

[Los Alamos Monitor](#)

By Roger Snodgrass

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A House subcommittee on science and technology held a hearing Tuesday on a bill proposed by Rep. Ben Ray Luján, D-N.M., to breathe life into an orphaned system that has been living off the land, so to speak, for nearly 40 years.

Last week Luján introduced a bill to authorize the National Environmental Research Parks (NERPs) at seven Department of Energy sites, including the one at Los Alamos National Laboratory.

“The ecosystems contained within these Parks contain intact, undisturbed native vegetation and wildlife that represent some of the major ecosystems of the United States,” Luján said in an introductory statement at the hearing. “The long-term data sets that have been collected from these sites are extremely valuable for understanding natural ecosystem development and variability. In a number of cases, these data sets represent the world’s longest, continuous records.”

Luján’s legislation authorizes \$5 million annually for each NERP for the next four years.

While the character and background of each of the seven sites is quite different, one thing they have in common is but have never been funded as a system.

But that would change with Luján’s bill.

In an interview this morning, Luján said the idea grew out of discussions at the laboratory.

“As we discussed the impacts of climate change and impacts of man on our land, and about remediation and restoration on our lands, this was an idea we talked about,” he said.

Luján said he was especially interested in helping expand the educational outreach part of the program.

“The parks also provide rich environments for training future researchers and introducing the public to environmental sciences,” he said.

The other research parks are located at Hanford in Washington State, the Nevada Test Site, Idaho National Laboratory, Fermilab in Illinois, Oak Ridge in Tennessee and Savannah River in South Carolina.

The Savannah River site was the first to be created in 1972, followed by Idaho in 1975 and Los Alamos in 1976.

The Nevada Test Site was the last site to be added to the list in 1992. Together they comprise more than 2 million acres or 3200 square miles.

The bill must be approved by the Energy and Environment subcommittee, of which Luján is a member, and the full science committee before going to the floor of the House for passage.

If the Senate also authorizes the measure, the funding would need to be identified and approved in the appropriation process.

“Authorization is the key step,” Luján said.

“That would be a \$5 million increase a year,” said the director of the Los Alamos Environmental Research Park Nate McDowell one of four representatives from the national labs who testified at the hearing.

In an interview afterward McDowell explained that the research parks have been maintained over time by individual grants and projects with funding through the laboratories where they were located or DOE’s Office of Science.

In principal, each park area was intended to include the entire laboratories where they were located.

“In reality, we only study certain areas,” he said. “The work I do is on Mesita del Buey on a 1.5 hectare plot.” That’s 3.71 acres.

Mesita del Buey is a slender Mesa toward jutting into the southeastern part of the laboratory, on which the 63 acres of Area G, the laboratory’s historic nuclear and hazardous waste repository is located.

Area G is one of the most contaminated pieces of land on the laboratory, which is why it is the final task in an ongoing comprehensive cleanup process.

Another NERP project at LANL is in Mortandad Canyon where a hydrology study is underway focused on upstream releases of contaminants that researchers are trying to characterize with a revised program of test wells.

In a statement at the hearing, McDowell said, the seven DOE sites represented six major vegetative zones and that they can play a valuable role in understanding the relationships between the terrestrial environment and the changing climate.

As a postdoc at the laboratory, McDowell fielded one of the first Tunable Diode Lasers in the

world. The instrument measures the isotopic composition of carbon dioxide and oxygen.

“We can do that 500 times a second all day long, all year long,” McDowell said.

Since 2004, his record of carbon dioxide exchange, vegetation water stress and mortality at Los Alamos and other research that has been funded piecemeal at Los Alamos has led to 130 peer-reviewed publications.

He said the work has established valuable long-term data sets that have captured extreme climatic events like the drought and die-off of the regional piñon and juniper populations.

The data are already being incorporated into climate models, including a program used for the Intergovernmental Panel on Climate Change, but more could be done.

“You can influence society by writing good papers,” he said. “And you can really influence society through IPCC climate models.”