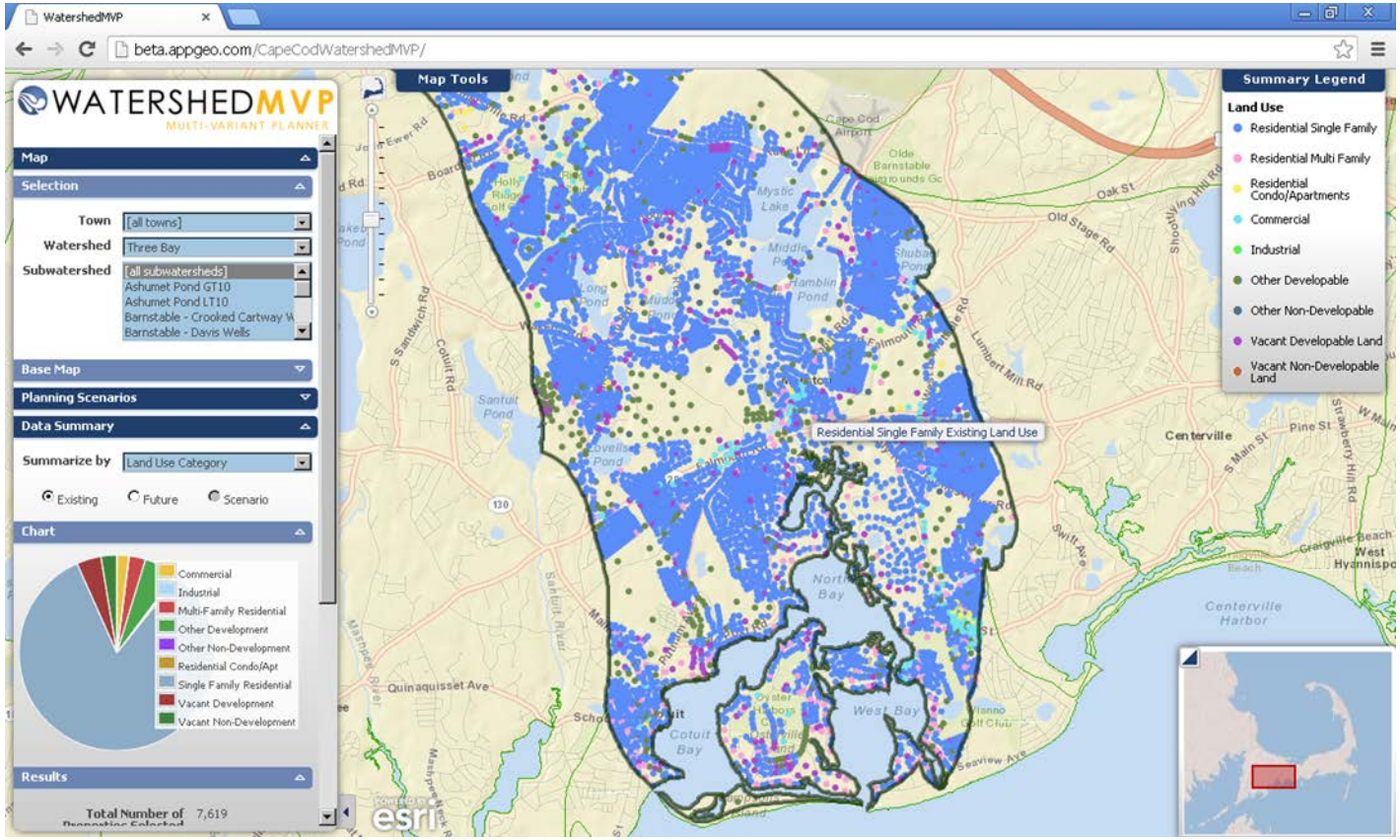
The Cape Cod Commission's "WatershedMVP" combines interactive mapping, land use data, water use data, and cost data in a flexible application that allows accurate exploration of possible solutions to achieve successful wastewater management in any selected area on Cape Cod.



WatershedMVP

CAPE COD COMMISSION

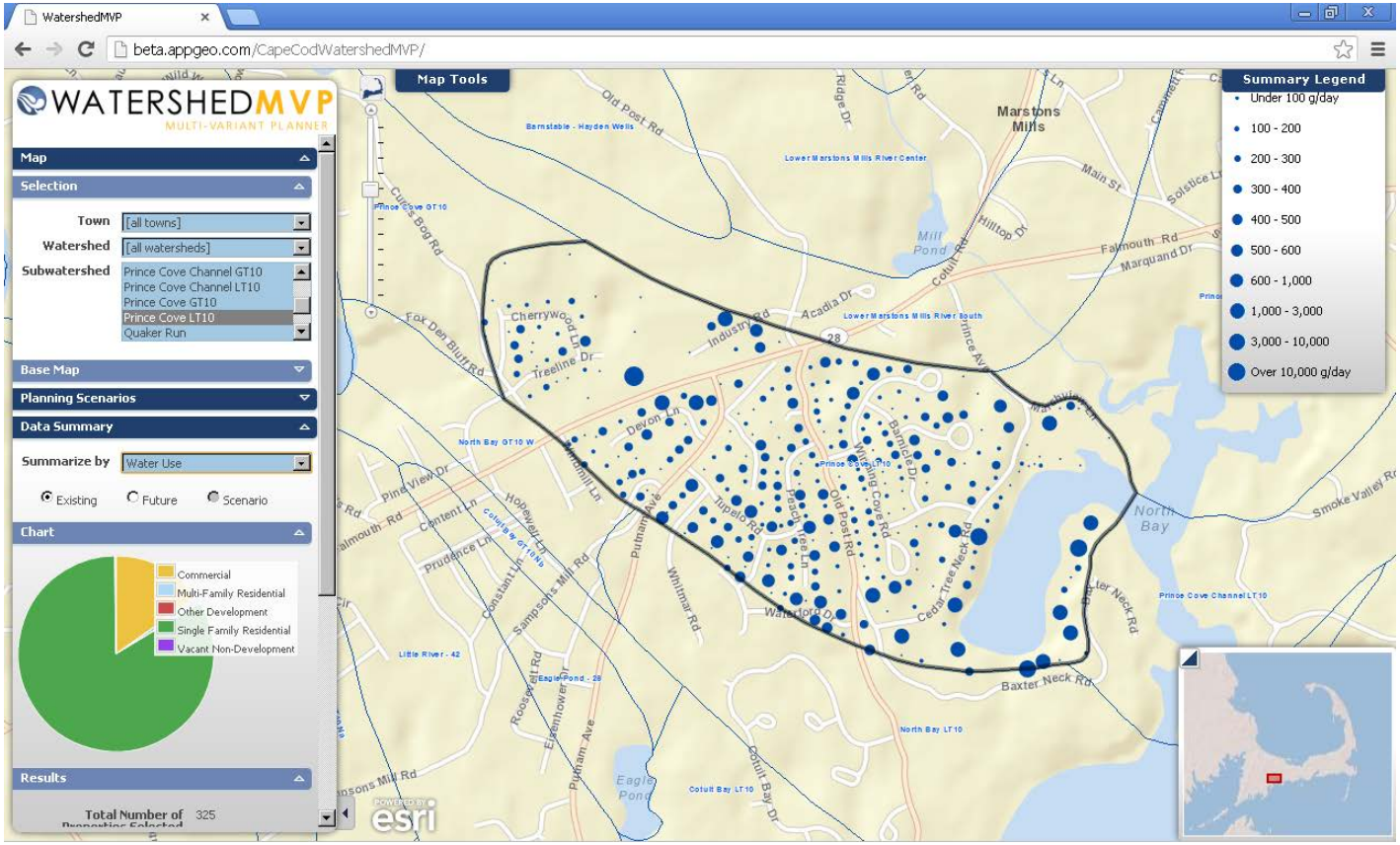
WatershedMVP allows a user to zoom in on a watershed in a selected area. The application categorizes land uses and depicts them in a pie chart and on the map. The system integrates data for existing land uses and future land uses based on the Cape-wide build-out analysis.



WatershedMVP

CAPE COD COMMISSION

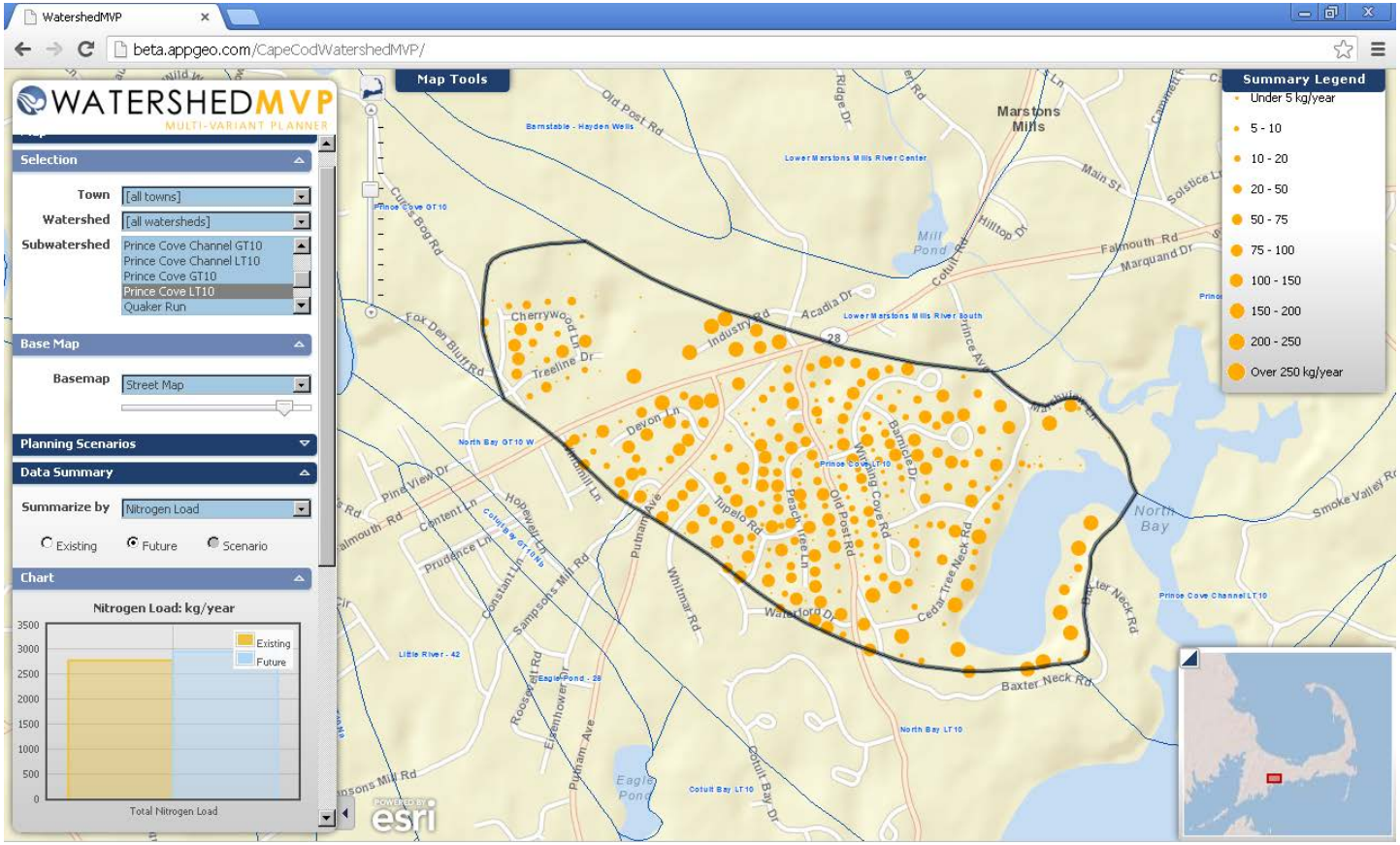
WatershedMVP allows a user to zoom in on a sub-watershed for greater detail. In this example, the viewer depicts a sub-watershed in Prince Cove (in the town of Barnstable) and presents data about water use.



WatershedMVP

CAPE COD COMMISSION

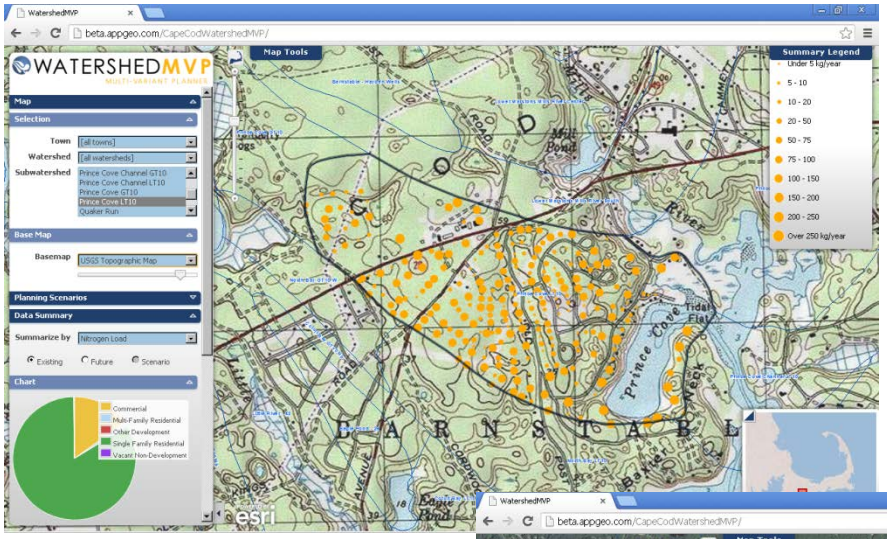
In the same sub-watershed (Prince Cove), a user can view data about the nitrogen loads for existing conditions and the projected loads for future conditions.

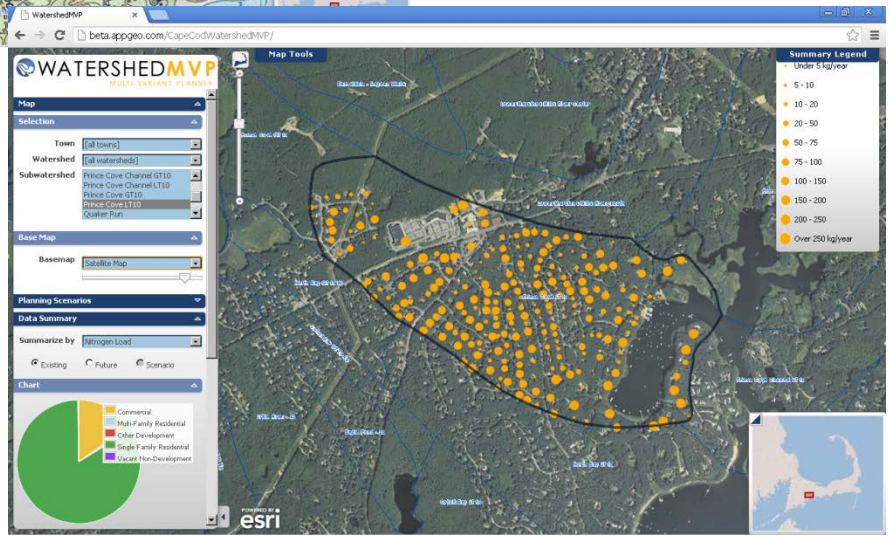


WatershedMVP

CAPE COD COMMISSION

A user can also replace the base map with a topographic map (top) or an aerial/satellite image (bottom) to gain a better understanding of ground conditions.

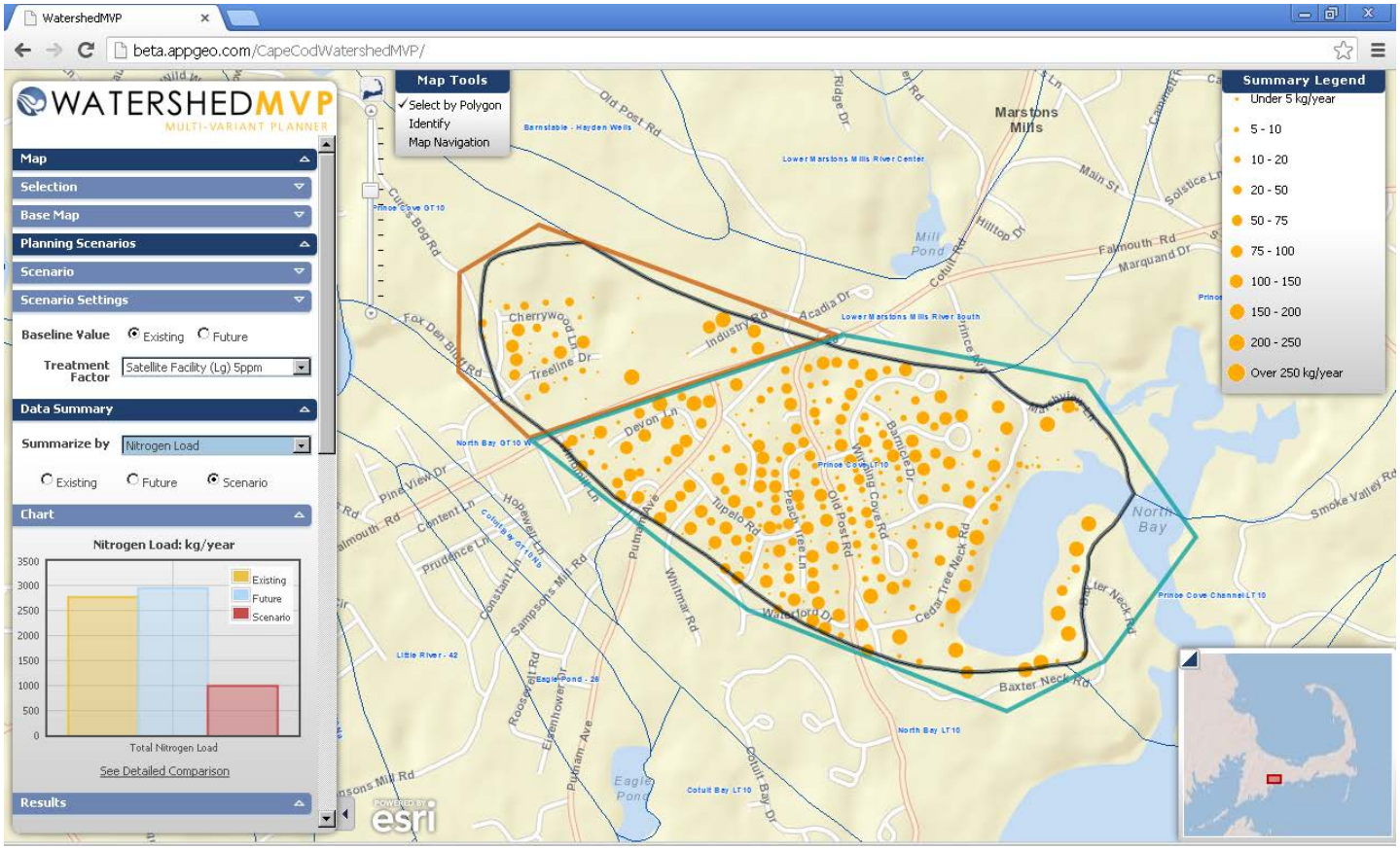




WatershedMVP

CAPE COD COMMISSION

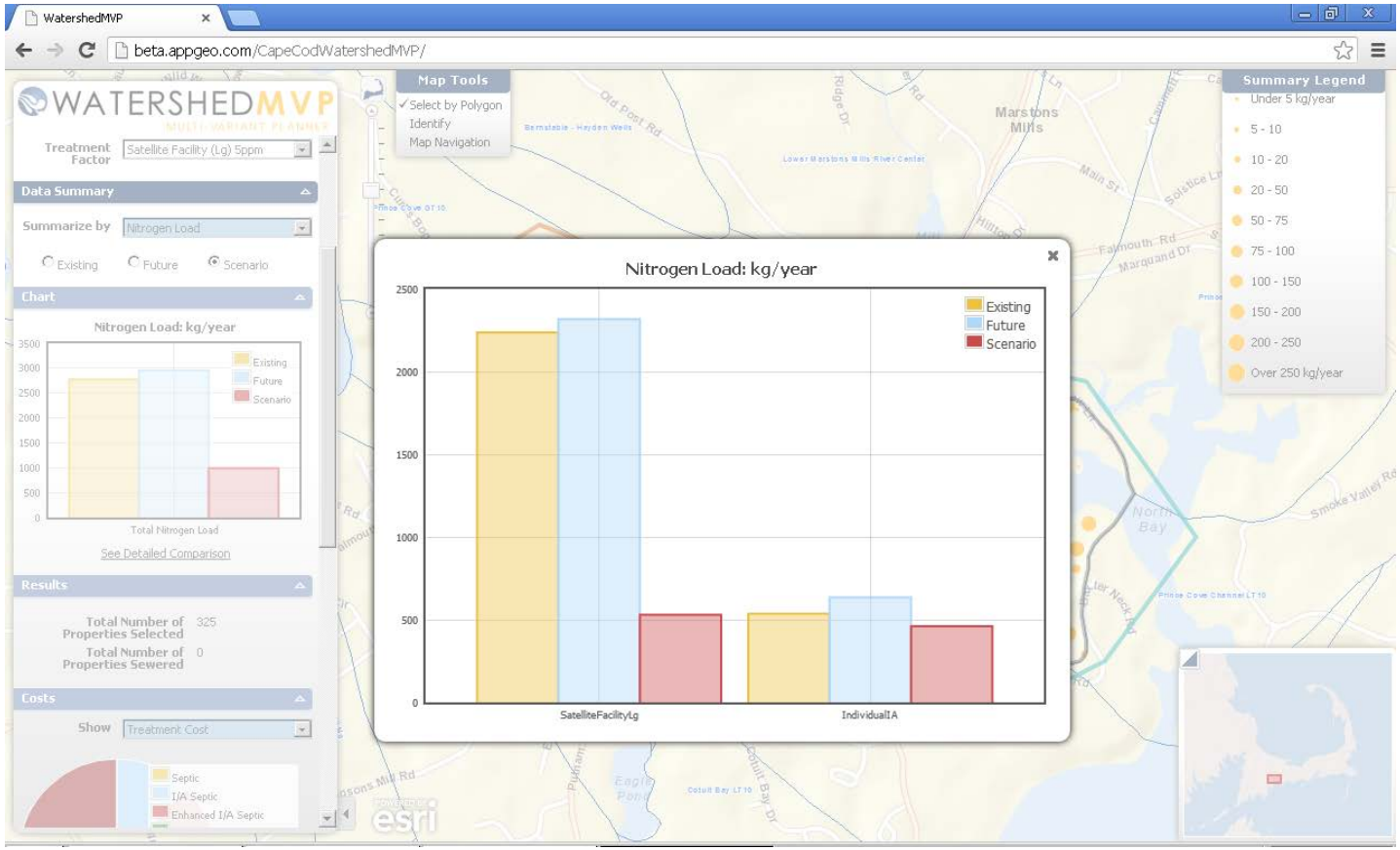
Various wastewater treatment options can be applied in different scenarios for which the WatershedMVP will calculate nitrogen loads and costs. Here, the change in nitrogen load is displayed.



WatershedMVP

CAPE COD COMMISSION

An accompanying chart graphically depicts the changes in nitrogen loads that could result if various treatment options are implemented for that specific area. For this scenario, individual innovative/alternative on-site systems were applied to the upper portion of the watershed and a satellite facility was applied to the lower portion of the watershed.

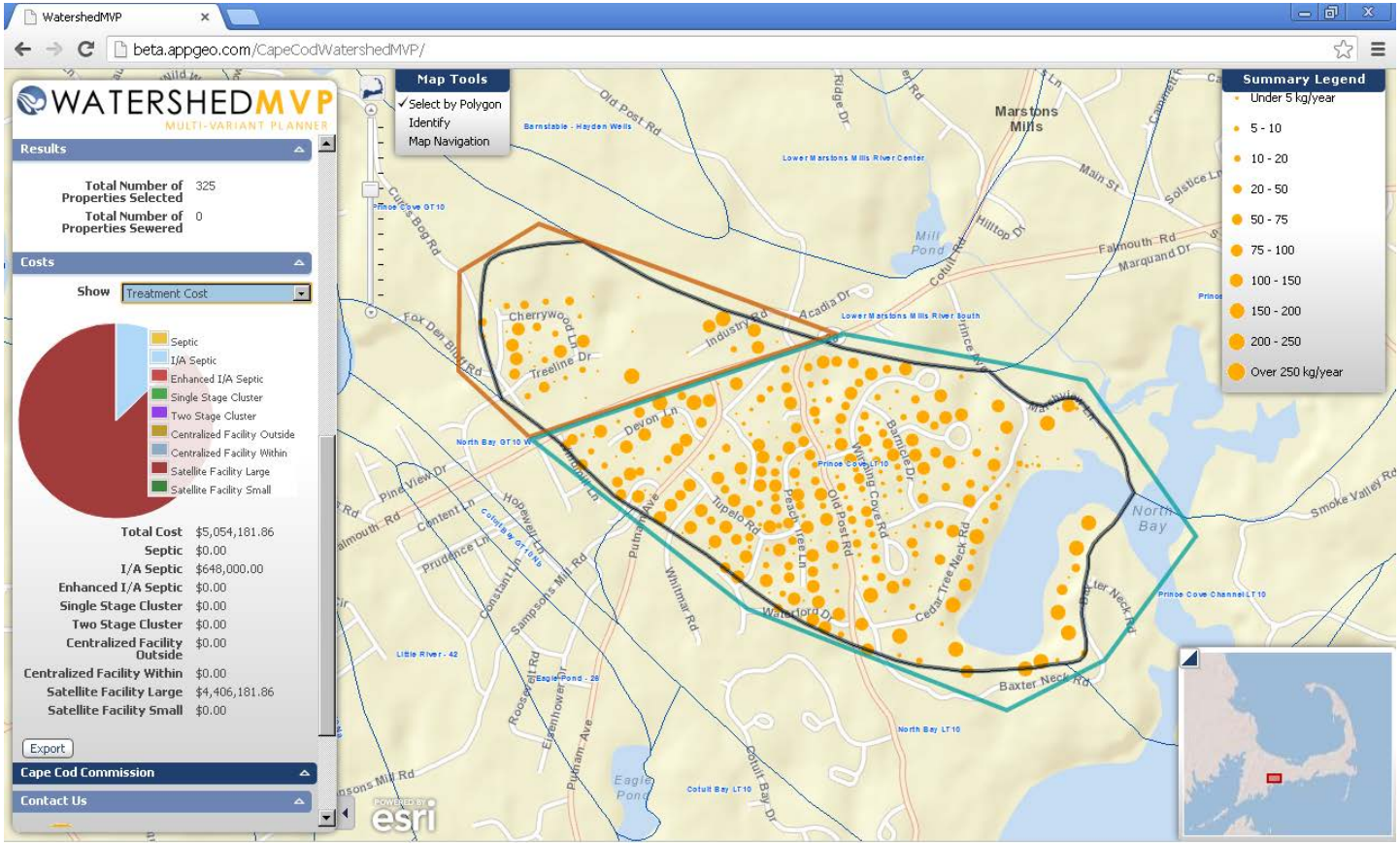


WatershedMVP

CAPE COD COMMISSION

Here, the breakdown of treatment costs associated with each of the selected treatment types is shown.

WatershedMVP also displays a breakdown of collection costs, O&M costs, capital costs, transport & disposal costs, and non-construction costs.



CAPE COD
COMMISSION

For more information:
www.capecodcommission.org/initiatives/wastewater

wastewater@capecodcommission.org

COUNTY OF BARNSTABLE
MASSACHUSETTS