



Pattern for NATURE

A Look into Pattern's Ocotillo Wind Farm: BIGHORN SHEEP

At Pattern Energy, we've continuously made it our mission to protect the local environment, wildlife, and communities near and all of our wind farms. Whether it's replanting local vegetation or protecting endangered species native to the area, we care about making a positive impact in the communities we're a part of.

This is especially true when it comes to our Ocotillo Wind Energy Facility in Southern California. When we

start a new wind project, we oftentimes compose studies on the area to help offset any prominent impacts to wildlife. Through our Ocotillo site study, we found that endangered Peninsular bighorn sheep were known to reside in proximity to the wind farm. Because of this, Pattern is working on several innovative commitments to help offset these impacts.

Post-Construction Study on Peninsular Bighorn Sheep

The Peninsular bighorn sheep are native to certain desert regions throughout the southwestern United States. Adjacent to the Ocotillo wind farm, The Jacumba Mountains are home to one of the most notable populations of bighorn sheep. The sheep were designated an endangered species in 1998 and one of the concerns raised by the wildlife agencies was that construction of the wind farm could result in sheep changing their movement patterns or use of habitats surrounding the site. Pattern, in coordination with HELIX, voluntarily elected to commence a bighorn sheep movement study prior to construction and committed to continuing the post-construction movement study for 5 additional years. Since the Ocotillo wind farm began



commercial operations in December 2012, ongoing monitoring of bighorn sheep movement was taking place every two weeks. Since June 2016, it has been conducted on a monthly basis.

The Results

Studies of the bighorn sheep over the last 5 years have shown increased use of natural areas directly surrounding the wind farm since construction was completed. Observers earlier this year noted that some sheep have even walked right through the farm without incident. It is

great to see the 5-year study demonstrate that bighorn sheep continue to use the areas surrounding the farm and no negative changes in movement patterns have been noted.

Bridge Feasibility Study

During the environmental review process prior to the project being approved for construction, Pattern recognized an opportunity to make an additional commitment toward bighorn sheep that would provide longer-term benefits to the regional population of this endangered species. Regional movement of bighorn sheep is constrained due to Interstate 8, which was constructed decades ago. Because sheep are oftentimes trying to cross the freeway, sheep vehicle strikes are a regular occurrence. Pattern (through Ocotillo Express LLC) committed \$200,000 towards a study that

would result in benefits to the regional bighorn sheep population. Along with this, Pattern, in coordination with HELIX, assembled a panel of experts to evaluate the critical issues that would benefit the regional bighorn sheep population, and the panel's top recommendation for the use of the funds was to implement a feasibility study to evaluate potential Interstate 8 bridge overpasses for bighorn sheep. The feasibility study was recommended to help reduce vehicle strikes and to help reconnect the population of sheep near the U.S./ Mexico border.

The Results

Pattern followed through on the panel's recommendation and implemented a 2-phase approach to the study. A large part of the study was centered on finding the best place to build these land bridges. Where would they have the most impact and be effectively used by the sheep and other wildlife? After a year-long study of bighorn sheep movement patterns, two potential locations were identified and detailed recommendations were provided for the directional fencing and land bridge construction. Alternative recommendations were also made for secondary consideration by the agencies in charge. The second phase of the study was to evaluate

the recommended bridge locations from an engineering and geotechnical perspective, which further refined the recommendations for a future land bridge.

Though it's a major commitment of time and money, taking part in these environmental studies and wildlife rehabilitation projects is very important to Pattern. We want to offset any impact we make when developing a renewable energy facility. We know that at Ocotillo, we are doing our part to help the Peninsular bighorn sheep thrive in the region.



For more information on our wildlife and environmental preservation efforts, contact Rene Braud at rene.braud@patternenergy.com.