



Sportsman's Alliance of Maine, Institute for Legislative Action (SAM-ILA)

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Testimony in Favor of LD 1207, *"An Act to Require the Department of Environmental Protection (DEP) to monitor Air and Water Temperatures Around Commercial Solar Energy Developments"*, Before the Committee On Environment and Natural Resources, Presented by David Trahan, Executive Director, Sportsman's Alliance of Maine, Institute for Legislative Action.

Senator Tepler, Representative Doudera, and members of the Committee, The Sportsman's Alliance of Maine, Institute for Legislative Action (SAM-ILA) is testifying in support of L.D. 1207, An Act to Require the Department of Environmental Protection (DEP) to monitor Air and Water Temperatures Around Commercial Solar Energy Developments, with several amendments.

First, we would like to thank Senator Black for submitting this important SAM-ILA bill. Before I begin, I would like to ask the committee to amend the bill to turn this bill into a pilot research and monitoring program, limited to a few large commercial solar arrays in the unorganized territories. I also suggest seeking support from the University of Maine to conduct the research, as this important work could reshape solar development licensing in and outside of Maine.

This, from a University of Maryland study titled, *Researchers discover solar heat island effect caused by large-scale solar power plants.* "For this study, the team defined the heat island effect as the difference in ambient air temperature around the solar power plant compared to that of the surrounding wild desert landscape. Findings demonstrated that temperatures around a solar power plant were 5.4 to 7.2°F (3 to 4° C) warmer than nearby wild [undeveloped] lands."

"The results demonstrate that there are potential heat costs to generating green power, although the added heat dissipates quickly and can't be detected 100 feet away from the power plants. Considering the external costs of solar power, the discovery of this heat island effect may affect future decisions on when and where to convert natural ecosystems into large-scale solar facilities."

As this committee knows, there will soon be a new round of proposals to build a renewable energy corridor in northern Maine to bring wind power into the New England grid. This new corridor will also have the capacity to accept solar

generated power. What is also known is, these new solar arrays will be much larger than those developed in southern Maine. We are already seeing proposals like that in Hersey Maine, north of Patten, to build a 5,000-acre solar array. The average township in northern Maine is 23,000 acres.

This from the Inland Fisheries and Wildlife (DIFW) website: “Maine is the only state with extensive intact populations of wild, self-reproducing brook trout in lakes and ponds.” The DIFW website goes on: “Furthermore, Maine is the last true stronghold for stream dwelling populations of wild brook trout”. Much of the land within and surrounding the proposed Hersey solar site is just such a stronghold for brook trout.

According to literature distributed widely, solar panels reach surface temperatures exceeding 150 degrees F. – warm enough to fry a hen’s egg. In contrast, the hottest day ever recorded on earth was 134.1 degrees F, in 1913, in Death Valley CA, according to the World Meteorological Organization. Solar panels become less efficient as they heat; this heat is released within the solar array site instead of generating power. According to University of Maryland researchers, this heat causes what is called, a “solar heat island”, raising air temperatures around the array 5.7 to 7.2 degrees F, warmer than nearby undeveloped lands.

What is not addressed in the Univ. of Maryland article is how solar island heat affects surface water runoff and nearby stream water temperatures. DIFW and the DEP have both confirmed they do not monitor solar installations for air and water temperatures.

DIFW has provided research that confirms water runoff in a solar development is 11 times faster than in undisturbed wild lands. In other words, on a hot summer day in August, when streams are at their lowest flows, water from a thunderstorm downpour gets to the stream 11 times faster. In addition, if the land where the array was built was once a forest or intermittent stream with herbaceous or brushy ground cover that was cleared for the development, studies show temperatures of surface water runoff in these altered environments increase by 14 degrees F.

These facts relating to altered temperatures and runoff rates should raise concerns when you consider DIFW's own recommendations for stream setbacks in solar projects is just 100 feet. Does this committee know how many commercial solar arrays approved by state regulators have had their recommended setbacks waived and are closer than 100 feet? Recommendations based on research data that are not enforced are just words.

Is a 100-foot setback from riparian areas sufficient to protect the fish and invertebrate life in these sensitive habitats? More research and monitoring are clearly needed.

It's ironic that many of the same individuals and organizations who lobbied hard only a decade ago for a 3-million-acre roadless Northwoods Wilderness National Park in northern Maine are now at the forefront of developing it for green energy. If state policy makers are now determined to develop Maine's northern forest, they should at least do so using appropriate protections for riparian areas and other sensitive ecological habitats. A little research now may prevent irreversible and widespread environmental damage in the future.

**David Trahan, Executive Director
Sportsman's Alliance of Maine Institute for legislative Action**