

Engineering a Powerful Technology Workforce

“What do you want to be when you grow up?” Many adults contend that age hasn’t provided a definitive answer. Similarly, childrens’ responses to the question often change throughout their lives.

Project Lead the Way (PLTW), a national non-profit organization, tries to help students learn an answer. It initiates early career planning by introducing pre-engineering curriculum into middle schools and high schools.

The March/April 2005 *BizVoice*® discussed how PLTW confronts the country’s shortage of engineers and engineering majors. The organization partners with more than 1,750 schools in 46 states and the District of Columbia. Further, it works with more than 200,000 students.

Michael O’Hair is the associate dean for statewide technology and engagement for the College of Technology at Purdue University, which coordinates the program in Indiana.

He has observed significant growth in the program over the last year, noting that 168 Indiana schools will offer its curriculum during the 2006-2007 school year.

“Indiana has about 1/10 of the (national) schools and 1/10 of the (national) students,” he comments. “We think we’re right at 20,000 students in Indiana.”

In addition, Purdue, the Indiana Department of Education and the Indiana Department of Workforce Development were recognized with a national education award in late 2005 for the initiative’s successes.

Purdue plans to release data over the next year regarding PLTW’s overall impact on Hoosier students.

Eventually the program could expand to include 5,000 secondary schools.

“They’re going to reach that in the next four years, I think, five years at the most,” O’Hair declares.

Students begin their pre-engineering studies in the middle school Gateway to Technology Program. Courses include the science of technology and the magic of electrons. Two additional middle school courses will soon be offered. One class deals with environmental engineering, and the other focuses on energy and power.

High school participants complete three foundation courses (Principles of Engineering, Introduction to Engineering Design and Digital Electronics), specialization modules and a capstone class. They must also study math and science.

Two recent additions are a biotechnical engineering class funded by the state of Indiana and an aerospace class funded by NASA.

“Indiana is playing a major role in the development of these courses,” O’Hair shares. “Those two (high school) courses were prototyped last summer in Kokomo (at the Purdue College of Technology) for the whole country, and this year they have gone nationwide.”

Kokomo was the first city in Indiana to support PLTW. In addition, its Purdue campus hosts an annual Summer Training Institute for teachers divided into two-week (80-hour) training sessions.

“I hope to start hosting meetings across the state over the next year and explain to businesses why PLTW is good to their bottom line,” O’Hair asserts. “What we need is an army of engineers because this is real engineering for these kids. We need engineers around the state who will work with these teachers and these schools.

“People need to understand that if we don’t get more scientists and engineers, we’re not going to be able to keep up with this high-tech engine,” he stresses. “We’re going to hit a ceiling at some point.”

To view the March/April 2005 *BizVoice*® article on PLTW, go to the archives section of www.bizvoicemagazine.com.



March/April 2005



Project Lead the Way students in Kokomo in January 2005.

Stories by
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Wetlands Restoration Not Just for the Birds

Historians often use the words “revitalization,” “promise” and “wide-ranging” to portray the Renaissance era, which revived Italy’s artistic landscape during the 13th and 15th centuries. Those adjectives also describe a pivotal stage Greene County is embracing today – restoration of the Goose Pond wetlands.

An article in the May/June 2005 *BizVoice*® discussed advantages to restoring Goose Pond, an 8,000-acre wetland area located near Linton. Among benefits are preservation of wildlife habitats and revenue generated from tourist attractions such as bird watching, hunting and a proposed education and visitors center.

“As we go to the future, we don’t know what the impact is going to be,” observes Linton Mayor Tom Jones. “We had sand cranes in March, and they were absolutely a sight to behold. There were several thousand birds. We’ve already seen an increase in people coming to look.

“We think there are opportunities here, especially for a small business, for the community to grow,” he adds.

The Indiana Department of Natural Resources (DNR) bought the land last November. Federal, state and private contributions helped secure the property. The area is part of a Wetlands Reserve Program (WRP) under an easement from the Natural Resources Conservation Service.

Brad Feaster, Goose Pond Wildlife Area property manager, refers to the site as “one of the largest WRPs in the country.” Conceptual planning is under way for the education and visitors center, but an implementation deadline has not yet been finalized.

“Since its purchase, there’s still a lot of restoration going on,” Feaster reports, “and that is one reason why we’re kind of hesitant to jump in with both feet right away because it could change.”

One challenge has been to transform the site from an unofficial garbage dumping ground to a hospitable tourist location. Approximately 50 volunteers participated in a cleanup event held in April. Volunteers removed refrigerators, furniture and trash. A second outing will take place in October.

Feaster points out that the historical wetlands’ vast size entices birds, as does its location along a migration route.

“The bird response has blown people away,” he reflects, “even people who were expecting great things.”

“Linton has a lot of really nice things to offer,” observes Mayor Jones, “and we’re hoping this Goose Pond has a lot of impact on our economic development and the lifestyle of our citizens. We’re talking about wealth creation here.”

Between November and July, more than 600 hunters had visited Goose Pond. Feaster contends that the number doesn’t accurately reflect future expectations because the November purchase shortened the hunting season. He estimates that 1,000 individuals utilized the area for fishing, bird observation and hiking.

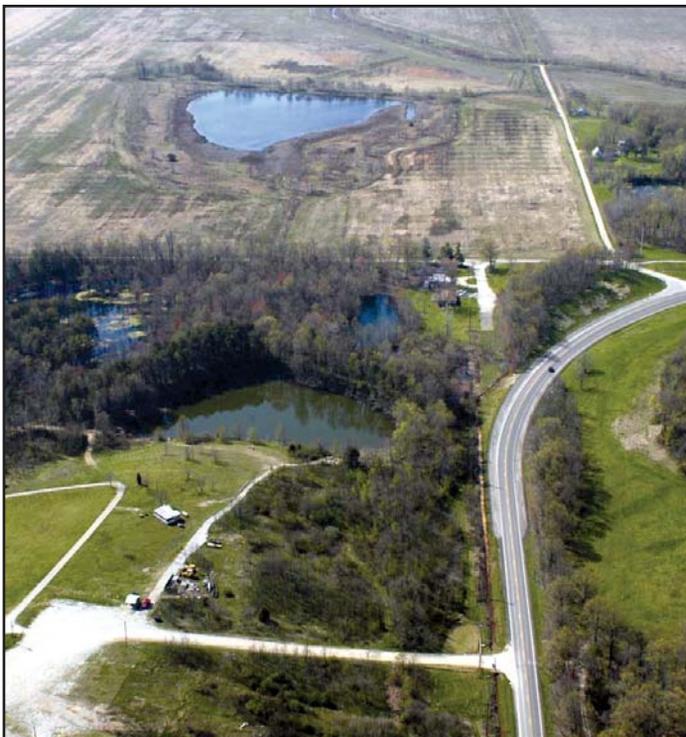
“This (restoration) is nothing that is going to happen overnight,” Feaster proclaims. “We’re talking 2009 before it’s even finished being restored; probably a few years even after that before we (Indiana DNR) have all of our facilities in

place. It’s going to be a work in progress.”

To view the May/June 2005 *BizVoice*® article on Goose Pond, go to the archives section of www.bizvoicemagazine.com.



May/June 2005



An overview of the Goose Pond area.