Remedial Priority System

Human Health Layers

Water Body

"Surface Water Quality Standards"

March 2012

Human Health Layers

The Human Health Layers developed by the Department are:

- Water Media
  - Private Wells
  - Community Supply Wells
  - Non-Community Supply Wells
  - Surface Water Intakes
  - **Surface Water Body (Surface Water Quality Standards)**
  - Agricultural
- Soil Media
  - Soil Exposure: Residential,
  - Soil Exposure: School / Day Care
- Vapor Media
  - Vapor Exposure: Residential
  - Vapor Exposure: School / Day Care

Surface Water Body

Derived Layer based on Classification (usage) of water body

- (not based on population)

- Mode of Exposure: People being exposed (Dermal / Ingestion) contaminated surface water during recreational activities.

- Background: The Surface Water Quality Standards (SWQS) establish the designated uses to be achieved and specify the water quality (criteria) necessary to protect the State's waters. Designated uses include potable water, propagation of fish and wildlife, recreation, agricultural and industrial supplies, and navigation.

- Source Layer:
  - Surface Water Quality Standards
    - Basis for layer: shows location of streams and the stream classification

Surface Water Body

Cell Values: The Cell Value is based on the type of stream and the distance the cell is from the surface water body.

Surface Water Intakes	Cell Value
500' buffer on wetland = DR	2
300' buffer on wetland = DR	4
500' buffer on river = DR	7
300' buffer on river = DR	9
500' buffer on wetland = C-2	12
300' buffer on wetland = C-2	15
500' buffer on stream or lake = C-2	17
300' buffer on stream or lake = C-2	20
500' buffer on wetland = C-1	22
300' buffer on wetland = C-1	25
500' buffer on stream or lake = C-1	27
300' buffer on stream or lake = C-1	30
500' buffer on wetland = ON	32
300' buffer on wetland = ON	35
500' buffer on stream or lake = ON	37
300' buffer on stream or lake = ON	40

Explanation

- **ON**: Outstanding National Resource Waters
- **C-1:** A Class One Stream, which is protected from any measurable change in water quality because of ecological, recreational or fisheries.
- **C-2**: A "default" designation that applies to all surface waters except those designated as ONRW or C1.
- **DR**: Delaware River

Surface Water Body

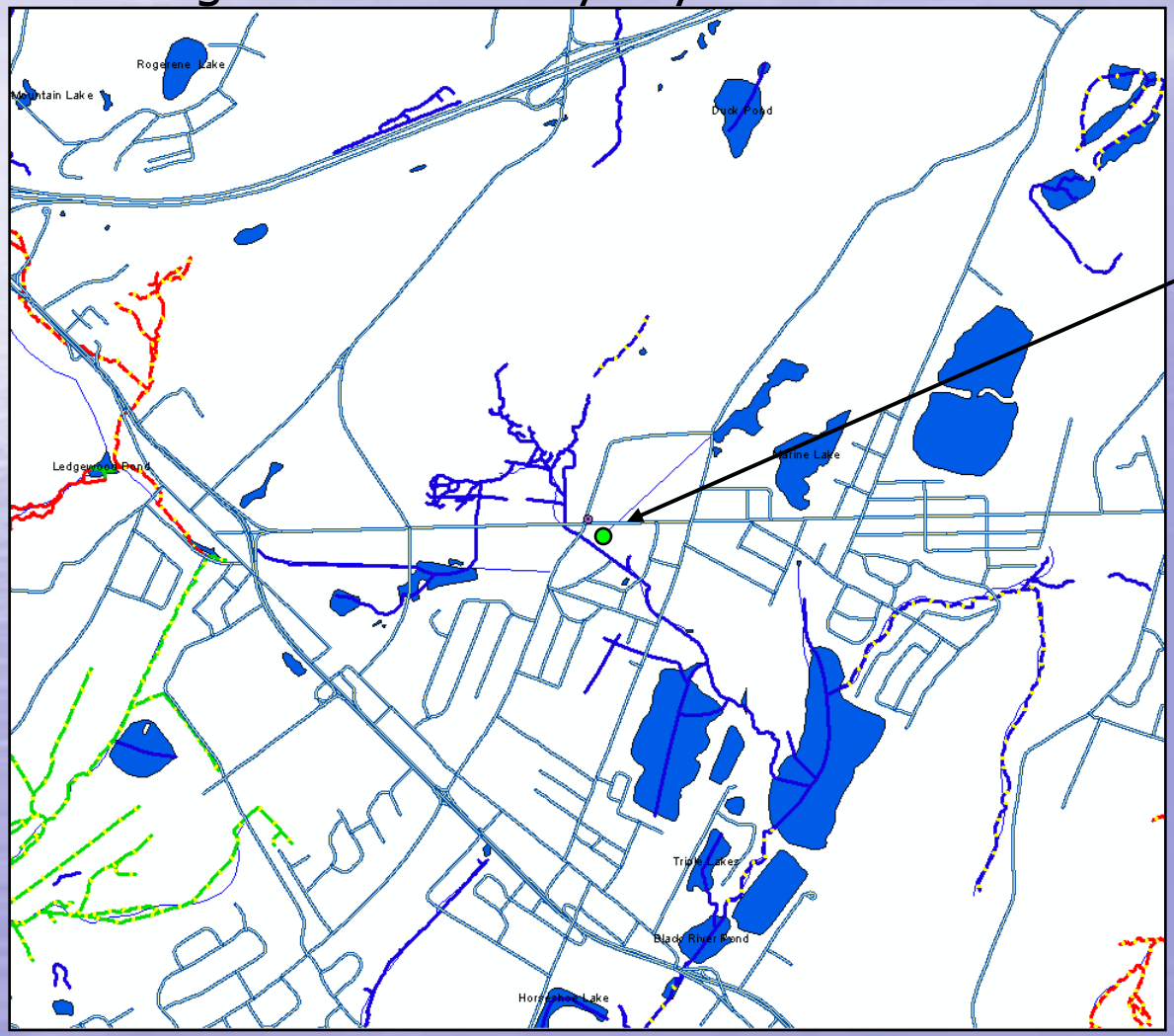
- Calculation Method
  - The maximum cell value that intersects the ground water Extent Area is used

Surface Water Body

- The following is the method used to create the Water Body GIS layer

Surface Water Body

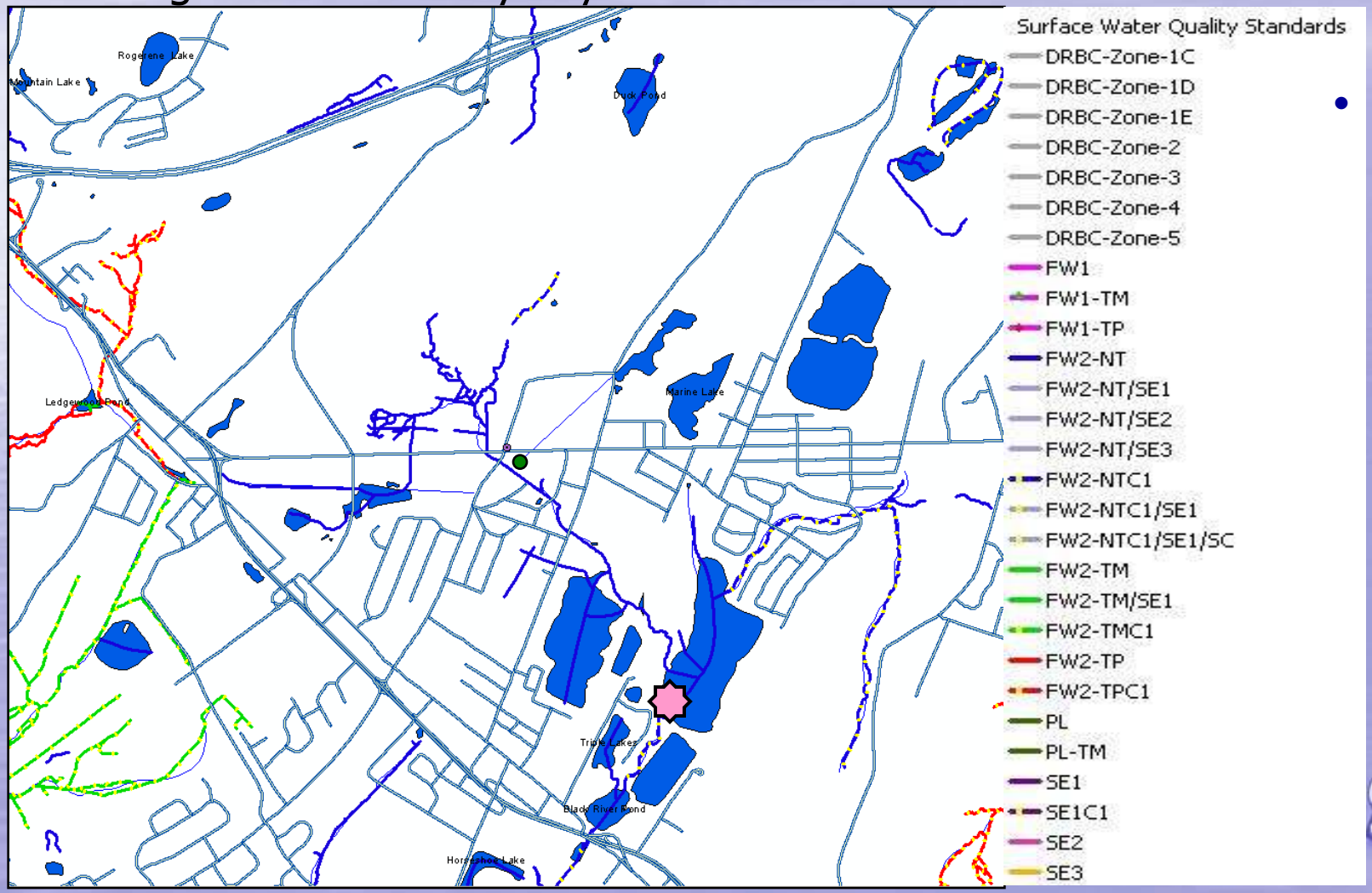
Creating the Water Body Layer



Site Location

Surface Water Body

Creating the Water Body Layer



- Start with GWQS Layer

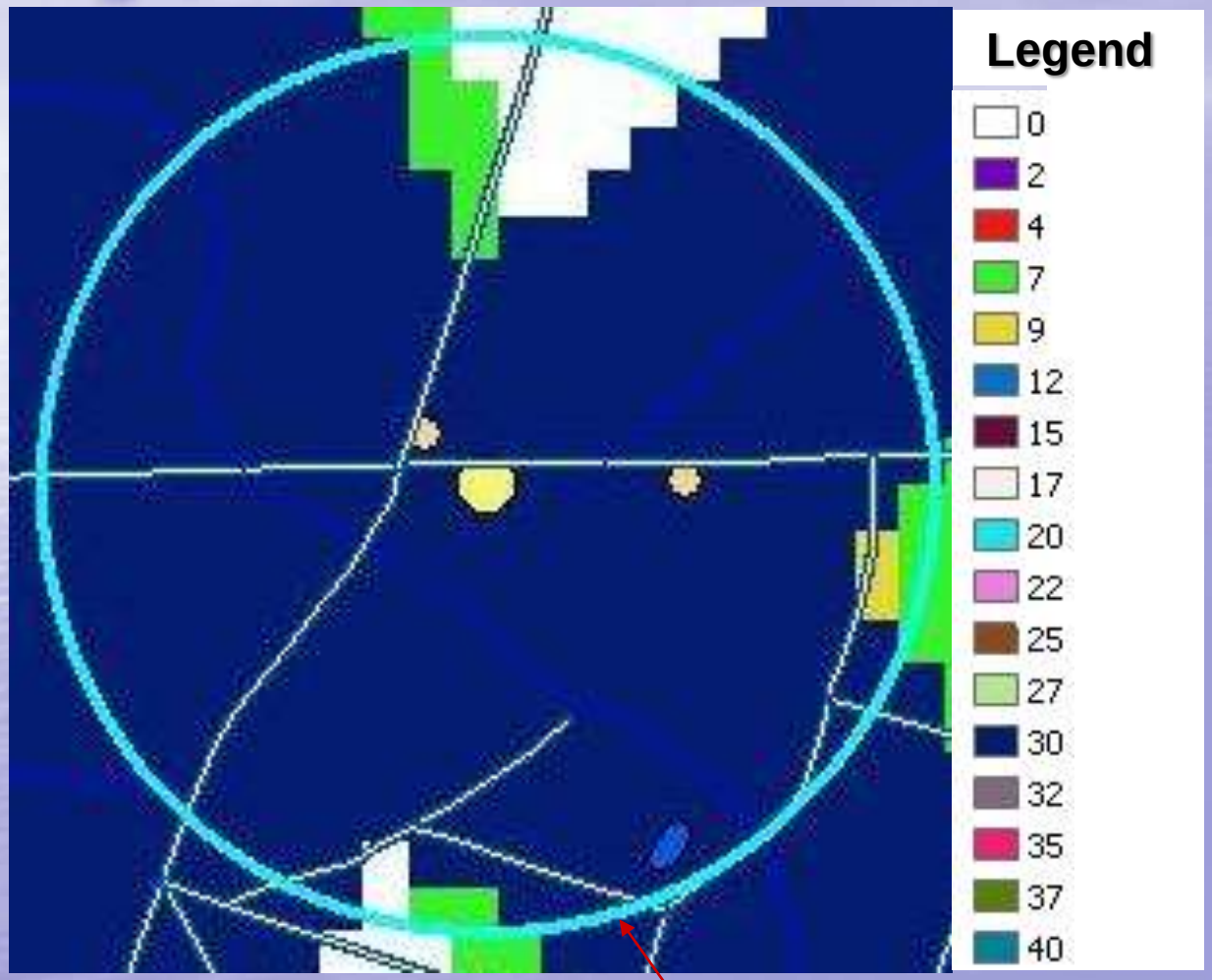
Surface Water Body Layer

2. *Use the derived Water Body Layer and overlay the Extent Area*

- Vectors are converted into a Raster file (100 by 100 grid) and assign the appropriate values to each cell
- Overlay the Ground Water Extent Area

Surface Water Body Layer

Calculation Method: Maximum cell value within the Extent Area



To calculate the Score:

- Zoom in to the Extent Area
- Maximum cell value within the Extent Area
- Maximum cell values = 30

➢ **Final Score = 30**

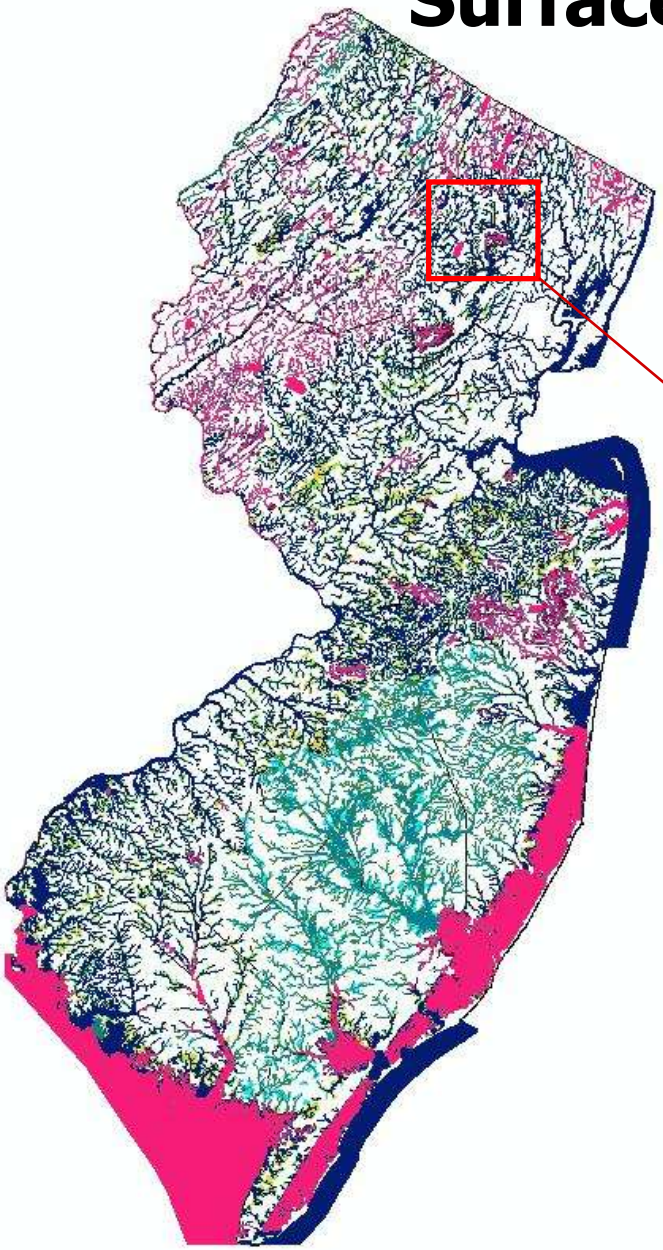
Water Body Receptor Score = 30

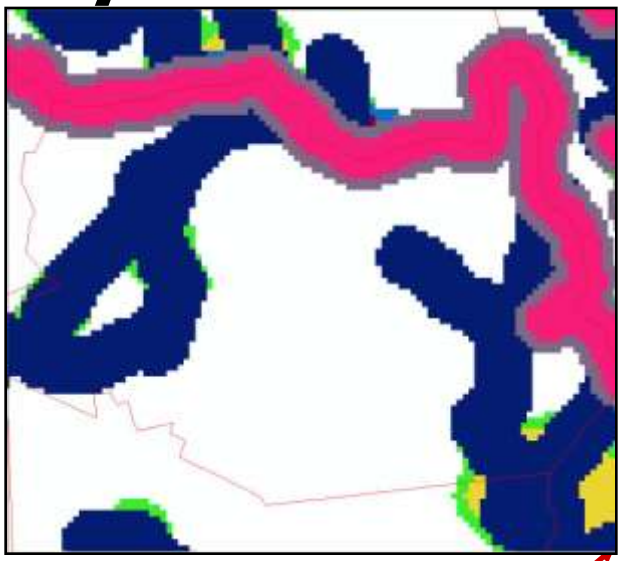
Surface Water Body

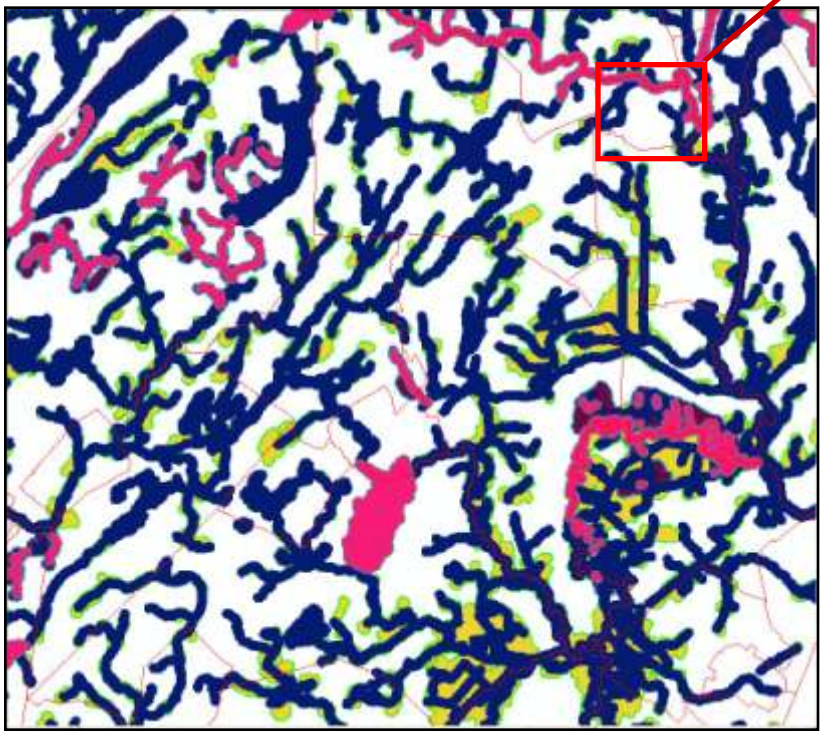
- A Surface Water Body Layer is created for the entire state

- The following is the layer used to calculate the Surface Water Body Receptor Layer Score

Surface Water Body Layer







Legend

Water Body Scores

- 0
- 2
- 4
- 7
- 9
- 12
- 15
- 17
- 20
- 22
- 25
- 27
- 30
- 32
- 35
- 37
- 40