

# Wetlands Project Travels Road To Better Science

UNIVERSITY PARK, (Centre Co.) — Commuters traveling down a recently completed section of Pennsylvania Route 220 from Altoona to Bald Eagle can observe an ongoing cooperative scientific experiment

Eagle-eyed drivers can see several wetlands constructed for the Pennsylvania Department of Transportation along the route. A

team of researchers from the College of Agricultural Sciences' School of Forest Resources are working with PennDOT to observe how man-made wetlands function.

"We're looking at how these created wetlands compare with natural wetlands," said Dr. Robert Brooks, associate professor of wildlife ecology. He says the five wetlands created by PennDOT for

the Route 220 project are particularly important for wetlands research because this project is the largest ever done by the transportation agency.

Penn State's Cooperative Wetlands Center compares data collected from natural wetlands located in the State College area with information collected from created wetlands, such as those constructed by PennDOT and oth-

ers.

The data collected from the "reference wetlands" include soil analysis, water levels, plant life and wildlife.

Exchanging scientific information benefits both PennDOT, which can discover how its sites compare to natural wetlands, and Penn State, which gets an opportunity to see how a created wetland develops.

"The five sites cover more than 50 acres in all, and vary in size and location," Brooks said.

The PennDOT wetlands project is required under state and federal law, said Bill Savage, an environmental planner for Penn DOT. To construct highways through wetlands areas, PennDOT must get a permit that requires the agency to replace the wetlands it has disturbed with created wetlands that function as natural sites do. "It's important to us that these wetlands work out," Savage said. "Each one we build tells us more about how to improve."

Brooks emphasizes that each wetland must be monitored because environmental conditions can change radically from site to site, even those only a few hundred yards apart.

"All wetlands are not created equally," Brooks said. "Penn DOT is striving to create wetlands equivalent to the natural wetlands that were in the path of the highway."

Brooks said that other wetlands created by PennDOT have improved over time. Monitoring of the Route 220 sites by Penn DOT consultants will begin this month and continue for about five years.

The information shared by the

university and PennDOT also can be applied to another created wetland not for from the Route 220 sites. At the Peterson Industrial Park in Tipton, Pa., Penn State monitors a 15-acre created wetland built through a cooperative effort by Altoona Enterprises, the industrial park, and the Ben Franklin Technology Centre. Data from this site also is used to gain a clearer picture of how wetlands develop and function.

"Wetland creation technology is still in its infancy," Brooks said. "The research on Penn DOT's sites, the Tipton site and others will help set standards by which future projects can be measured."

"Our goal is to learn how to build a better wetland. Each time we build one, we learn more about what makes wetlands function," Brooks said. "To see how wetlands develop over time, you have to have many different sites to make comparisons."

This is why the Cooperative Wetlands Center is working with agencies such as PennDOT, the Pennsylvania Department of Natural Resources, the Environmental Protection Agency, the U.S. Army Corps of Engineers and industries to monitor numerous created wetlands in Pennsylvania and neighboring states.

PennDOT's Savage says the sites' scientific performance has surprised both the scientists and industry. "We have all these elaborate plans from agencies telling us what should be in the wetlands, but these sites have really blossomed with plant and wildlife. In fact, Mother Nature is doing a pretty good job of helping us create wetlands."

## Fact Sheets Detail Raising Ostriches, Emus, Rheas

UNIVERSITY PARK, (Centre Co.) — Pennsylvania, traditionally known as a dairy state, is staking a claim as leading emu, ostrich, and rhea state as well

Those birds can be profitable for some farms, but markets for their meat, oil and other products are not yet well-established, said an expert in Penn State's College of Agricultural Sciences.

"Raising these birds may be a viable alternative for small-scale and part-time farm operations with adequate investment capital," said Zoann Parker, associate extension agent in Lancaster County. "Land and husbandry requirements are minimal compared to some other livestock operations."

Ostriches, emus and rheas are ratites, flightless running birds that have no keel on their breastbone. Parker, George Greaser, senior research associate in agricultural economics, and Jayson Harper, assistant professor of agricultural economics, have prepared three

booklets on ratite farming.

The booklets offer detailed information about raising ostriches, emus or rheas, including prospective budgets and information about marketing, establishing an operation, nutrition, breeding, incubation and housing. Each publication also lists sources of further information.

Adult ostriches, the world's largest birds, weigh about 450 pounds and stand eight feet tall. They produce meat, feathers and soft, durable leather. "Ostrich skin boots are popular, and the meat has a gourmet market," Parker said.

Adult emus stand five to six feet tall and weigh an average of 110 pounds. "The major market for emus is breeder stock, but emu oil is used in skin care products and pharmaceuticals. The skin can be used for high-quality leather, and the meat has a gourmet market," Parker said.

Fully grown rheas weigh up to 80 pounds and stand five feet tall. "The major market for rheas is for

breeder stock," Parker said. "Meat and leather markets need to be further developed."

There are several ways to establish a ratite operation. "Purchasing and incubating eggs is the lowest-cost method, but also is highest in risk," Parker said. "Buying chicks more than three months old can be more cost-effective because the mortality rate is greatly reduced."

Producers also can purchase yearlings or young adults. "Yearlings are more expensive than chicks, but should be productive within two to three years," Parker said. "The most expensive method is to purchase proven breeders, two or three birds that have produced fertile eggs together. While it's the most expensive, it also allows the buyer to begin production in the next season."

To receive the publications, contact your county's Penn State cooperative extension office. For more information about raising ratites, contact Zoann Parker, Penn State Cooperative Extension, 1383 Arcadia Road, Room 1, Lancaster, PA 17601-3149.

## Md. Young Farmers To Meet

RANDALLSTOWN, Md — The Maryland Farm Bureau Young Farmers will hold their annual meeting and retreat November 18-20 at the Ramada Inn, Annapolis

The retreat will kick off Friday evening with a workshop, "Operation Desert Storm, The Ultimate Test of Teamwork," presented by Julie Brown of the American Farm Bureau Federation.

Saturday's program includes touring the Southern Maryland Tobacco Research Farm and Ross Moreland's sod operation. The evening culminates with the

awards banquet and the "Discussion Meet."

Sunday's agenda will begin with the Young Farmers annual business meeting which will include the election of officers. The retreat will end with a workshop entitled "Lights! Camera!! Say Something Intelligent!!! presented by Julie Brown.

For more information about the Maryland Farm Bureau Young Farmers annual meeting and retreat, contact Joseph Diamond at (410) 922-3426. Deadline is October 14.

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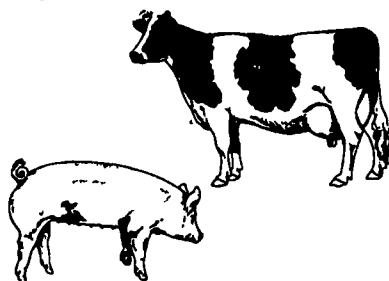
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