



Denali National Park and Preserve, Alaska



NPS PHOTO / KENT MILLER

The new **Eielson Visitor Center**, located at Mile 66 of the Park Road, replaces a Mission 66 facility that opened in 1959. With growing visitation, the older center gradually became obsolete. Denali's harsh winters took a toll on the structure. Replacement was warranted and the rebuilding began after the summer season of 2004.

Throughout the process of replacing this remote wilderness visitor center, there was a conscious effort to make choices that demonstrated the National Park Service's commitment to sustainability.

The building, which opened to the public on June 8, 2008, is a candidate for platinum certification in the LEED (Leadership in Energy and Environmental Design) ratings by the U.S. Green Building Council.



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The new building was carved into a hillside.

Sus-tain-able, adj: of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged.
(Merriam-Webster Online Dictionary, 2008)

When awarded, this will be the first building built by the NPS to that standard. The Denali Visitor Center at the park entrance received a silver LEED rating in 2005. At the time, it was one of only two LEED-accredited buildings within the NPS.

Significant sustainable features of the new Eielson Visitor Center include the following:

A Low Profile: Set into a slope within the footprint of the previous structure, the new building blends into the landscape and provides unobstructed views of the tundra and mountains. Earth surrounding it acts as a blanket reducing heating and cooling needs.

Choice of Materials:

- Floor tiles are made from 100 percent post-consumer tire rubber.
- The countertop of the information desk is made of wheat-straw, a rapidly renewable resource.
- More than 50 percent of forest-based building materials in the project came from certified, sustainable forests.
- Local and regional materials were used whenever possible to reduce energy required for shipping.

Making the Most of the Sun:

- South-facing windows and a concrete floor in the viewing area capture heat from the sun, performing simple passive solar operation that warms the structure.
- Skylights bring natural light into the recesses of the building.

Reduced Waste:

- More than 75 percent of demolition and construction waste was diverted from landfills.
- Steel beams were salvaged and re-fabricated.
- Vertical wooden staves from an exterior railing became finish material on interior walls.

Resource Conservation:

- Water use is reduced with efficient fixtures, waterless urinals, low-flow faucets with sensors and low-flow shower heads in the residence area.
- Porous gravel surfaces and tundra planted outside the building allow water to seep into the ground, minimizing runoff, erosion and disruption to natural water flow.



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The previous building imposed upon the landscape and its views. Wood in vertical outdoor railings (above) was salvaged for horizontal interior trim in the viewing area of the new visitor center (below).



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Photovoltaic cells capture energy from the sun.

Emphasis on Renewable Energy: The building is not connected to a utility grid. Powering this facility in an earth-friendly way required creative thinking. Building designers took a three-pronged approach that harnesses the power of water and the sun, and uses a minimal amount of propane. A small turbine in a nearby stream produces electricity from hydropower. Solar panels capture sunlight when available. A clean-burning propane generator is used when necessary to augment the power from water and the sun. Energy from these three sources feeds into batteries that store power until needed.



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A nearby stream turns a small hydropower turbine.



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South-facing windows bring light and warmth indoors.