



DEM
RHODE ISLAND

protecting our environment,
growing our green economy

Rhode Island Forest Values

Tee Jay Boudreau | Deputy Chief | Division of Forest Environment
e: teejay.boudreau@dem.ri.gov | p: 401-222-2445 x2772059

Forest Values

Viewed, defined, assessed, and valued through

Different lenses;

An ecosystem composed of trees and other biological diversity

A repository for carbon storage

A source of timber products

A source of multiple ecosystem services and social-ecological systems

Intrinsic Forest Values

Clean Air,

Clean Water,

Habitat,

Timber Products,

Cultural and Recreational



Arcadia MGMT Area

Monetary Forest Values

Clean air

\$30 Million / year

(CO, NO₂, O₃, SO₂, PM)

Clean Water

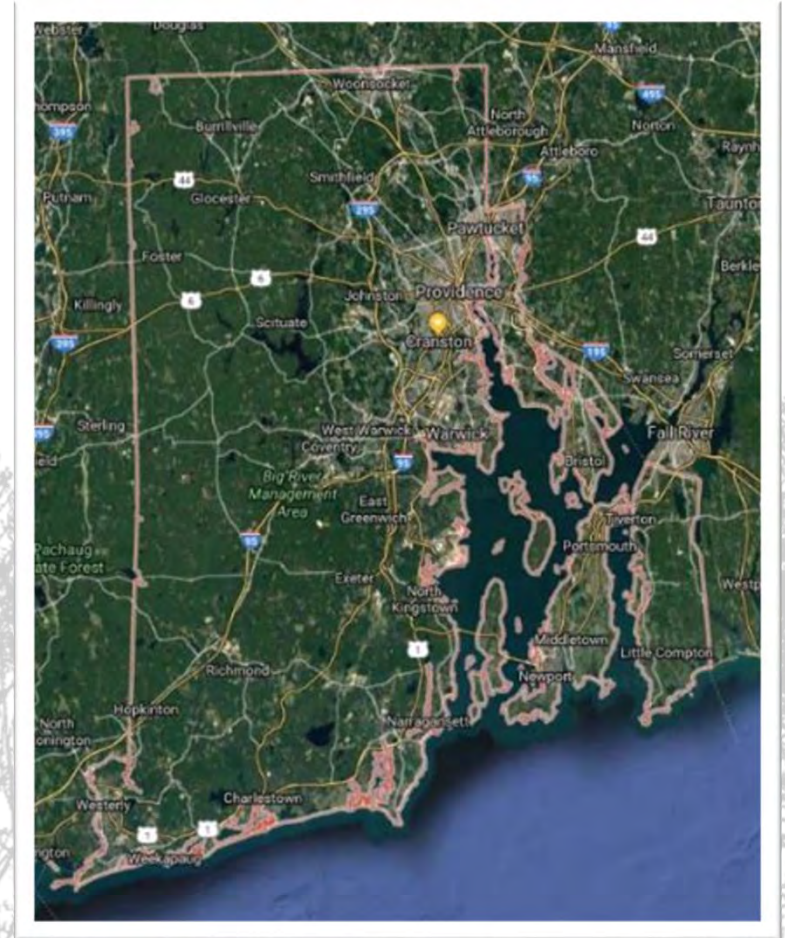
80% rely on surface reservoirs largely

Protected by forests

Economic Value

\$715 million and support 4,800 jobs

\$348 million brought to the economy through wildlife-related recreation



Forest Conservation Need

Rhode Island's forests are a beneficial natural resource for our residents and visitors.

For the values described providing the myriad benefits and services, including recreation, clean air and water, wildlife habitat, carbon storage, and a variety of forest products – forestlands need conservation.

As forestland development pressure increases - increasing forest conservation efforts will solidify forests remain forests and increase forest benefits.

Forest Conservation Need

Current Rhode Island laws do not provide protection for forestland (apart from existing wetland protection laws)

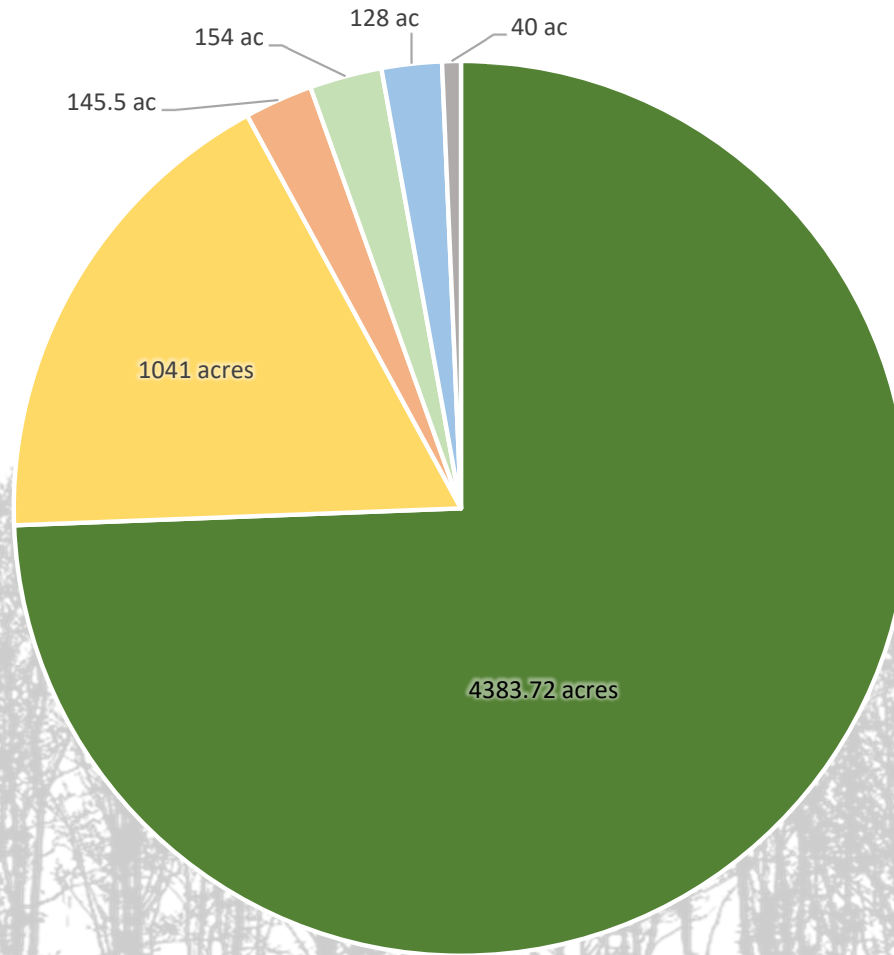
2021 – Forest Conservation Act

The general assembly recognizes that RI forest land has many important values, and that forest land should be maintained to meet Rhode Island's aggressive climate change goals through carbon sequestration and storage.

Core forest land and connecting natural areas should be conserved to prevent ongoing fragmentation of the state's forests.

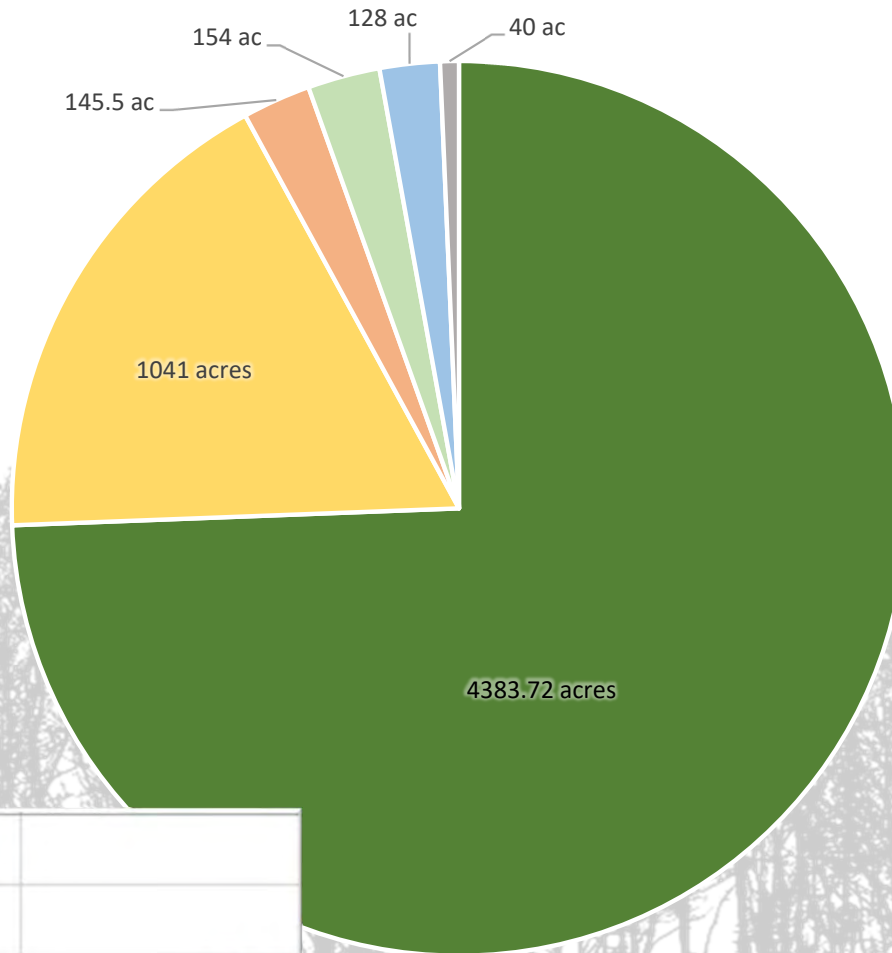
It is in the best interest of...the state to identify and acquire the development rights to core and unfragmented forests so as to maintain these important forest values.

Acres Harvested (2018-Jul 2021)



	No change	Solar	Housing	Agriculture	Commercial	Unknown	total
Acres Harvested	4383.72	1041	145.5	154	128	40	5892.22

Acres Harvested (2018-Jul 2021)



Land Use Change (LUC)	
total LUC	26%
solar % total	18%
solar % of LUC	69%

The Solar Siting Challenge :
Aligning Solar Policy With Climate Goals & Forest Protection

The Solar Siting Challenge

- 1. Meet Act on Climate goals:** we need more renewable energy to get to net-zero by 2050
- 2. Protect key forest areas** from development
- 3. Remove silos** between energy policy and land use policy

What is included in climate action?



Eliminate
emissions



Remove
emissions



Adapt to
unavoidable
changes



The Status Quo Isn't Working

- Municipalities passing solar moratoriums
- Forest loss continues
- Barriers to solar on developed areas continue
- Not on track to meet Act on Climate goals

Solar program design pushes solar to greenspace

- Ratepayers fund solar incentive programs
- Legislation is needed:
 - Change program design (Net Metering & RE Growth)
 - Protect core forests from solar development through incentive programs
 - Expand incentives for rooftops, developed areas
- “Virtual net metering” a culprit - why?

Is there space in non-green spaces?

Solar Siting Opportunities for Rhode Island

An analysis of potentials and costs of rooftop, landfill, gravel pit, brownfield, commercial and industrial ground-mounted and carport solar

Prepared for Rhode Island Office of Energy Resources

August 18, 2020

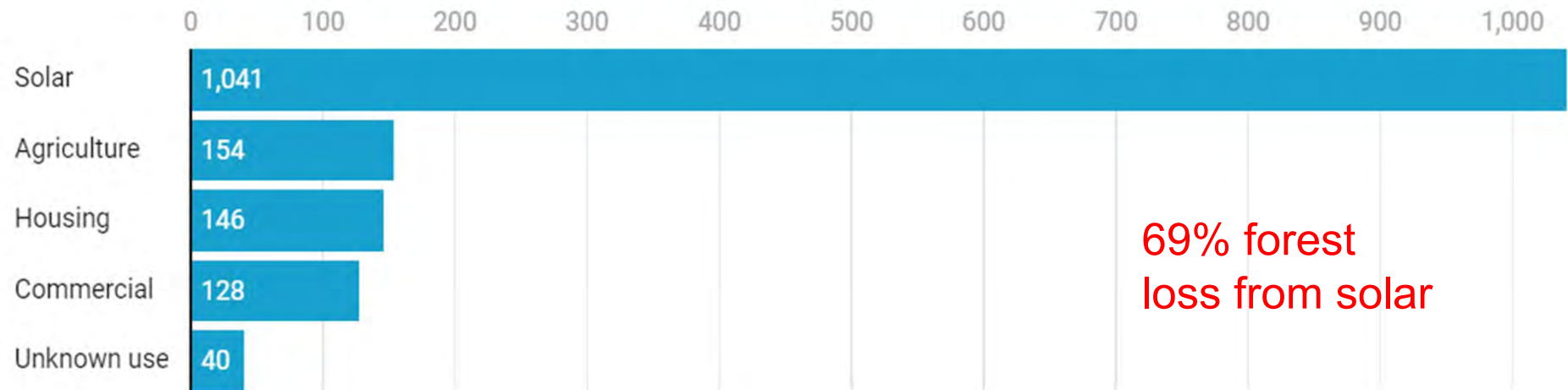
AUTHORS

Pat Knight
Caitlin Odom
Erin Camp, PhD
Divita Bhandari
Jason Frost

YES!

Why Focus on Solar Incentives?

Acres of R.I. forest cleared for development, 2018-2021



Data are from intent-to-cut forms filed with the RI Department of Environmental Management. Most forest that was cut (4,384 acres) saw no land use change. This chart includes only the acreage cut for a different land use.

Chart: Sofie Rudin / The Public's Radio • Source: R.I. Department of Environmental Management • Created with [Datawrapper](#)

Renewable Energy Growth & Net Metering

Renewable Energy Growth

- “Buy All, Sell All”: Set price for 15-20 yrs
- Prices set based on costs of construction – involvement of DG Board & PUC
- Annual total cap of 40 MW across all project types (large solar, residential, wind, etc)
- Anti-segmentation rules

Net Metering

- A billing process that offsets energy consumed with energy generated
- Price set by statute, based on retail electricity price
- No annual cap
- Project cap of 10MW
- No anti-segmentation rules
- On Site v. Virtual Net Metering

Preferred Sites

- Landfills
- Roof tops
- Solar carports (parking lot canopies)
- Gravel pits & quarries
- Brownfields
- Superfund sites
- Commercial & industrial zones

Coming soon!

- Working with Brown University students and staff, TNC and Audubon developed mapping for preferred sites
- Researched optimal opportunities and barriers for solar development in preferred sites



Proposed Legislation



A Path Forward: House Bill 7531

Expand RE Growth

40 MW → 200 MW

Individual projects capped at 5 MW in size except in preferred sites

Consider siting in the price paid to projects

Limit Renewable Energy in Core Forests

Core Forests = forested areas of 250+ acres




Incentive programs not allowed in core forests

Rooftops everywhere are OK



Distributed Generation Contracts Board

2022 Renewable Energy Growth Program

	MW	¢/kWh		MW	¢/kWh
Small I & II: 0-25kW	6.95	31.05/ 27.55	Wind: 0-5MW	3	22.40
Medium: 26-250kW	5	24.45	Community Wind: 0-5MW		24.60
Commercial: 251-750kW	4	19.25		1	Anaerobic Digestion: 0-5MW
Commercial: 751-999kW	8	15.75			Small Scale Hydro: 0-5MW
Large: 1-5MW	24.25	10.95			
Community: 251-500kW	3	22.14			
Community: 501-999kW	3	18.11			

40 + 21.2 MW*

* 21.2 MW of terminated capacity from the 2017-2020 REG Program years is included in the 2022 REG Program (40 MW) Plan. Unused and terminated MW capacity has been reallocated to upcoming REG Program Plans by the DG Board since the inception of the program.

Responsible Solar Development

Scott Millar

Director Conservation and Community Assistance

Grow Smart Rhode Island



Site Leveled



Wetlands Impacted



Stormwater Runoff and Erosion Problems



Roles For Responsible Solar Siting

State:

1. Reform solar siting statutes
2. Leadership: renewable energy and forest conservation

Municipal:

1. Determine where utility scale solar is appropriate
2. Adopt responsible solar siting ordinance

Responsible Solar Siting

1. Encourage Solar in Developed and Disturbed Areas
2. Avoid/Reduce Loss of Forests and Natural Areas





land ■ parks ■ advocacy



CLEAN ENERGY, GREEN COMMUNITIES

A Guide to Siting Renewable
Energy in the Hudson Valley

State of Rhode Island

COMPREHENSIVE PLANS & SOLAR ENERGY SYSTEMS



February 2019

Prepared by
The Rhode Island Office of Energy Resources &
The Division of Statewide Planning

RI Division of
Statewide Planning



RENEWABLE ENERGY GUIDELINES:

Solar Energy Systems
Model Ordinance Templates
Zoning & Taxation



February 2019

Prepared by
The Rhode Island Office of Energy Resources &
The Division of Statewide Planning

RI Division of
Statewide Planning



Solar Siting Ordinances



What Are The Unintentional Consequences?

- Encourage development of important natural areas
- Solar can out compete open space preservation and housing
- Community character conflicts
- **Forest loss counter productive in managing climate change**

Preferred Siting Locations Developed and Disturbed Areas

- Landfills * (100 in RI)
- Roof tops*
- Solar Canopies in Parking Lots*
- Gravel Banks
- Brownfields*
- Business/Industrial Zoned Lands



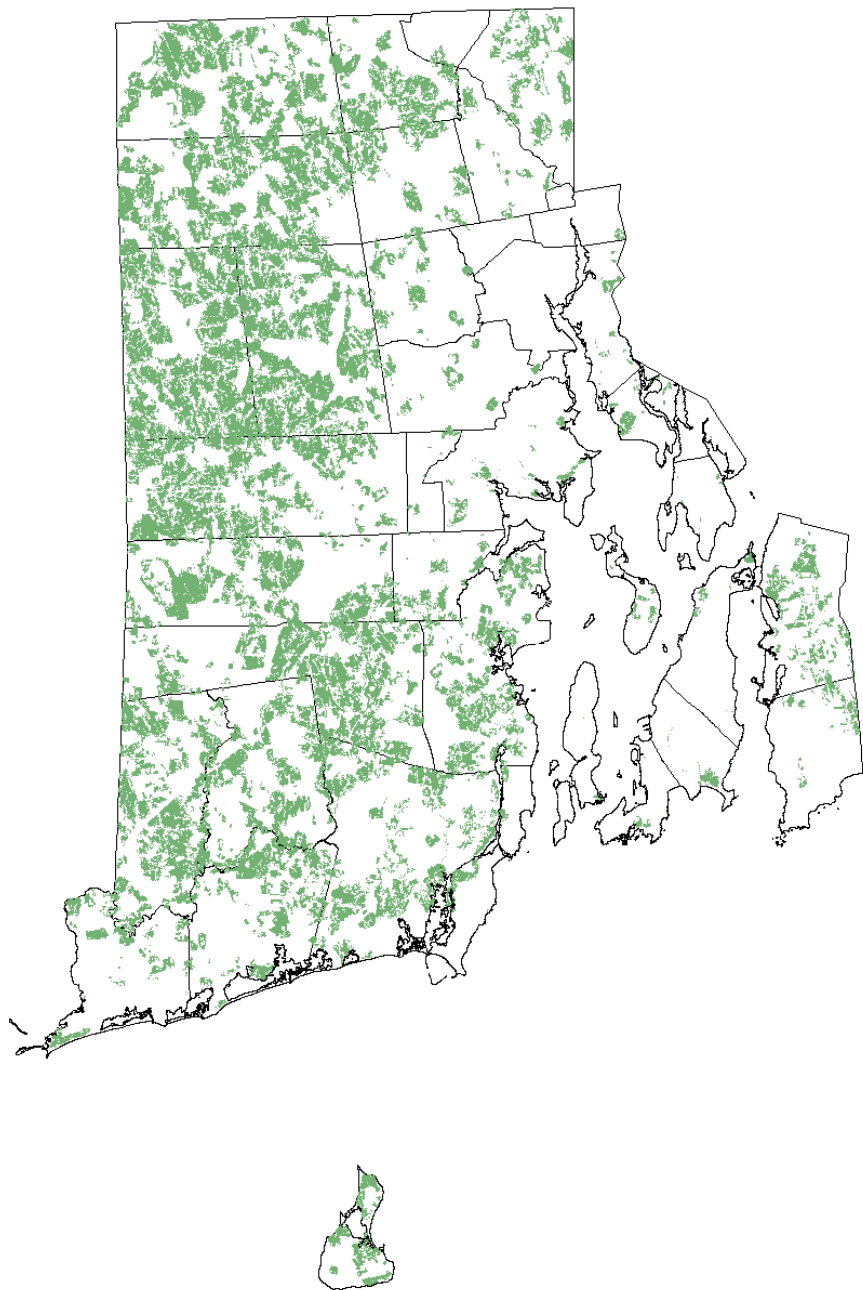
** Installation will cost more*

How to Encourage Solar in Preferred Locations

- Establish clear policies in comprehensive plan
- Allow solar by right in zoning
- Increase lot coverage to accommodate more development
- Customize setback and screening standards

Avoid and Minimize New Transmission Lines





Preserve Conservation Opportunity Areas

- Forested Tracts 250 acres and greater
- Habitats with High Ecological Value
- Natural Heritage Areas: Endangered and threatened species

Require Pollinator Habitat



Consider an Assessment for Large Projects

- Community character
- Forest loss
- Habitat
- Vegetative screening
- Visual aesthetic impact: photo simulations
- Review and inspection fees

Provide Funds and Plan for Decommissioning

- Payment Type
- Amount



**Customize the Ordinance to Your
Community!**

Glocester: Forest Solar Impact Standards

1. No more than 30% of the forested lot area can be cleared
2. Forest loss 40,000 square feet or greater must assess impacts:
 - Water quality
 - Habitat
 - Carbon sequestration and storage
 - Adjacent properties

Little Compton: Solar Impact Standards

- No more than 20,000 square feet of woodland can be cleared for solar

Responsible Solar Siting Summary

- Encourage Solar in Developed/Disturbed Sites
- Discourage Solar in important natural/cultural areas and prime agricultural soils
- State solar programs should be revised for responsible solar siting
- Municipalities should adopt a responsible solar siting ordinance
- Forest and renewable energy are both necessary to meet our climate change goals

Homework

- Does your municipality have a responsible solar siting ordinance?
- If the answer is no: Advocate for change ASAP

Questions?