

# Narragansett Wind Turbine Update

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Presentation

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Solutions

January 25, 2010

# DEM Overview

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- Reason for Renewable Energy Project Development
  - Development of Siting Criteria
  - Partnership with Town of Narragansett
  - Attitudinal Survey
  - Renewable Energy Fund
  - Request for Proposal (RFP)
  - RFP Evaluation Process
  - Vendor Selection
  - Future Activities
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# Reason for Renewable Energy Project Development

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- Allows DEM to “Walk the Talk” on Green Energy Issues
  - Provide Needed Fiscal Resources to Support State / Town Programs
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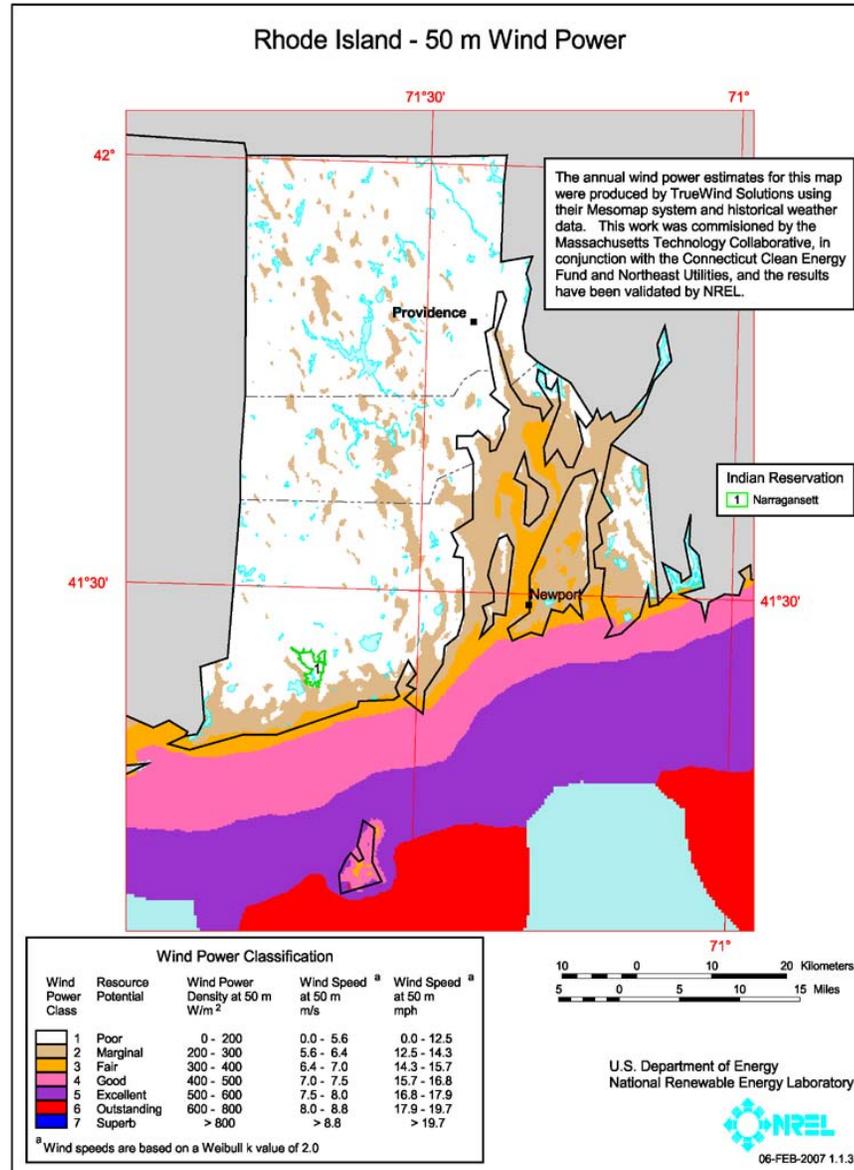
# Reason for Renewable Energy Project Development

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## Why Narragansett?

- ❑ Governor's RIWIND Report named Narragansett and Little Compton as Sites That Could Support Wind Turbines
  - ❑ Electrical Infrastructure Available to Accept Energy
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# RI Wind Resources



# Development of Siting Criteria

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- What DEM Sites Might Support Wind Turbines?
  - What Criteria Could be Used to Site Wind Turbines?
  - Were There Any State or Federal Standards?
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# Development of Siting Criteria

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No Siting Standards Available in 2008

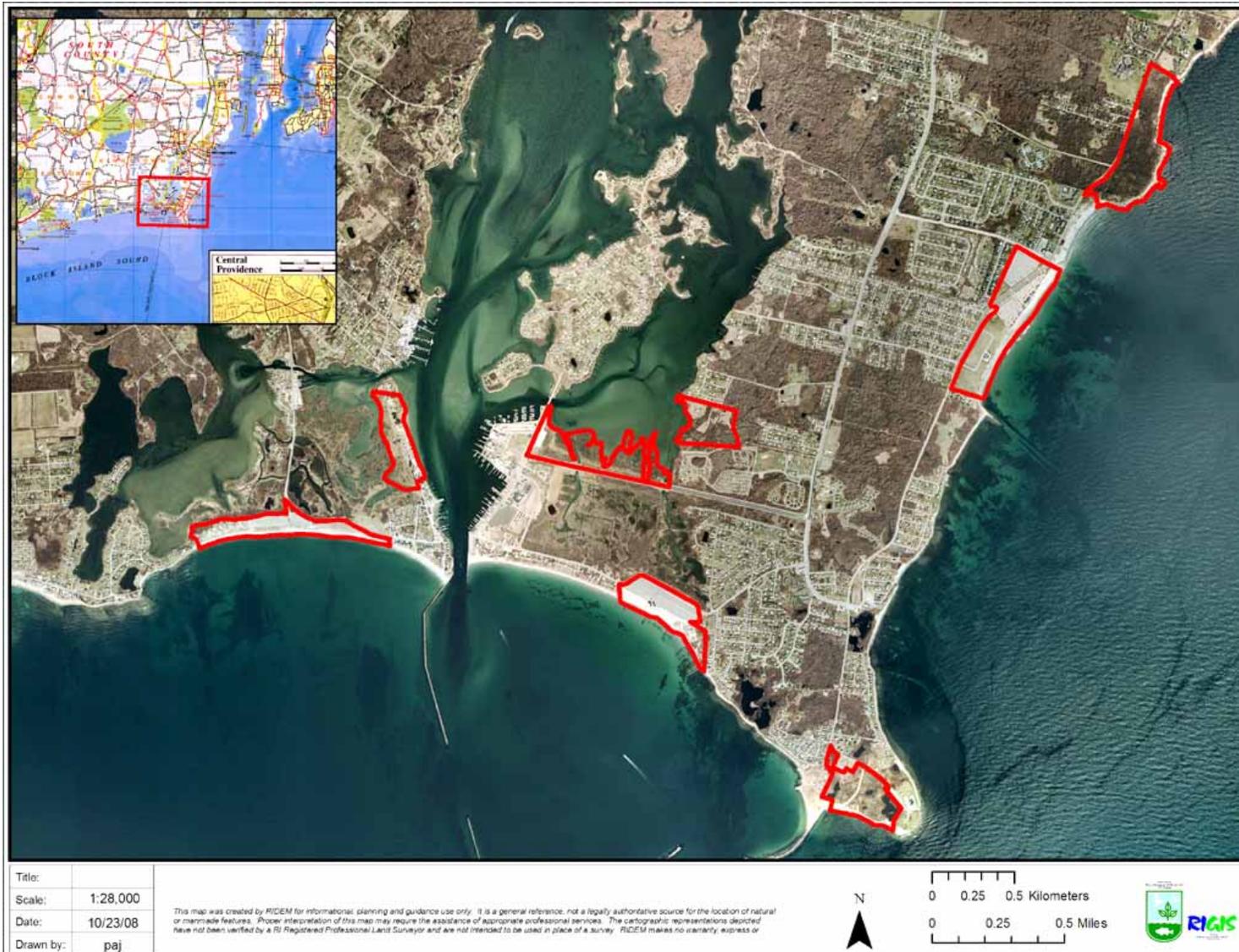
- ❑ DEM Investigated Other State, Municipality, County and Country Siting Standards
  - ❑ Investigation Resulted in Development of ***“Terrestrial Wind Turbine Siting Report”*** in January 2009
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# Development of Siting Criteria

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- ***“Terrestrial Wind Turbine Siting Report”*** provided spatial/zoning criteria for:
    - Setbacks from Roads, Permanent Structures, Trails
    - Noise Criteria
    - Public Safety
    - Icing
    - Avian and Bats Consideration
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# DEM Properties In Narragansett

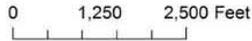


# Siting Criteria Applied to DEM Properties



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# Development of Siting Criteria

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## □ Criteria Applied to DEM Sites in Narragansett

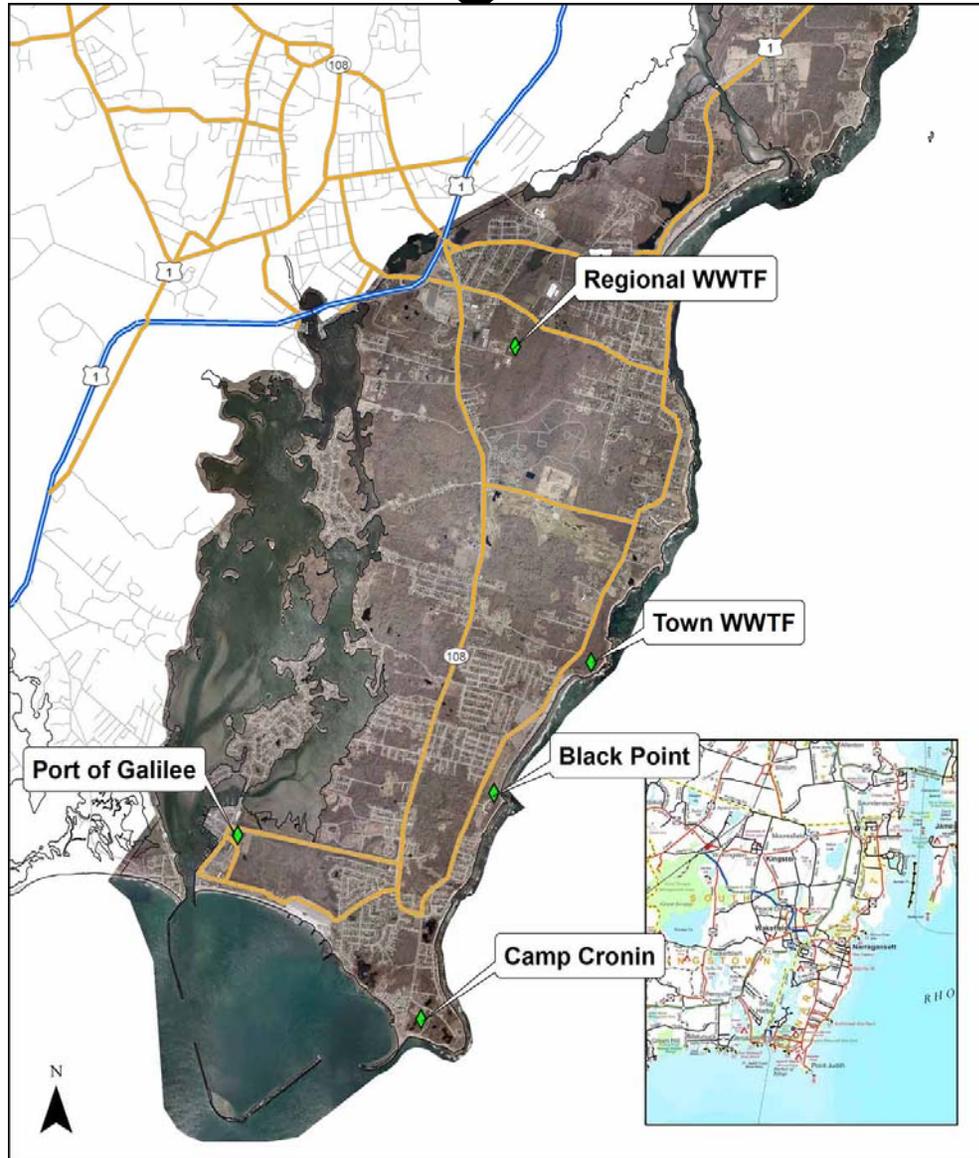
- Camp Cronin
  - Port of Galilee
  - Black Point
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# Partnership with Town of Narragansett

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- DEM Contacted Narragansett for Partnership Opportunities
  - Town Agreed to Move Forward with DEM
  - Town Sites
    - Scarborough Waste Water Treatment Plant
    - Regional Waste Water Treatment Plant
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# Proposed Narragansett Sites in RFP



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# Survey Design

## DEM/Town Survey Assumptions\*

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- Narragansett Population: 26,000
  - Design Sampling Error: +/- 5%
  - Design confidence level: 95%
  - Population is varied, therefore sample size needed is: 378
  - % of valid addresses: 90%
  - %return rate: 60%
  - %illegible or incomplete surveys: 10%
  - Mailing addresses needed =  $378 / (.9 \times .6 \times .9) = 778$

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\*"How to Conduct Your Own Survey" by P. Salant and D. Dillman

# Attitudinal Survey

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- ❑ DEM/Town Developed a Survey, tested it on Town/DEM Employees  
Town Provided Addresses of Owners of Residences
  - ❑ DEM Conducted Three Mailings
  - ❑ 378 Needed for a Statistically Valid Survey
  - ❑ 430 Responses Received
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# Town of Narragansett Clean Energy Survey Results



# Attitudinal Survey

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## □ Some Survey Findings

- 89% of the survey respondents were positive concerning the use of wind turbines to generate electricity.
  - 83% indicated the presence of a wind turbine would not make a difference in going to the beach.
  - There is support for all five sites in Narragansett, ranging from 78% to 82%, with the Port of Galilee having the highest support and Black Point having the lowest.
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# Attitudinal Survey

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- DEM/Town Attitudinal Survey is Located on DEM Website

<http://www.dem.ri.gov/cleannrg/pdf/surana.pdf>

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# Request for Proposal (RFP)

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- RFP Developed Jointly with Town/DEM
  - RFP Publicly Advertised April 22, 2009
  - Final RFP Responses, after Extensions, Were Due July 8, 2009
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# Request for Proposal (RFP)

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## □ Four Responses to RFPs

- Ameresco Inc.
  - Chevron Energy Solutions
  - Solaya Renewable Energy
  - Verterra Renewable Energy Group
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# RFP Evaluation Process

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- DEM Invited Representative from:
    - RI Environmental Groups
    - RI Planning Division in DOA
    - CRMC
    - Town of Narragansett
    - DEM (Legal, Planning & Development, Parks and Recreation & Technical staff)
    - URI College of Business
    - Renewable Energy Fund Program of RIEDC
    - Governor's Office
    - Lt. Governor's Office
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# RFP Evaluation Process

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- Group Met Five Times from July to October
  - Interviews Held with All Four RFP Respondents Late October
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# RFP Evaluation Process

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## Criteria Used to Evaluate RFPs

- Experience
  - Completion of Project
  - Price Proposal
  - Revenue Sharing
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# Vendor Selection

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- ❑ There was Consensus of Review Panel to Move Forward with One Vendor
  - ❑ Chevron Energy Solutions Chosen to Explore Building Wind Turbines
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# Future Activities

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- Complete Negotiations with Chevron
  - Finalize Contract That Details Construction Timelines
  - Collect Meteorological Data
  - Finalize DEM/DOA Policy/Regulations on Siting Wind Turbines on Public Land
  - Additional Public Meetings, As Needed
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# Summary

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- ❑ DEM has Partnered With the Town to Investigate the Development of Renewable Energy in Narragansett
  - ❑ DEM Is Willing to Work with The Town and Residents to Further Explore This Issue
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# Renewable Energy Fund

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- Source of Funding for Renewable Energy Projects In DEM
    - 10KW Wind Turbine at Salty Brine State Park
    - Movement and Installation of Meteorological Tower at Camp Cronin
    - DEM/Town Attitudinal Survey
    - Possible Funding for Wind Turbine at Fisherman's Memorial Park
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# Availability of Financial Incentives

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- 30 percent Federal rebate check if complete by 12/31/2011
  - Accelerated Depreciated
  - ISO Generation Capacity Credit
  - 4% State renewable energy tax credit
  - 10% State general investment tax credit
  - Incentives wasted without a private partner
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# Energy Priorities of Governor Carcieri

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- ❑ Public/Private partnerships for energy development
  - ❑ Energy generation diversification
  - ❑ More Competitive Energy Market
  - ❑ Impactful and Energy Cost Reduction for State and municipalities
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# Chevron Corporation

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- Fortune 3 Company
- Second largest U.S.-Based Energy Company
- More than \$180 billion in assets
- “AA1” Moody’s and “AA” from S&P

# Chevron ES Background

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- Office in Warwick since 2004
  - Long Term Track Record In Business for Over 30 years
  - Over 400 employees dedicated to Energy Solutions
  - Implemented nearly \$1.5 Billion in Energy Projects
  - Pioneer in the Renewable energy industry

## Local Team Support

- **ADI Energy**
  - **Applied Science Associates, Inc**
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# Chevron Wind Experience

## Recent Chevron Projects

- 16.5MW Casper, WY (11 Turbines)
- 19.5MW Idaho Falls (13 Turbines)
- 25MW on Oahu, HI (10 Turbines)
- 250MW in development in U.S.



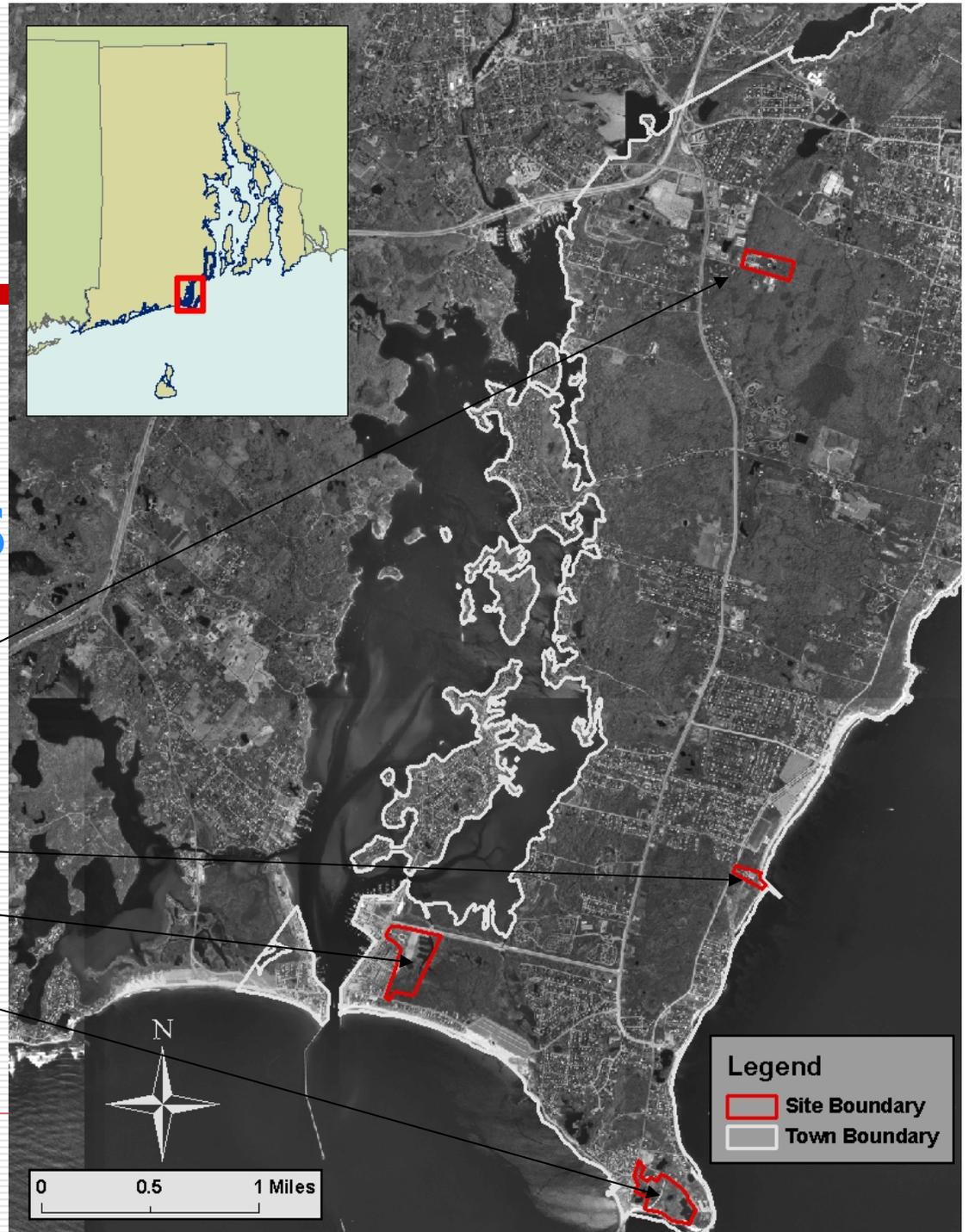
# Four locations

Regional WWTP

Town WWTP

Galilee

Camp Cronin



# Project Technical Process

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- Iterative process of evaluating site characteristics and regulatory guidelines
  - Siting considerations for each proposed WTG
    - Fall zone
    - Noise
    - Wetlands
    - SAMP Area for Galilee
    - Coastal Buffer
      - ✓ CRMC Jurisdiction
      - ✓ RIDEM Suggested Avian Setback
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# Noise Assessment Strategy

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- Summer season more critical
    - More people outside, windows open.
  - Measure ambient noise
    - Select a few sensitive receptors nearby (closest property line, homes, public park) at each site.
    - Conduct short-term measurements (day and night).
    - Continuous reader at one location for each site for several days.
  - Predict wind turbine sound level
    - Manufacturer specs for sound level.
    - Model the noise level at each location.
    - Evaluate in terms of Narragansett and RIDEM noise ordinances.
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# Questions

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- ❑ Any Questions Concerning the Proposal?
  
  - ❑ DEM Has Posted Information on Its Renewable Energy Efforts on Its Website  
<http://www.dem.ri.gov/cleanrg/index.htm>
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