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Evergreen Audubon Members Tour NREL – Evergreen Audubon

4-5 minutes

The National Renewable Energy Lab (NREL) is the U.S. Department of Energy's primary national laboratory for renewable energy, sustainable transportation, and energy efficiency research and development. Our host for the afternoon was Evergreen Audubon member Tom Ryon, Senior Environmental Specialist at the lab and a Certified Wildlife Biologist. Tom's duties include reviewing construction design and landscaping plans, analyzing and figuring out how to prevent bird strikes, developing best conservation practices for the land, helping to manage the campus for the safety and benefit of the area wildlife, and public relations. Tom was assisted by his colleague Peter McNutt.

Before setting out on the walking tour, Tom provided us with an overview of NREL's physical facilities, the features that encourage sustainable working and living for the lab's 2,445 employees, and enhancements that preserve and protect the birds and other wildlife that frequent the facility.

The campus includes 17 high-performance buildings housing offices, laboratories, and test facilities, as well as parking

structures and mechanical systems that make the lab largely energy independent. The rooftop photovoltaic array on the Research Support Facility, for example, offsets its annual energy use, and the roofs of the parking structures also support solar panels. Recycled materials are utilized wherever possible. Water conservation and waste minimization are actively encouraged and supported by the infrastructure.

While the 327-acre campus plan emphasizes walkability, a system of Ethanol-powered shuttle buses is available to whisk employees to their workplaces. Lighting along the walkways is provided by energy-efficient LEDs. NREL also encourages its employees to live sustainably. For example, employees are provided with free mass transit passes, electric car charging stations, and preferred parking for “smart green vehicles” and carpools.

Landscape features include a 175-acre conservation easement on the perimeter and engineered wetlands for storm water management that mitigate the runoff from impervious surfaces and provide habitat for birds and other wildlife. Nesting boxes and bat houses are scattered about. NREL also preserves and protects historical landmarks on the property such as the amphitheater and ammunition bunker that were part of the old Camp George West.



Of interest to Audubon members were the efforts to protect birds.

In addition to habitat restoration and maintenance, buildings have been designed and modified to prevent bird strikes. Orientation on the land was found to be important.

A north-south orientation was found to be effective in minimizing strikes, as was breaking up the building façade with inset windows. Buildings with reflective glass were problematic at first and several correctives have been successful. Where replacing the windows with non-reflective glass was cost prohibitive, an array of small dots attached to the glass was found to be effective. The glass-enclosed bus stops feature vertical stripes inlaid into the glass. And the solution near the cafeteria was to install free-standing screens at ground level several feet from the large picture windows. They not only discourage birds from flying into the windows but also provide pleasant outdoor “rooms” for cafeteria patrons to enjoy. All these methods are translatable to private homes.

Many thanks to Tom Ryon and his colleagues for their work in making NREL such a terrific example of environmental stewardship and sustainability.