

CCE AWARDS 2020

Henvey Inlet Wind Farm and Transmission Line

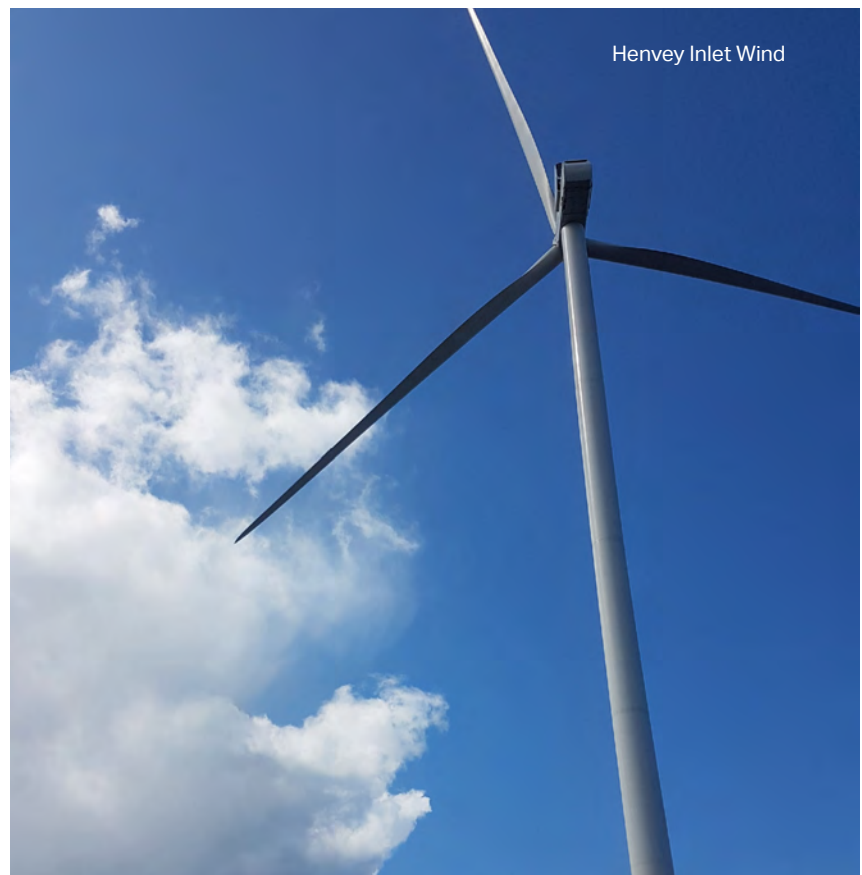
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Summary

AECOM planned, permitted, coordinated and implemented the environment components of the Henvey Inlet Wind Farm and 104 km Transmission line.

The project crosses habitat of 14 SAR and 5 jurisdictions, creating a complex set of requirements. AECOM developed mitigation to allow the project to improve schedule.

Our tailored EMIS and digital mapping let teams share event reports and mitigation needs in real time, allowing for quick resolution and consistency of knowledge.



Innovation

AECOM worked with Henvey Inlet Wind, LP. and their design engineers to avoid sensitive habitat or minimise the footprint where design solutions were not available. AECOM developed several solutions to support the protection of Species at Risk such as the following:

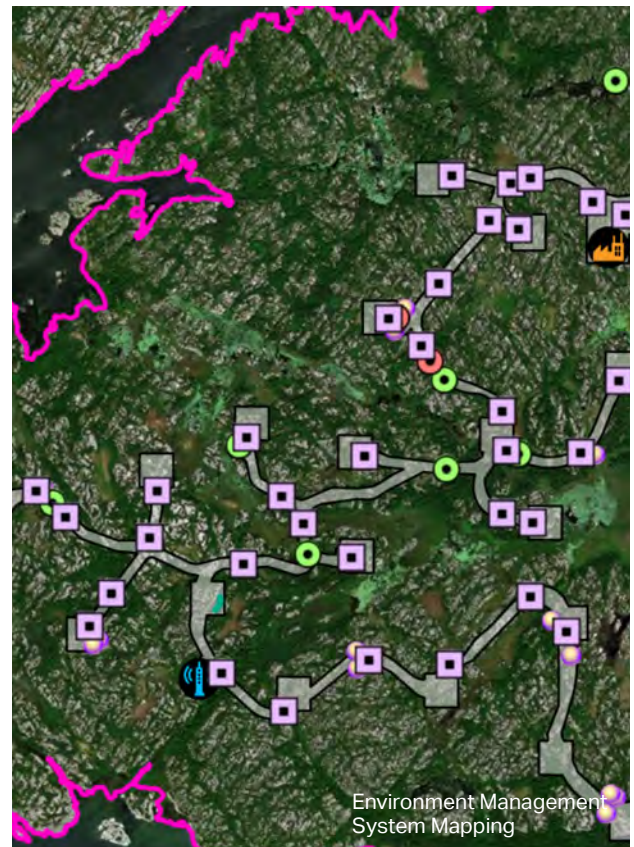
1. Micro-siting of the Wind farm and 104 km of transmission line to support engineering design
2. Design of the mitigation requirements and scheduling minimize the affects of construction on sensitive habitat
3. Exclusion mitigation to encourage the relocation of species where the project design could not be altered
4. Environment Management Information System to track and flag the project requirements with field level data collection and reporting in real time across the project footprint.

During the design phase habitat assessment mapping provided by AECOM was used by the design engineers to establish the initial proposed footprint. AECOM worked with HIW to micro-site locations where proposed infrastructure was in sensitive habitat. AECOM provided field level assessments to either confirm that proposed infrastructure was within appropriate locations or proposed alternate placements of the infrastructure in less sensitive habitat. In areas where the design of infrastructure could not be altered, AECOM worked with the design engineers to reduce the affects and developed mitigation.

Of special concern within the project footprint was the numerous SAR reptile hibernation sites. While the project strove to avoid these locations, this was not always possible. In areas within HIFN, habitat that could not be avoided was addressed through the installation of exclusion fencing and species removal to encourage the inhabitants to take up residence in an alternate location. Areas were fenced in advance of hibernation season.

The exclusion fencing was designed and installed to address the shallow soil profile and rocky landforms at the site, requiring creative solutions to ensure gaps didn't occur between the fencing and substrate, which would allow individuals to circumvent the mitigation.

The EMIS managed over 1000 environmental requirements across the five jurisdictions. The EMIS enabled field monitoring data to be collected from a large number of staffs simultaneously in a digital format that allowed for quick identification of issues of concern; tailored data collection dependent upon jurisdiction, timing windows, and species; and a more streamlined management of regulator reporting requirements.



Complexity

The HIW project is located on land that is home to significant populations of provincially and/or federally listed threatened or endangered Species at Risk including: **Massasauga, Blanding's Turtle, Kirtland's Warbler, Eastern Fox Snake, Eastern Whip-poor-will, Common Nighthawk, Eastern Musk Turtle, Eastern Hog-nosed Snake, Canada Warbler, Olive-sided Flycatcher, Wood Thrush, Tri-colored Bat, Little Brown Bat, and the Northern Myotis.** Due to the ecological sensitivity of the area: **federal, provincial, Henvey Inlet First Nation, Magnetawan First Nation, and Shawanaga First Nation** governing representatives established design and monitoring requirements for SAR for which innovative solutions were required to help minimize harm to the species and their habitat. While the project strove to avoid SAR habitat, this was not always possible. Of special concern within the project footprint was the numerous SAR reptile hibernation sites. In areas within Henvey Inlet First Nation, habitat that could not be avoided was addressed through the installation of exclusion fencing and species removal to encourage the inhabitants to take up residence in an alternate location. Areas were fenced in advance of hibernation season. The exclusion fencing was designed and installed to address the shallow soil profile and rocky landforms at the site, requiring creative solutions to ensure gaps did not occur between the fencing and substrate, which would allow individuals to circumvent the mitigation. In some areas fencing was adhered to rock to ensure species could not avoid the mitigation. The mitigation was successful, allowing construction to occur in these areas without requiring schedule adjustments for hibernation season.



Bald Eagle (top left)
Blandings Turtle (top right), and
Rattlesnake (bottom left)

Social and/or Economic Benefits

Henvey Inlet Wind (HIW) is an 87 turbine, 300MW project located entirely on Henvey Inlet First Nation land. **HIW is the largest single-phase wind facility in Canada, largest on-reserve wind installation in the country, and the first to develop a First Nation Environmental Stewardship Regime under the First Nations Lands Management Act.** A key component of the project is a 104 km transmission line required to deliver electricity to the Ontario network. The transmission line runs from Henvey Inlet First Nation along Highway 69 and the existing HONI corridor to Parry Sound. At the peak of construction, there were approximately 1,000 workers on site. Nearly one-third of construction workers were First Nations citizens. The construction process generated approximately \$25 million in direct economic activity for local First Nations businesses. Now operational, the facility is expected to generate more than C\$ 10 million in income annually for Henvey Inlet First Nation.

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Developing a crossing



Assessing the Rattlesnake population



Education regarding Species

Environmental Benefits

AECOM technical experts worked with the **Client, and design engineers to develop, permit, and construct the project within sensitive Species at Risk habitat to bring positive economic benefits to the communities.** Working with the design team allowed requirements for sensitive ecological habitat and species to be addressed in the early phases of the project through avoidance of SAR habitat. Where avoidance could not be achieved mitigation was designed, installed, and monitored to confirm the safety of the endangered species. Continued management of the requirements using project tailored EMIS and mapping allowed for field teams to maintain a common knowledge of the project requirements and new issues across the 104 km of transmission line and numerous monitors

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Exclusion Fencing Mitigation

Meeting Client's Needs

AECOM helped Henvey Inlet Wind, LP reach its goal of a successful project development, approval, and construction of the project. Our team worked throughout the process to balance the needs of the project design and construction team with the requirements of the regulators and local communities. Working with the design team allowed requirements for sensitive ecological habitat and species to be addressed in the early phases of the project through avoidance or mitigation. **Continued management of the requirements using project tailored EMIS and mapping allowed for field teams to maintain a common knowledge of the project requirements and new issues across the 104 km of transmission line and numerous monitors.**

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About AECOM

AECOM is the world's premier infrastructure firm, delivering professional services throughout the project lifecycle – from planning, design and engineering to consulting and construction management. We partner with our clients in the public and private sectors to solve their most complex challenges and build legacies for generations to come. On projects spanning transportation, buildings, water, governments, energy and the environment, our teams are driven by a common purpose to deliver a better world. AECOM is a Fortune 500 firm with revenue of approximately \$20.2 billion during fiscal year 2019. See how we deliver what others can only imagine at aecom.com and [@AECOM](https://twitter.com/AECOM).