

The Recreational Fishing Benefits of Block Island

Matthew Bingham and Jason Kinnell

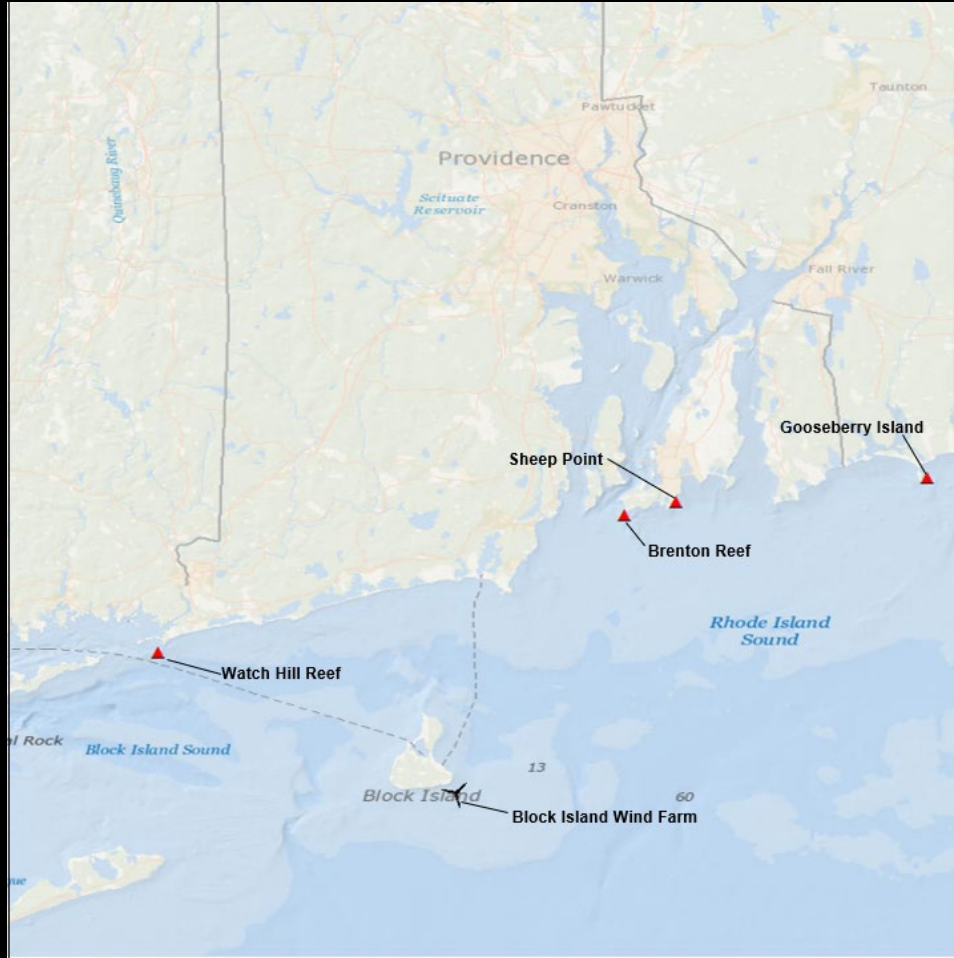
Veritas Economics

2022 American Fishery Society Meeting

Spokane, Washington

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The Wind Farm



Biological Data - Scientific

- ❑ Otter trawl tow
- ❑ 20-minute tows once monthly
- ❑ Between turbines
- ❑ Three study blocks
- ❑ Slight increase in black sea bass

High Relief Seabed to Surface Structure



Structure Attracts Marine Life



Recreational Data - Anecdotal

- Increase in Pressure
 - Was 10-20 boats
 - Now 75-100
- Reports of increased abundance
- Reports of species not typically observed (cod, mahi)
- Visual reports from divers

Virtual Analysis Models

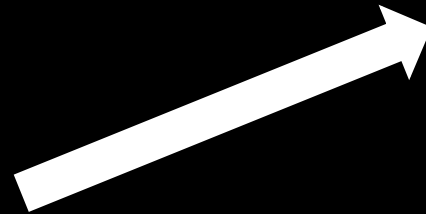
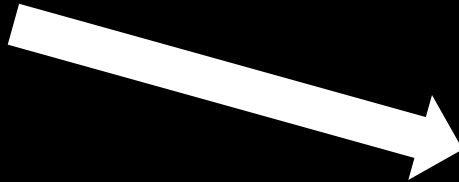
- Virtual Fish Population A
 - Calculated fishing death amounts
 - Estimated natural mortality
 - Specified population dynamic model
 - Used to model population
- Virtual Catch and Effort Model
 - Specified fishing preference function
 - Specified costs
 - Catch and effort from origin sites over time
 - Used to model catch and effort at turbines

Virtual Behavior Analysis Model

Boat cost
functions

Destination
site locations

Fishing
preference
function



Origin catch
and effort



Destination catch
and effort

Marine Recreational Information Program (MRIP) Data

- Marine Recreational Information Program (MRIP)
 - Identifies boat ramps, marinas, and other sites where anglers are interviewed
 - Collects recreational saltwater fishing catch and effort data from anglers
 - Produces state level catch and effort estimates
- No fine scale catch and effort estimates

Marine Recreational Information Program

- ❑ Fishing Effort Survey (FES)
- ❑ Access Point Angler Intercept Survey (APAIS)
- ❑ For-Hire Survey (FHS)
- ❑ Large Pelagics Survey (LPS)
 - Large Pelagics Intercept Survey (LPIS)
 - Large Pelagics Telephone Survey (LPTS)
 - Large Pelagics Biological Survey (LPBS)



The Marine Recreational Information Program Survey Design and Statistical Methods for Estimation of Recreational Fisheries Catch and Effort

Prepared by: Katherine J. Papacostas and John Foster
Version History
Original: December 2018
Updates: March 2021, September 2021

FES Survey

- ❑ Address-based sampling to collect effort data from households in coastal states.
- ❑ Address samples are augmented with fishing license information to allow for targeted sampling of known angler households
- ❑ The FES is mailed out once week before the end of each two-month wave
- ❑ Data are collected for a period of 13 weeks
- ❑ FES data are used to estimate the number of private boat and shore fishing trips taken by anglers residing in coastal states

Please think only about recreational saltwater fishing in Maryland.

15 How many days did this person go recreational saltwater fishing from the SHORE in Maryland?

The shore includes docks, bridges, causeways, beaches, banks, or any other shore-based place or area. Do not include freshwater fishing.

Did not recreational saltwater fish from shore in last 12 months → **Go to question 16**

Number of days saltwater shore fishing in January and February of 2018

Number of days saltwater shore fishing in last 12 months, including January and February

16 How many days did this person go recreational saltwater fishing from a private or rental BOAT that returned to shore in Maryland?

Do not include freshwater trips or trips where a paid captain or crew helped locate and catch fish.

Did not recreational saltwater fish from private boat in last 12 months

Number of days saltwater boat fishing in January and February of 2018

Number of days saltwater boat fishing in last 12 months, including January and February

Please return your survey in the enclosed postage-paid envelope.

RTI International
5265 Capital Boulevard, Raleigh NC 27690-1652

Access Point Angler Intercept Survey

- APAIS data are used to estimate mean catch per angler trip, as well as coverage adjustments for the FES and FHS
- The survey is conducted at public marine fishing access sites where anglers are intercepted and interviewed at the completion of their trips
 - Boat ramps, piers, beaches, marinas
- The data collected include
 - Individual angler trip information about catch (species identification, quantity of each species caught, fish length and weight)
 - Other trip characteristics, including mode of fishing (shore, private boat, etc.), trip duration, and area fished

Potential Boat Departure Points - Trips

SITE_NAME	Freq.	Percent	Cum.
Avondale Boat Yard	5	1.22	1.22
Champlin's Marina	6	1.46	2.68
Channel Marina & Ramp	13	3.17	5.85
Charlestown Breachway/Ramp	19	4.63	10.49
Conanicut Marina, Pier & Jamestown R	5	1.22	11.71
Fort Adams Mule Barn Boat Ramp	17	4.15	15.85
Fort Getty Park	7	1.71	17.56
Fort Wetherill Boat Basin & Pier	1	0.24	17.80
Fort Wetherill Park (Coves and Boat Ramp)	3	0.73	18.54
Frank Hall Boat Yard	7	1.71	20.24
Galilee Ramp	38	9.27	29.51
Gray's Boat Yard	12	2.93	32.44
Hog Pen Marine Basin	4	0.98	33.41
Jim's Dock & Jerusalem State Pier	18	4.39	37.80
Matunuck Marina	13	3.17	40.98
New Shoreham-Old Harbor	5	1.22	42.20
Ninigret Landing (Lavin's)	14	3.41	45.61
Point Judith Marina	26	6.34	51.95
Point View Marina	21	5.12	57.07
Quonochontaug Breachway	31	7.56	64.63
Ram Point Marina	10	2.44	67.07
Sakonnet Harbor Ramp	17	4.15	71.22
Sakonnet Point Club and Breakwater	9	2.20	73.41
Shelter Cove Marina/Green Hill Chann	21	5.12	78.54
Skip's Dock	5	1.22	79.76
Snug Harbor and Gooseberry Marinas	7	1.71	81.46
South Kingstown Ramps/Hanson's Landing	12	2.93	84.39
State Pier #5 & Narr. Wall	6	1.46	85.85
Watch Hill Boat Yard	5	1.22	87.07
Westerly Fishing Area	11	2.68	89.76
Westerly Marina	6	1.46	91.22
Westerly Yacht Club	19	4.63	95.85
Wilson Park	17	4.15	100.00
Total	410	100.00	

MRIP data used to identify catch and effort from potential departure points



Distances between launches and harbors used to identify origins within traveling distance of windmills

Conclusions



- ❑ Existing data not made for evaluating destination specific catch and effort
- ❑ MRIP in a calibrated behavior model shows promise
 - Catch rate increases from nearby origins
 - Can't tell yet with trips
- ❑ Need information on open water fishing preferences
- ❑ Add new questions to APAIS
 - Boat size/type
 - Visit windfarm

Contact Information

Matthew Bingham

CEO

Veritas Economics

1851 Evans Road

Cary, North Carolina 27513

Phone: 919.656.5018

Email: mbingham@veritaseconomics.com

Jason Kinnell

President

Veritas Economics

1851 Evans Road

Cary, North Carolina 27513

Phone: 919.225.3085

Email: jkinnell@veritaseconomics.com