WIND MAPPING PROJECT
METHODOLOGY

The MRPC Wind Mapping project was conceived to be an opportunity to deliver important information, at a macro level, to local officials. The information is not intended to be used as a site-specific locator where wind generation sites are viable, rather to provide a tool to identify potential areas where further exploration should be conducted if wind generation or wind related bylaws development is desired. All maps are intended to be printed at an 11x17" size.

This project used a modeled scenario approach developed by MassGIS as the foundation for this project. The original wind resource data were developed by Truewind Solutions, LLC under contract to AWS Scientific, Inc. as part of a project jointly funded by the Connecticut Clean Energy Fund, the Massachusetts Technology Collaborative (MTC), and Northeast Utilities System. This data has undergone further processing to make it more suitable for analyses that utilize other geographic datalayers maintained by MassGIS. Additionally, local wind data was provided by communities where available.

Mean wind speeds at 30 meters (for smaller-scale developments), 50 meters (for mid-scale developments) and 70 meters (for larger-scale developments) were determined to be the most useful information to be provided. It was determined that a minimum mean wind speed of 5m/s was suitable for smaller-scale developments and that a minimum mean wind speed of 6 m/s was suitable for mid-scale and larger-scale developments This data is shown on maps 1-30m, 1-50m and 1-70m respectively.

For each of these wind zones it was deemed important to remove areas of development exclusion for the Rivers Protection Act (a 100 foot buffer around all perennial rivers and streams), Watershed Protection Act (a 200 foot buffer around all perennial rivers and streams located in the Quabbin, Wachusett and Ware Watersheds) and the Wetlands Protection Act (a 50 foot buffer around all wetlands). This data is shown on maps 2-30m, 2-50m and 2-70m respectively.

For each of these edited wind zones it was deemed important to remove selected additional areas of development exclusions as outlined in the MassGIS modeled scenario approach. These areas are DEP Zone I's and Federally Owned Lands. Furthermore areas of Impervious Surfaces were removed only from the 50 meter and 70 meter zones. Local data was used where available to determined the location of Federally Owned Lands. This data is shown on maps 3-30m, 3-50m and 3-70m respectively. It is important to note that additional areas of development exclusions may exist on a local basis. The MassGIS modeled scenario approach suggests excluding areas of residential and property boundary setbacks.

For each of these further edited wind zones it was deemed important to display areas of development constraints as outlined in the MassGIS modeled scenario approach. These areas are Airfield Proximity (within 3 miles of airfields, Article 97 Lands (Agricultural Preservation Restrictions and Conservation Restrictions) and Habitats (Natural Heritage and Endangered Species Program (NHESP) Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife). Local data was used where available to determined the location of Article 97 Lands. This data is shown on maps 4-30m, 4-50m and 4-70m respectively. It is important to note that additional areas of development constraints may exist on a local basis. Furthermore- interactive PDF maps have been created for each of these maps. For instructions on use of these interactive maps see the "Wind Mapping Interactive Map User Manual.doc".

Questions regarding this project should be directed to Jason Stanton, GIS Director, at 978-345-7376 x313 or jstanton@mrpc.org or to Glenn Eaton, Executive Director, at 978-345-7376 x310 or geaton@mrpc.org.