



The Rhode Island Cesspool Act of 2007 (RIGL § 23-19.15) mandates that all cesspools located within 200 feet of the inland edge of the coastal shoreline feature bordering a tidal water area must be abandoned and the home upgraded with a new onsite wastewater treatment system or connected to available municipal sewer lines. The Act also requires cesspools located within 200 feet of public wells or within 200 feet of drinking water reservoirs to be replaced as above. Because of the unique nature of the coastal areas, DEM has prepared these slides in consultation with the Coastal Resources Management Council (CRMC) to help explain how properties were selected for notification.

Coastal shoreline features include beaches, barrier islands or spits, coastal wetlands, headlands, bluffs, or cliffs, rocky shorelines, man-made shorelines, and dunes. Only CRMC staff can verify the location of coastal shoreline features and determine CRMC jurisdiction, but you can learn more by consulting the guide available [here on CRMC's website](#).

DEM used GIS selection analysis tools, high resolution aerial photography and precise building location data developed for the Statewide E911 system to determine which properties might be subject to the new law and regulations.



This example shows North Kingstown. North Kingstown has dense residential development along a complex coastal shoreline with many small coves and salt marshes. There are therefore many homes located within 200ft of the inland edge of the coastal shoreline feature.



In order to select homes potentially impacted by the Cesspool Act, the first step was to map the inland edge of the coastal shoreline feature. Unfortunately, this is not an easily defined feature to display on a map. Unlike a road or other manmade feature, coastal landforms (beaches, bluffs, salt marsh, dunes, etc) are dynamic natural systems and their sometime shifting boundaries require onsite identification and verification by CRMC staff.

The mapped line, shown here in red, represents a useful approximation based on photographic interpretation. DEM used this approximation for the selection process, but in some cases the homeowner may want to enlist professional assistance in determining where their cesspool truly lies in relation to the coastal shoreline feature. **The line shown here is not appropriate for any other use**, for example determining if a project is within CRMC's jurisdiction.

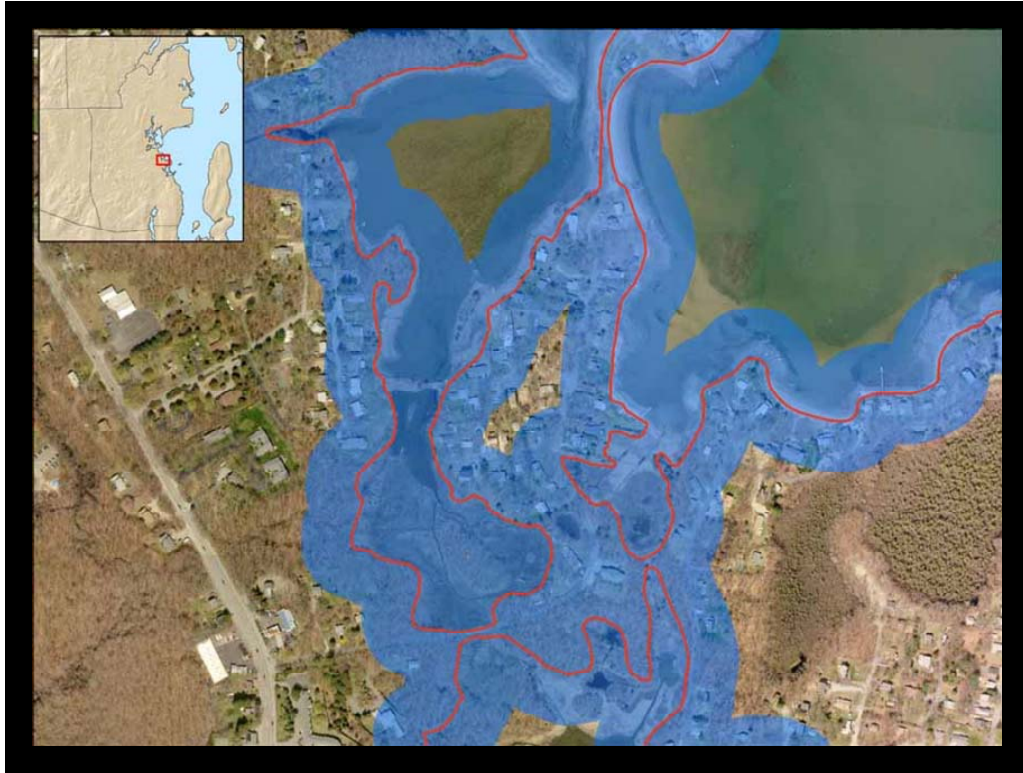
The next slide will show a closer view of the area inside the black box shown near the center of the image above.



It is important to note that the coastal shoreline feature often extends hundreds of feet inland of the actual tidal water shoreline. Here is a closer view of the inland edge approximation- note large areas of saltmarsh/freshwater (coastal) wetland located well inland of the shoreline.

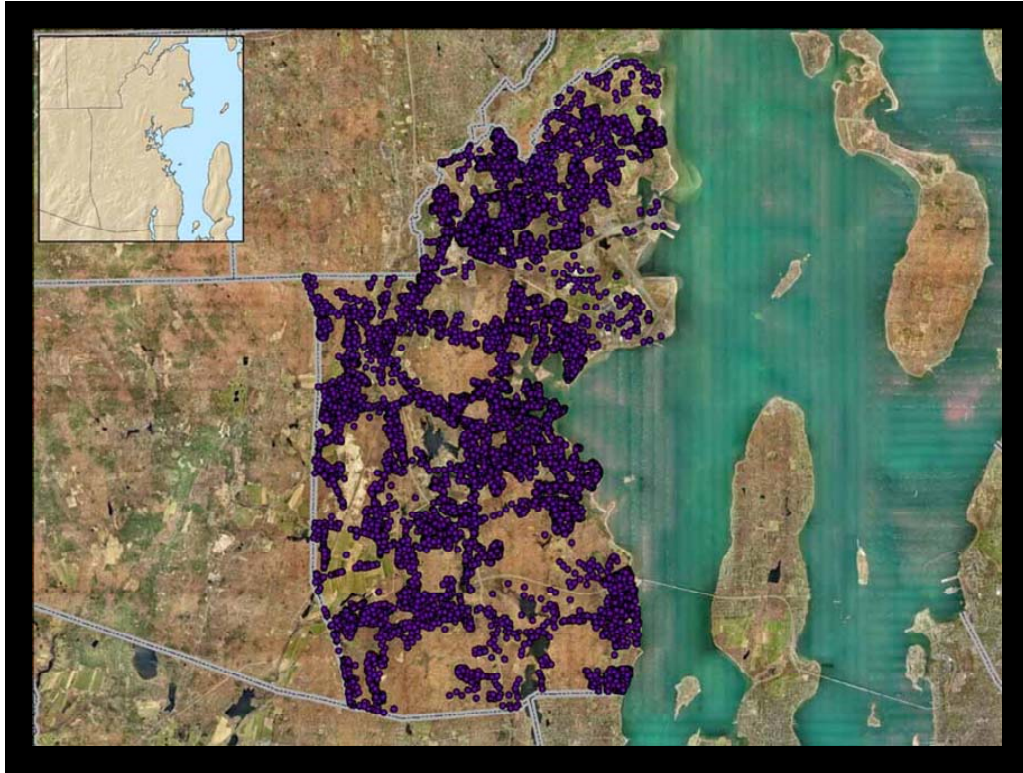


“Bird’s eye” views, like this one, provide additional detail of coastal shoreline features. Note in the lower center portion of the photo how easily the top of the “rip-rap” where the coastal shoreline feature ends on the lawn can be identified. These images are available for the entire state and were used extensively in developing the estimate of the inland edge of the coastal shoreline feature.



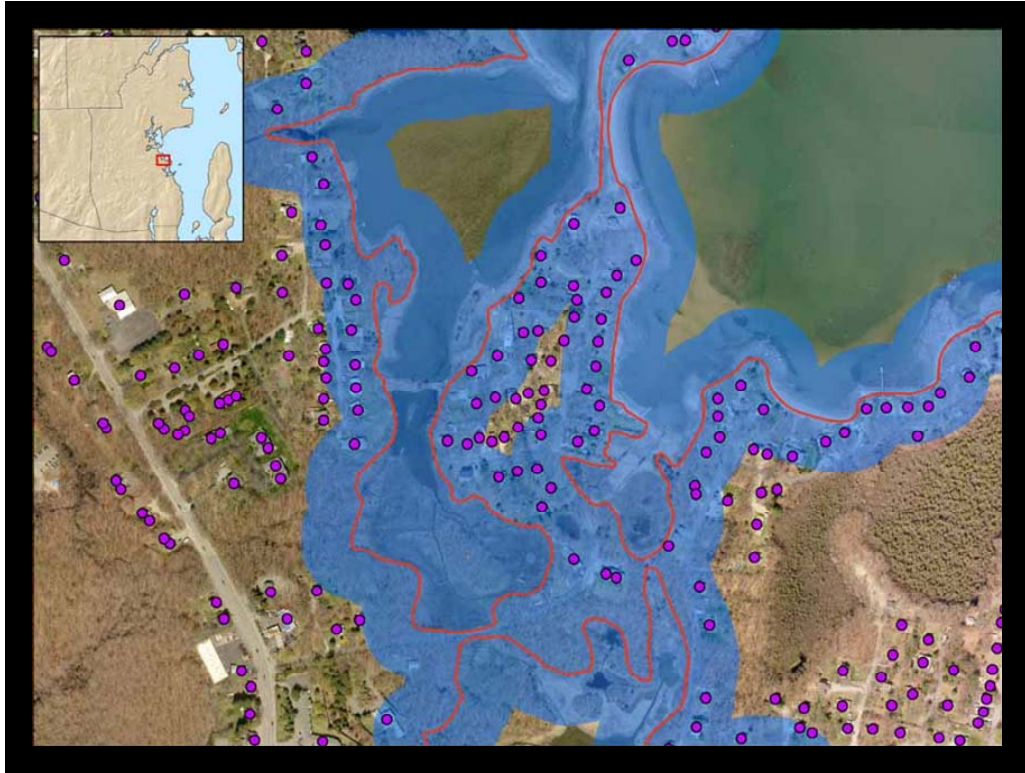
Once the best approximation of the inland edge of the coastal shoreline feature was identified (red line), the next step was to use the GIS to apply a 200 foot buffer to the red line. This establishes an approximate representation, shown above shaded blue, of the zone in which the cesspool phaseout requirement will apply. Note that the buffer shown here extends on both sides of the estimated coastal shoreline feature line. For the purposes of implementing the Cesspool Act, we are only interested in the buffer extending inland from the coastal shoreline.

Remember, this is an **approximation** because of the inherent limitations in using photography to map landscape features that really need to be mapped through site work. In some cases the actual jurisdiction may extend slightly farther inland than shown or be nearer the shoreline. It hinges on the accuracy of the inland edge mapping. When there's a question of coastal shoreline feature identification, the CRMC can advise homeowners through a Preliminary Determination of where the coastal shoreline feature is actually located on the landscape.

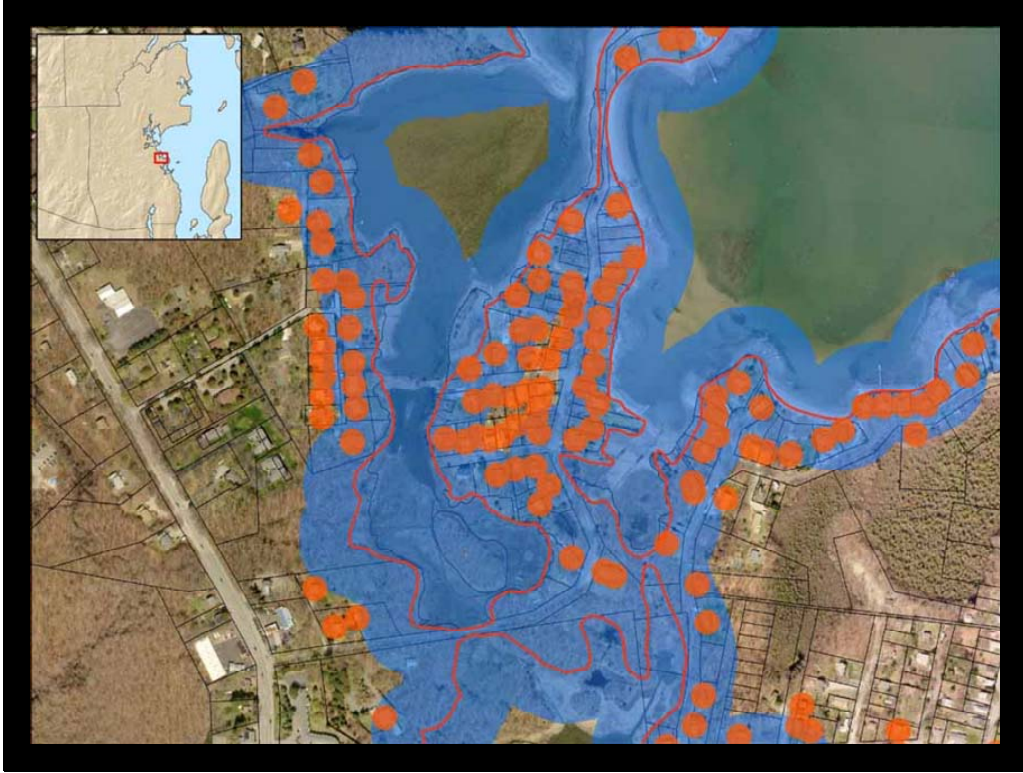


The dots shown here represent the locations of every building in North Kingstown that can be occupied. This information, referred to as E911 data, was collected to help improve response times to 911 calls and it is available for every city and town in the state. The data was collected through surveys conducted with high-accuracy GPS-equipped vans driving every street in the state. Laser rangefinders were used to establish exact building locations based on the information collected from the GPS.

This data was used to help determine which buildings could potentially have cesspools within 200 feet of the inland edge of the coastal shoreline feature, as shown in the following slides.

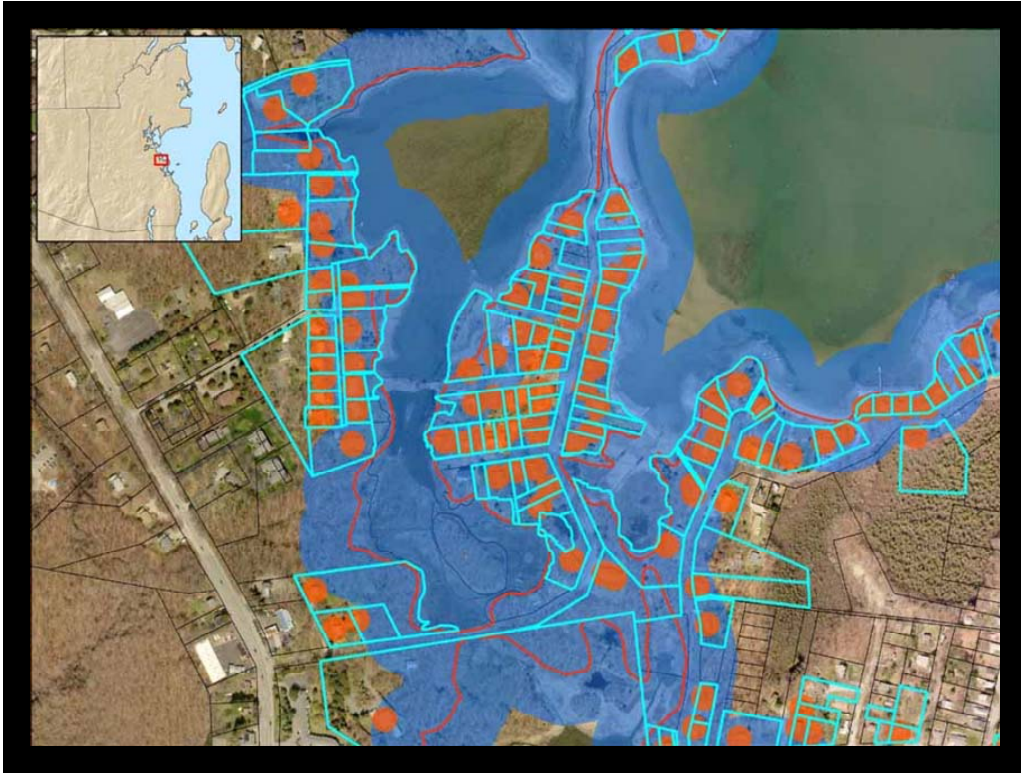


The view shown above combines the 200 foot buffer and the building locations from the E911 data set. Some buildings clearly fall within the area subject to the Cesspool Act. Others, however, do not. Furthermore, we know that cesspools are generally not in the same exact location as the building point from the E911 data (The building locations in the E911 data set are dimensionless points). To account for this, we made a reasonable assumption based on permitting experience that any potential cesspool would most likely be located within 50 feet of the building point.



This view shows an orange-shaded, 50 foot buffer applied to the building location points from the E911 data set. For the purposes of the Cesspool Act, we assumed that if the 50 foot buffer around a building intersects with the 200 foot coastal buffer, that building could have a cesspool subject to the Act.

We know, however, that not all of the buildings identified using this technique actually have a cesspool. For example, many buildings have already upgraded to a state code-compliant septic system. In some municipalities, buildings have been connected to public sewer lines. DEM has records of septic system permits going back to 1969. Municipalities with sewers have records of which properties are connected. DEM used this information to identify and exclude buildings that likely do not have a cesspool and removed them from further consideration under the Cesspool Act.



The next step is to identify the property owners most likely to have a cesspool so notification letters can be sent. The view shown above highlights local tax assessors' lot lines. The properties already identified based on the intersection of the orange circles and the blue shaded area are most likely subject to the Cesspool Act. The assessors map links the selected properties to the property ownership database. DEM will use this information to generate a mailing list to send out notification letters.

DEM recognizes that there are inherent limitations to this approach and as a result some properties will receive notification that should not and others will be inadvertently omitted. The regulations governing the Cesspool Act will have several provisions to address these situations without unduly burdening property owners.

The regulations governing the Cesspool Act will be available for public review in March.

Additional information on the Cesspool Act is available on [DEM's website](#).

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