



THE WOODS HOLE RESEARCH CENTER

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Energy, Planning, and Management of Coastal Resources

A Wind Farm in Nantucket Sound

George M. Woodwell

This appeared as an op-ed piece in the Falmouth Enterprise and Upper Cape Codder, January 20, 2005, and in the Cape Cod Times on January 31, 2005.

[Full text of written comments](#) submitted to the Army Corps of Engineers by Director George M. Woodwell (158KB - pdf).

Opponents of the planned wind farm for Horseshoe Shoal in Nantucket Sound have made much of the need for comprehensive planning to govern use of coastal waters. Few question the need for planning for the protection of land and water, management of fish and fisheries, planning for energy, for transportation, for economic and technological development, for agriculture, possibly for aquaculture, for recreation and for more, or less, people.

Unfortunately, we do not live with very many effective comprehensive plans. We have managed to protect Georges Bank, one of the very richest fisheries in the world, from oil development, an extraordinary success that hinged very heavily on the value of the fisheries and the easily demonstrated hazards of developing oil wells in those shallow off-shore waters.

We have also, under the pressures of rapid real estate development, managed to protect an extensive area of the outer Cape as a National Seashore. We well remember the arguments of local interests, real estate and other commercial interests, against a national park. Compromises were made at the time, and now, the value of the National Seashore is agreed to by all. Those towns blessed with park lands have the lowest tax rates on Cape Cod and a guaranteed flow of business.

The arguments against the wind farm have none of the urgency or clarity of the threats to a rich fishery or the irrevocable loss of land to real estate development.

In fact, the urgency runs in quite the other direction. There is no national plan for energy beyond drilling for more oil and expanding dependence on foreign sources. Nor is there a national plan for reducing reliance on fossil fuels to alleviate a global climatic catastrophe. Nor is there national economic planning to alleviate a terrifying international balance of payments problem that is the product of a heavy dependence on foreign oil. The flow of dollars abroad is devaluing the dollar abruptly and threatening the economic stability of the nation and, potentially, the world. The wind farm that is being opposed will provide locally produced power equivalent to three quarters of the demand of Cape Cod, a significant shift away from fossil fuels. More than that, it is a clear sign that, in Massachusetts, we know how to plan for a better future.

In this case, the issue of planning has been addressed through the National Environmental Policy Act's requirement for a comprehensive environmental impact statement, now under public review. The statement shows that the environmental changes attributable to the construction of 130 large wind turbines on Horseshoe Shoal will be minor to the point of insignificant. No major fishery is at hazard. The Shoal is not a channel and the machines are not a hazard to navigation. Nor are they a source of pollution. They will, in fact, reduce a significant burden of pollution from fossil fuel used in power plants that bathe the Cape in their effluents. The Environmental Impact Statement, unusually comprehensive, confirms that it is an excellent site for just the purpose proposed. It is excellent because the water is shallow, protected from severe seas in storms, yet the site is windy.

There is no significant environmental reason, according to this conscientiously probing report, not to construct the facility. On the contrary, the region and the nation need the relaxation of the power grid that the wind power will provide. A modest series of wind machines scattered over the Cape will add the remainder of the Cape's full demand within a short time.

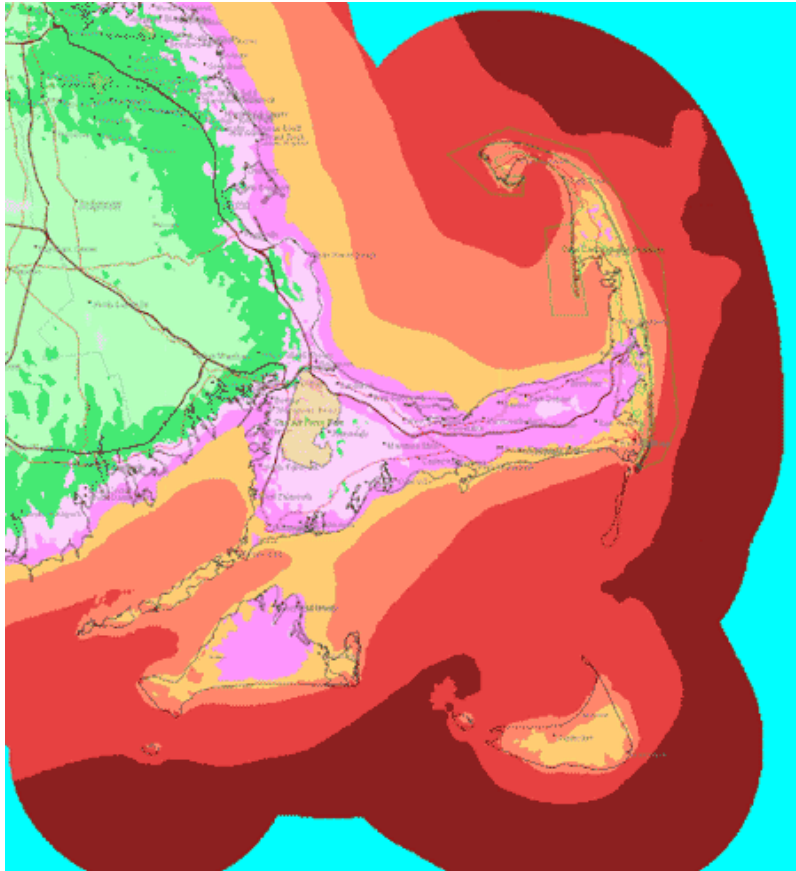
The issue is maturing rapidly as the public realizes the seriousness of the energy crisis and its climatic, economic and political consequences. The transition promises to leave opponents of the wind farm, including some of our political leaders -- Senator Kennedy and Governor Romney and Representative Delahunt, all of whom should know better -- looking a bit foolish in their disparagement of the quite remarkably successful planning process that has gone forward under existing law.



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Map of SE Mass. Wind Resources



Wind Resource	
Mean Speed	
mph	m/s
< 12.3	< 5.5
12.3 - 13.4	5.5 - 6.0
13.4 - 14.5	6.0 - 6.5
14.5 - 15.7	6.5 - 7.0
15.7 - 16.8	7.0 - 7.5
16.8 - 17.9	7.5 - 8.0
17.9 - 19.0	8.0 - 8.5
19.0 - 20.1	8.5 - 9.0
20.1 - 21.3	9.0 - 9.5
> 21.3	> 9.5

Maps of New England wind resources have been developed by TrueWind Solutions, LLC and AWS Scientific, Inc. This detail shows the extent of significant wind resources for SE Massachusetts at a height of 100 meters as modeled by TrueWind's MesoMap(R), a mesoscale atmospheric simulation system. The best wind resource is found on the ocean, particularly around the Cape & Islands.