

Rhode Island Department of Health

State Water Interactive Map (SWIM) Viewer: A Public Notification System



Amie Parris
Beach Program Coordinator
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Why do we care about water-borne disease?

- 3.4 million people die each year from water-borne diseases (world-wide).
- Between 1.8 million and 3.5 million Americans become sick every year from swimming in waters contaminated by sanitary sewer overflows.
- Combined, Americans take approximately two billion trips to the beach each year

How sick can you really get?

Gastroenteritis

Hepatitis A

Giardiasis

Shigella

Cryptosporidiosis

Dysentery

Respiratory Infections

Illnesses

Gastrointestinal

Ear Infections

Eye infections

Skin Rash

Swimmers Itch (cercarial dermatitis)

Respiratory illness and infection

Neurologic

Wound infections



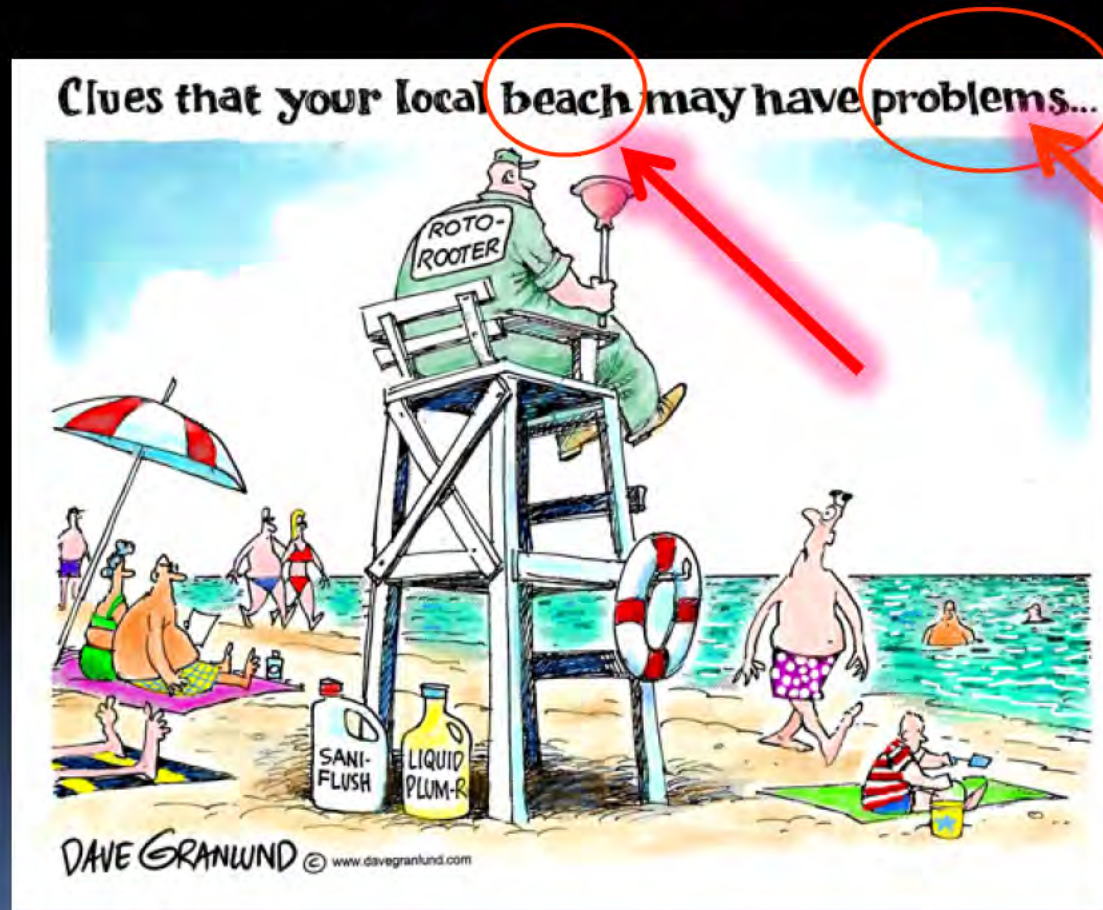
Economic losses due to swimming-related illnesses are estimated at \$28,000,000,000 annually.



What is Rhode Island doing to prevent illness from swimming in contaminated bathing waters?

- Monitoring the water for fecal bacteria
- Notifying the public
 - ▣ State Water Interactive Map Viewer

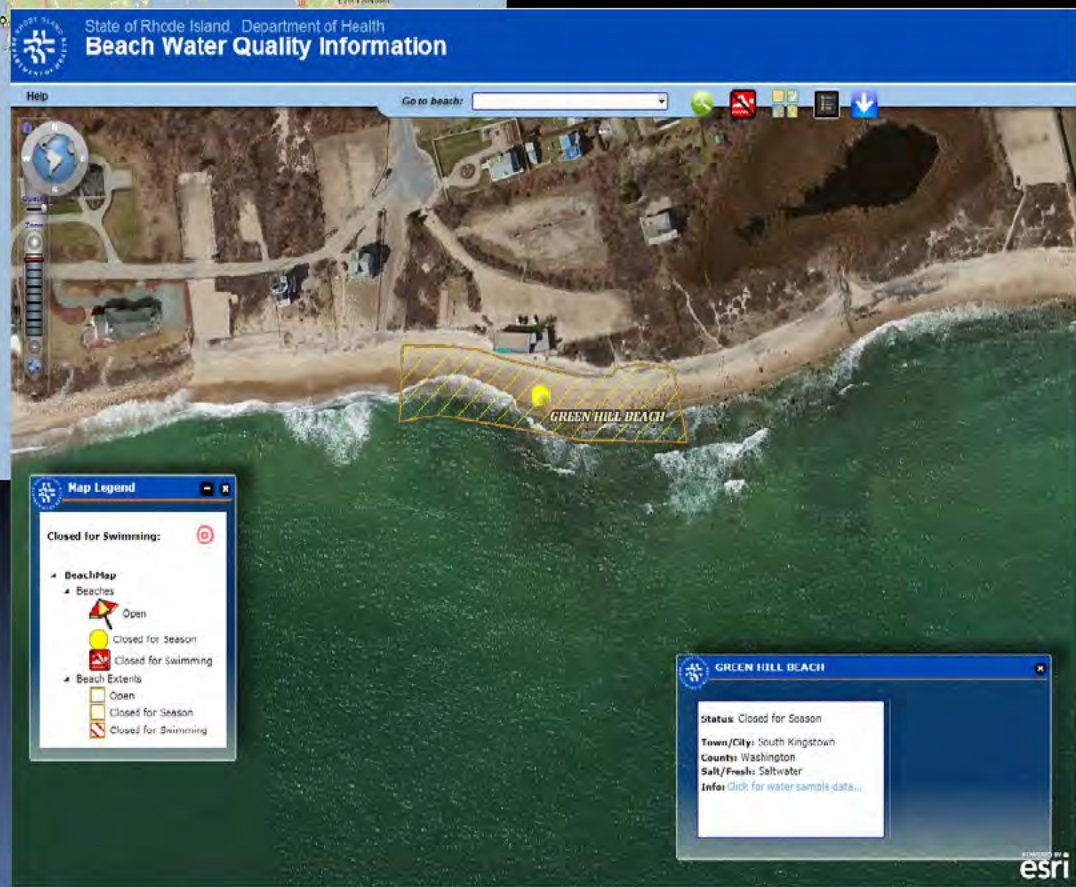
What Does the SWIM Viewer Tell Us?





Imagery View

Street View



What Does the SWIM Viewer Tell Us?

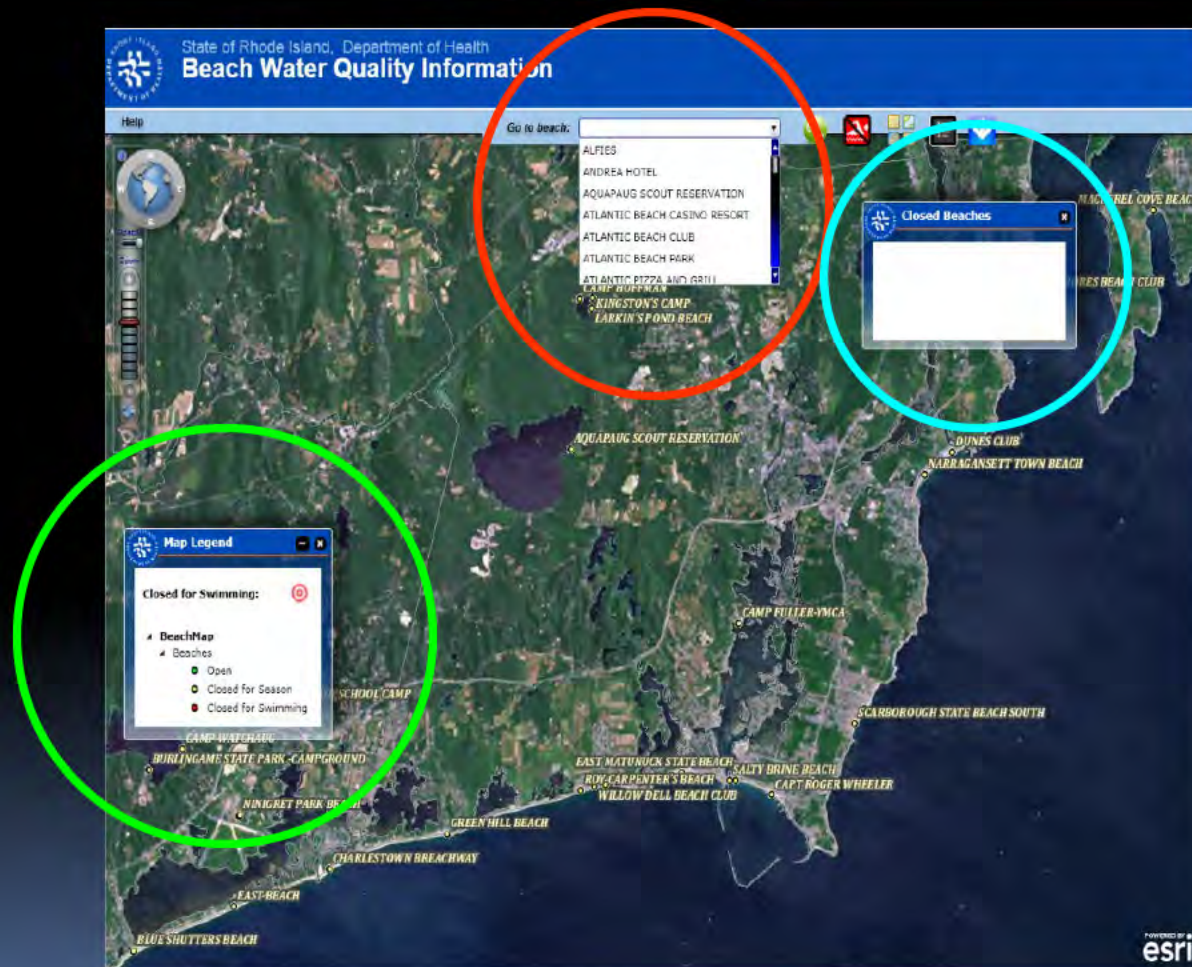
- * Amount of Fecal Contamination in the Water
 - * Precipitation
 - * Wind Speed and Direction
- * Which Beaches are Open and Which are Closed
 - * Historical Data (1998-2013)
- * Daily Survey Data (birds, people, trash, weather etc.)

SWIM Viewer

Behind the Scenes

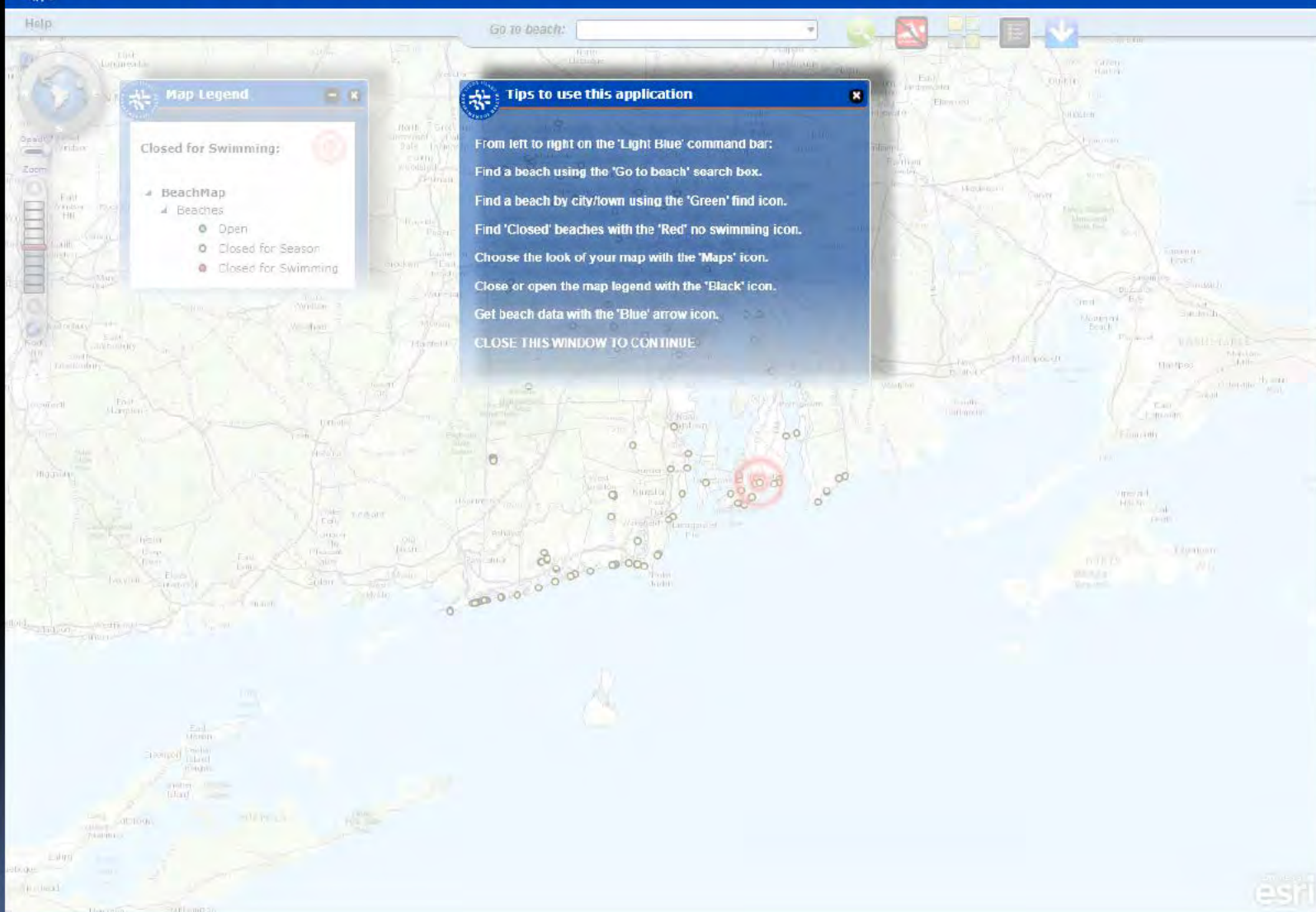
- Microsoft SQL Server 2008 Database
- Microsoft IIS
- Microsoft .NET
- Microsoft Silverlight
- Microsoft Visual Studio 2010
- ArcGIS Server for Enterprise v.10.1
- Python Scripting v.2.7
- SSL self signed certificate for security

The SWIM Viewer was specifically designed for simplicity





State of Rhode Island, Department of Health Beach Water Quality Information

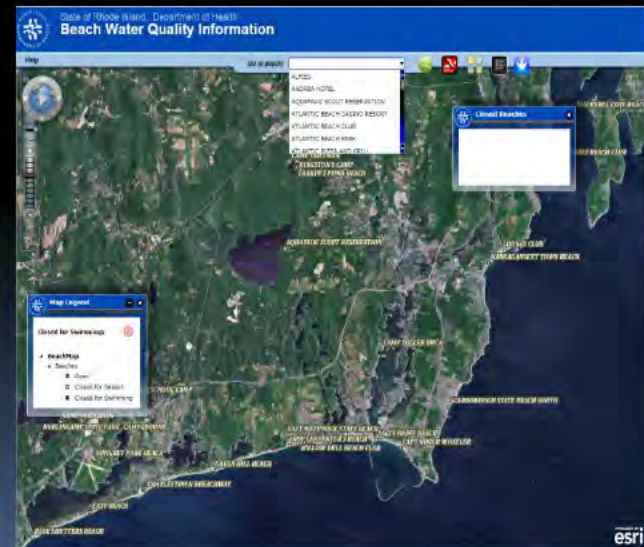




- Click on a yellow dot to zoom into that beach
- Click on a town and see all beaches in that town
- Select your beach from the drop down menu and zoom right to the beach

The SWIM Viewer was specifically designed for simplicity

- Most people do not care about the data.
- Is it easy to navigate for all types of users?
- Can I swim, yes or no?
- How do I get to the water front and is there parking?





State of Rhode Island, Department of Health Beach Water Quality Information

Help

Go to beach:



Map Legend

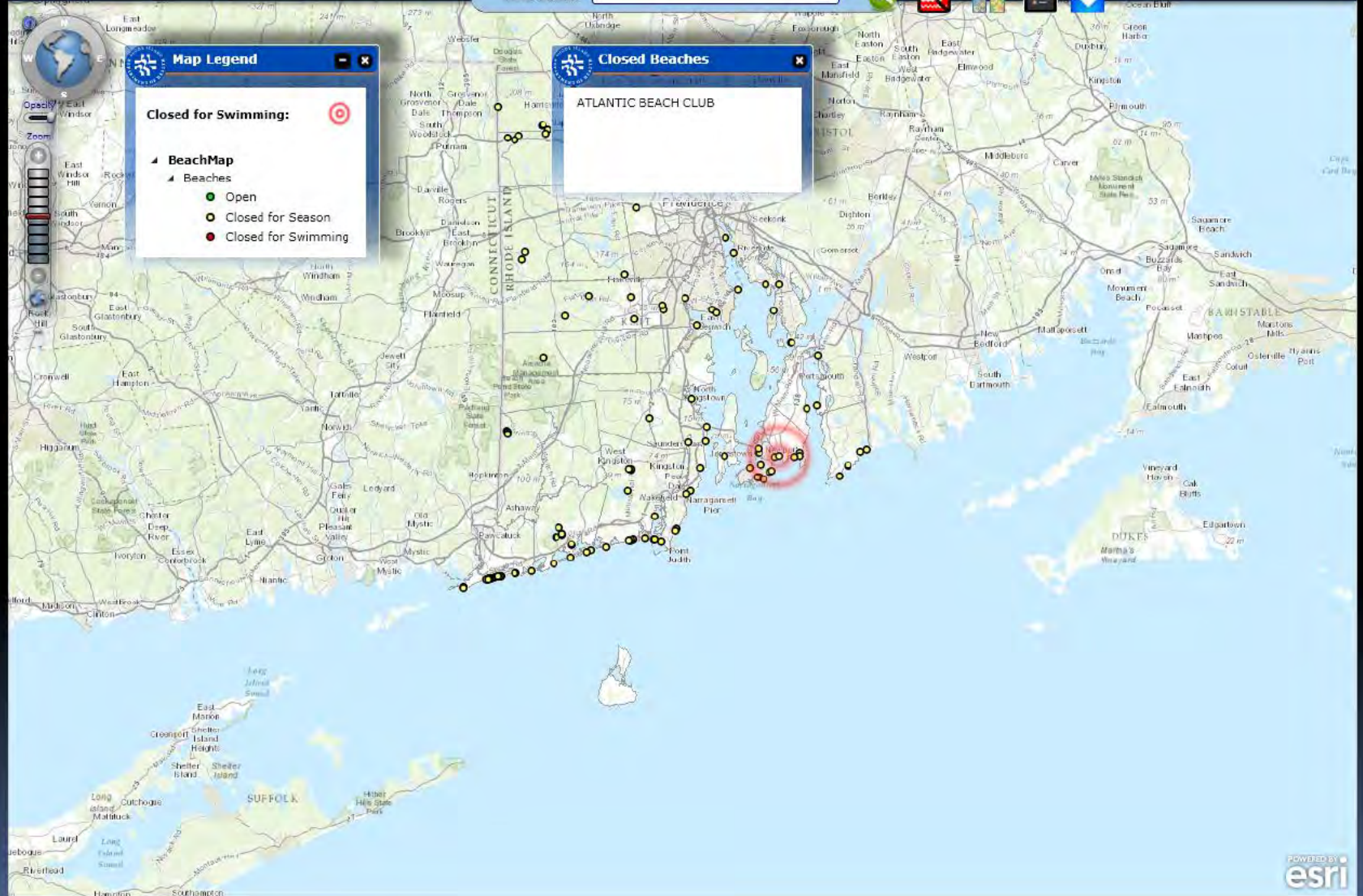
Closed for Swimming:

BeachMap

- Open
- Closed for Season
- Closed for Swimming

Closed Beaches

ATLANTIC BEACH CLUB



For Those Looking for More

Search by Beach

Search by Town

Return Results

By Year

By Season

Search for Beach Data

Search data of this beach ...

Search all beach data of town ...

Return these data results ...

Find results by dates ...

☒ date
☐ date range
☐ year
☐ season

Date <M/d/yyyy> 15

Get data



Help

Go to beach:



Search for Beach Data

Search data of this beach ...

Search all beach data of town ...

Return these data results ...

Find results by dates ...

☐ date
☐ date range
☐ year
☐ season

Year

☒ ANDREA HOTEL

☒ Saltwater Results

☒ Number of people



Beach Data Search Results

Lab Data | Daily Survey Data

NAME	CollectionTime	SWResults
ANDREA HOTEL	8/23/2012 10:00:00 AM	20
ANDREA HOTEL	8/15/2012 7:25:00 AM	10
ANDREA HOTEL	7/27/2012 9:45:00 AM	10
ANDREA HOTEL	7/18/2012 7:20:00 AM	10
ANDREA HOTEL	6/13/2012 7:16:00 AM	10

Export Options

☐ Always export map



State of Rhode Island, Department of Health Beach Water Quality Information

Help

Go to beach:



Search for Beach Data

Search data of this beach ...

Search all beach data of town ...

Return these data results ...

Find results by dates ...
☐ date
☐ date range
☐ year
☐ season

Year

✗ ANDREA HOTEL

✗ Saltwater Results

✗ Number of people

Beach Data Search Results

Lab Data **Daily Survey Data**

NAME	CollectionTime	numberofpeople
ANDREA HOTEL	8/23/2012 9:55:00 AM	60
ANDREA HOTEL	7/27/2012 9:45:00 AM	9
ANDREA HOTEL	6/7/2012 9:40:00 AM	3

Export Options

Always export map



How it Changed How we do Business

Data is now in-house

Saved the state tens of thousands of dollars

Data to the public is real-time

Easy access for the public and media

Thank You!