

Post Star
October 17, 2009

Feeling the heat

By DREW KERR

The boreal forests that occupy New York's highest and northern-most reaches are often described as one of nature's most resilient ecosystems.

But the forests, characterized by mossy floors, frigid temperatures and copious amounts of spruce and fir trees, are facing a threat that could put their natural prowess to the test, environmentalists say.

The effects of climate change, they contend, are increasingly straining the near-tundra like habitat, which is largely found in Canada and Russia but also crosses into the upper-most United States.

"It would only take a few degrees difference for the (boreal) forest to disappear and die off so the last remnant would be north of the border," the Adirondack Council's John Sheehan said. "And that's not a pretty picture for the species that depend on the forests."

In recent interviews, Sheehan and others said they are increasingly concerned that such a scenario could dramatically alter the Adirondack environment and disrupt the lives of plant and animal species that thrive in the cooler climes, upending the lives of residents who depend on a stable environment in the process.

Yet even as fears over climate change mount, there is a growing sense of hope that the Adirondack Park - and the communities that exist within it - can serve as a unique venue to show how climate change can be addressed and ultimately mitigated.

Evidence of change

Evidence of climate change's impact in the Adirondack region is abundant.

Lakes are freezing later and less fully. Precipitation, once consistent among all seasons, has risen in the spring and summer. And average annual temperatures cataloged at 19 different weather stations upstate show temperatures have subtly but steadily climbed since 1970.

Exactly how much the climate could warm in the future depends on how much is done to curb emissions, but at least one estimation, from the Northeast Climate Impacts Assessment, suggests northern New York will warm another five degrees within the next century even if carbon emissions are lowered worldwide immediately.

Temperatures could increase as much as 11 degrees when compared to 1960s levels if the use of fossil fuels continues unabated, according to their estimate.

How such an increase could alter the Adirondack landscape isn't exactly clear, but scientists predict that it could disrupt vital migration habits, create a more welcoming habitat for invasive species and disrupt as many as half of the area's aquatic and land-based plants.

"The impacts of such a sudden change in climate are unknown, but scientists predict that the composition of our forests may shift to species currently extant in the southern Appalachians," a recent report by the Adirondack Council reads. "Native communities of plants and animals will undergo significant alterations, with the probable loss of niche-sensitive species and expansion of more opportunistic pest species."

Bill McKibben, who has written extensively about climate change and now travels the world advocating for change, provides an assessment that is a bit more succinct.

"The science is quite clear about the future," he said. "Winter essentially disappears, and with it, the forest that is our great glory."

To help curb the warming trend, New York officials have established a goal of reducing greenhouse gas emissions in the state by 80 percent when compared with 1990 levels within the next 40 years.

The plan calls for the creation of a statewide energy plan that focuses on greater efficiency and finding a way to meet almost half of New York's electricity needs with clean energy by 2015.

Proponents of the plan call it among the most ambitious government actions on climate change taken to date.

For McKibben, though, it doesn't go far enough.

He says avoiding an environmental calamity in New York will require cutting emissions by 40 percent in the next decade - a pursuit he says will require not only state action, but changes on the national and global levels as well.

The U.S. House of Representatives this summer passed an energy bill outlining some steps that could help cut carbon emissions, including a "cap and trade" system that puts limits on emissions, and the U.S. Senate is currently debating a plan of their own.

Whatever resolution is arrived at in Washington could help set the stage for world talks led by the United Nations in December.

State efforts "can certainly lead the way," McKibben said, "but it's key to have a global agreement too, since that alone can really reset the price for carbon, making it pay for the damage it's doing to the environment."

"That's the thing that will ultimately bring real change," said McKibben, who makes a home in the Adirondacks.

Alan Belenz, the director of New York's office on climate change, said he agrees that global agreements are needed to address the changing climate.

But he defended the benchmarks that have been set by the state, and described efforts to meet them as an "ambitious challenge" that will require time and money, but also a broader shift in culture.

"In reality, what this means is that we need to transition to a low-carbon economy," Belenz said. "Whether you get there sooner or later, the goal is the same. I don't want to get hung up on when we'll get there."

Belenz and his office, created just two years ago, are charged with developing practical statewide policies that could help New York meet its emissions cutting goal.

In describing the effort, he said it is likely to include an ever-increasing reliance on alternative fuels such as solar, wind and hydroelectric power, as well as more research in carbon capture and sequestration and energy storage.

"There are a lot of strategies that have rapid payback and are cost effective, and those are the low-hanging fruit," he said. "But at the same time, from a policy perspective, we have to look at what particular technologies we want to use and to incentivize."

The government-run efforts come at the same time residents and officials around the Adirondacks are moving, at their own behest, to create a sustainable future for the park.

It's an effort they say they hope can set a global example.

A hopeful future

In 2008, a conference was held at the Wild Center in Tupper Lake to address the American response to climate change.

The event provided a launching pad for like minds in the Adirondacks interested in turning the natural oasis into an example of how rural America can survive without relying on fossil fuels.

With lessons in hand, task forces were created and charged with finding ways to help the park become energy independent by 2029.

And the mission has already produced several ideas, including the promotion of green municipal buildings, a draft mass transportation plan that spans the entire park and ideas to capitalize on local, renewable fuel supplies such as wood pellets.

Kate Fish, a project director with ADKCAP, a group that sprouted from the conference and helped organize the task forces, said the overarching theme is to "localize the economy" so that area residents will be among the beneficiaries of such changes.

Whether it's the installation of solar panels or the transition to wood-pellets for home heating, the move to a low-carbon lifestyle presents a unique opening for local businesses to step in, Fish said.

"All of those things create tremendous business opportunities, and I think that's where a lot of the excitement surrounding this is," she said. "There's a lot of entrepreneurial energy up here so the challenge is finding a way to tap into that and support it."

Fish also said the group hopes the region will act as an example of how carbon-free economies can operate, even in sparsely populated and remote areas that have long been hampered by their geographical disadvantages.

The hope, Fish said, is that the park's millions of annual visitors can one day see the area as a model for a clean energy, low emissions future.

"It's an educational opportunity that just makes so much sense," she said. "We've got people who are coming up here for the wilderness, and we want that experience to be consistent with communities taking action."

Belenz, of the state's office on climate change, agreed with the assessment and said the park's history as a haven where man and nature cohabitate made it an exciting arena for such an endeavor.

"The whole idea behind the Adirondacks was to create a park that has a vibrant ecosystem, but also livable communities," he said. "Now, those communities can again serve as a laboratory to show how communities connected to abundant resources can move towards a low-carbon future."

WHERE EMISSIONS IN THE PARK COME FROM

In April, The Wild Center and ADKCAP released a report showing how much energy was used within the Adirondack Park and for what use.

Their findings showed that more than 2 million metric tons of carbon dioxide emissions were produced within the 6 million-acre park each year. Their analysis also showed that:

* Cars and trucks were the single largest contributor of emissions, which researchers suggested was the result of the area's rural character. In all, more than 883,000 metric tons of carbon dioxide was produced by vehicles within the park each year, they found.

* Residential buildings were the second-largest contributor, emitting 673,633 metric tons of CO₂, which researchers said could be cut by retrofitting the area's aging houses for greater efficiency.

* Commercial buildings were the third largest contributor, emitting 307,685 metric tons of CO₂, while industrial operations were identified as the fourth largest contributor, emitting 189,315 metric

TAKING ACTION

Oct. 24 has been dedicated as an "international day of climate action," by organizers of the Web site 350.org. The number 350 refers to the concentration of carbon dioxide (CO₂) in the atmosphere. CO₂ levels are now at 385 parts per million, but scientists and environmentalists are pressuring leaders to adopt measures that would bring the amount of carbon back below 350 parts per million.

To help bolster support, the number will be highlighted at more than 2,000 events across the globe, including a number in the area.

They include:

The 350 Pass It On Festival, Glens Falls. Supporters will meet outside City Hall around 11 a.m. to give elected officials more than 350 pledges collected from residents who said they would make an effort to save the environment.