



Testimony Presented to the
Joint Committee on Telecommunications, Utilities and Energy

An Act Relative to Clean Energy Resources (S.1757)
An Act Relative to Promoting Energy Diversity (H.2881)
An Act Relative to Energy Sector Compliance with the Global Warming Solutions Act (S.1965)

October 7, 2015

Thank you for the opportunity to provide written testimony from The Nature Conservancy, the Massachusetts Rivers Alliance and the Massachusetts Land Trust Coalition to the Joint Committee on Telecommunications, Utilities and Energy.

- The Nature Conservancy is an international nonprofit conservation organization with 32,000 members in Massachusetts. The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends.
- The Massachusetts Rivers Alliance is a statewide alliance of 58 watershed groups and other conservation groups, and over 500 individuals, families and businesses. The Alliance's mission is to protect and restore the Commonwealth's rivers.
- The Massachusetts Land Trust Coalition is a statewide coalition of approximately 130 land trusts and conservation organizations, and supports the conservation community through convening its members to share information, news, education, training and advocacy.

We support renewable energy to reduce greenhouse gas emissions as a means of addressing climate change and fostering a local energy economy.

Our testimony focuses on the land and water impacts of energy generation and transmission related to three pieces of legislation (S.1757, H.2881, and S.1965) designed to enable long-term contracting for renewable energy.

We respectfully urge the Committee include in any such legislation on long-term contracting provisions that will protect land and water resources.

- Require energy transmission lines to avoid impacts on land and water resources.
- Provide a preference for renewables that meet environmental standards.
- Require a minimum of thirty percent RPS qualified energy in any long-term contracts.
- Retain the environmentally preferable criteria in the Renewable Portfolio Standard for hydropower

Hydropower

Healthy rivers have a natural flow that is seasonal and variable – the springtime intense flow flushes the system and moves nutrients downstream. Rivers with natural flows and few barriers also enable fish to migrate and move to find cooler temperatures. Dams have impacts on all aspects of river health and aquatic life no matter their size or how much power they generate, and should be judged on their impacts (both singly and cumulatively).

When considering the complete greenhouse gas emission picture of hydropower, it is important to recognize that newly-built dams can result in a permanent loss of carbon sequestration and a short- and medium-term release of methane as forests are flooded, decompose, and then release their stored carbon as methane.

The Commonwealth has long recognized the impacts of dams on ecological health, as demonstrated by the commitment to removing obsolete dams, successfully restoring many miles of Massachusetts rivers to health.

We applaud the Massachusetts Legislature and Department of Energy Resources (DoER) for incorporating these standards into the eligibility requirements of the Commonwealth's renewable portfolio standard. DoER requires that dams must be certified by the Low Impact Hydropower Institute (LIHI), a third-party certifying organization that uses science-based standards for healthy rivers and hydropower generation.

We respectfully request the legislation for long-term contracts to include the following:

- Provide a preference for hydropower that meets science-based environmental protection standards for the contracting of up to 70 percent of the energy.
- Require that any contract include 30 percent of the power be provided by RPS-qualified sources.
- Provide for a diverse menu of clean and renewable energy sources that enable and fosters home-grown energy.

We also strongly urge the Administration and Legislature to retain the eligibility criteria for hydropower in current RPS statute. The Federal Energy Regulatory Commission (FERC) license

and LIHI certification are significantly different. FERC licensing balances environmental impact with economic, safety, and other considerations. LIHI certifies environmentally preferable hydropower operations. In addition, the lengthy terms of FERC licenses (30-50 years) mean that environmental requirements (i.e., for flow management, fish passage, or other mitigation) may not keep up to date with more environmentally protective technology and science. LIHI certificates must be renewed every five years, ensuring that the low-impact requirements stay abreast of current science and technology.

Transmission Lines

The siting of traditional and renewable energy generation facilities and the transmission lines can have potentially detrimental ecological impacts. Habitat loss, habitat fragmentation, and destruction of ecological functions (such as water filtration) will result unless energy facilities are sited using the best available data on habitat, habitat connectivity, and ecosystem integrity. The Nature Conservancy has a decades-long track record of providing these data and applying them to support siting decisions through the Conservation by Design and Development by Design approaches discussed above.

The Northern Appalachian Forest - stretching from Quebec to Massachusetts and south -- represents the largest and most intact example of a Temperate Broad Leaf Mixed Forest in the Western Hemisphere. Along with many other organizations and federal and state agencies, The Nature Conservancy is working to protect the most intact and resilient forests within the Northern Appalachians. Even when federal, state, and private dollars have been used to permanently protect these forest habitats from development and management threats, new energy generation facilities and transmission lines can fragment and degrade these forests, as well as other associated habitats including wetlands.

Forest cores are large areas of contiguous forests, hundreds to tens-of-thousands of acres in size in Massachusetts that have few ecologically significant fragmenting features. Forest cores are large and intact enough to withstand and recover from storms and other natural disturbances while also providing sufficient habitat for a full range of plants and animals, from large carnivores to bird species that require interior forests far from any forest edge. Forest cores filter the majority of the Commonwealth's drinking water, with the forest surrounding the Quabbin Reservoir as the best-known example. It is crucial, therefore, to maintain these intact Forest Cores in a changing climate.

Large intact wetlands provide additional natural benefits from water filtration to floodwater storage to wildlife habitat. Core forests and wetlands cover only a small area across Massachusetts (e.g. ~10% of the state's forests are BioMap2 Forest Core habitats) making it even more important that energy facilities and transmission lines avoid these areas and that those impacts that are not avoidable are appropriately mitigated.

Most fragmenting features, including transmission lines, also result in edge effects, where a forest edge abruptly meets a disturbed or developed opening. These boundaries do not function in the same way as interior forest, those far from an edge. Edge effects include different temperature, wind and light regimes; soil moisture; sound disturbance; and leaf litter depth that extend far into the forest. These changes result in different species composition and habitat structure in the forest even as far as 330 feet from the actual forest edge. Predation of nesting birds, over-browsing by deer, and expansion of invasive species are other common impacts of the creation of new edges in a previously unfragmented forest.

As Massachusetts considers increasing transmission lines, we support the provisions on transmission lines in the GWSP draft legislation. The intent of the provisions on transmission lines is to avoid, minimize and mitigate environmental impacts. It would require new transmission facilities under section 83B to demonstrate the extent to which it meets best practices for siting and managing transmission facilities – reflecting the U.S. Department of the Interior’s Secretarial Order Number 3330 entitled “Improving Mitigation Policies and Practices of the Department of the Interior.” and the U.S. Environmental Protection Agency’s Integrated Vegetation Management principles. These include:

- Avoid, minimize and mitigate impacts to important environmental and cultural resources.
- Bury in pre-existing infrastructure corridors, when practical.
- Implement a vegetation management plan.

Thank you for your time and consideration. We would be happy to answer any questions. Please feel free to contact either: Steve Long (617-532-8367; slong@tnc.org); Julia Blatt (847-445-0202; Juliablatt@massriversalliance.org) or Mary Griffin (978-443-2233; mgriffin@massland.org).

Sincerely,

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