

Conservation Committee Report

Volume 14 Issue 10-11

Jack Walters—Conservation Chairman

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The Conservation Pledge

I give my pledge as an American to save and faithfully defend from waste, the natural resources of my country; the soil, the water, the air, the minerals, the plant life and the wildlife.

This is my Pledge!

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Ten Ways to Save Money, Energy and Protect Your Health This Winter

With winter quickly approaching, the U.S. Environmental Protection Agency (EPA) is highlighting ten tips for Americans to protect their health, save money, and lower energy while enjoying the winter holiday season.

1. Maintain your heating equipment to lower utility bills. Heating and cooling

costs account for about \$1,000 -- nearly half of a home's total annual energy bill. Maintaining the efficiency of your home's heating, ventilation, and air conditioning (HVAC) system can have a big effect on your utility bills. Dirt and neglect can impact the efficiency of your HVAC system and are some of the top causes of heating

system failure. Schedule an HVAC checkup with a licensed HVAC contractor to make sure your system is operating at peak performance. Also, check your system's air filter every month and change it when it's dirty or at a minimum, every three months.

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DEP Accepting Applications for 2013

Environmental Education Grants

Deadline to Apply is Dec. 13

The Department of Environmental Protection invites schools, colleges and universities, county conservation districts, non-profit organizations, municipalities and busi-

nesses to apply for its annual Environmental Education Grant to develop environmental education programs and projects.

"These grants represent an annual effort to strengthen environmental education in Pennsylvania," DEP Secretary Mike

Krancer said. "We are pleased to support projects that increase students' knowledge of environmental issues."

The grants provide funding to develop programs and projects that

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Ten Ways to Save Money, Energy and Protect Your Health This Winter (continued)

A dirty filter will slow down air flow and make the system work harder to keep you warm or cool — wasting energy.

<http://www.energystar.gov/homeimprovement>

2. Download EPA's free Apps to help protect your health.

The AIRNow app allows users to enter a zip code and get current particle pollution and ozone levels and forecasts for more than 400 cities across the country. The Ultraviolet (UV) Index provides an hourly forecast of the UV radiation levels from the sun. Both are available for Apple and Android phones. Learn more about these apps and the others: <http://m.epa.gov/apps/index.html>

3. Decorate for the holidays with Energy Star light strings that can last up to 10 times longer. Energy Star-qualified light strings use about 65 percent less electricity than incandescent light strings and are available in a variety of colors, shapes and lengths. They save energy and are more durable, shock-resistant and cooler to the touch. If every decorative light string sold in the

U.S. this year were Energy Star qualified, Americans would save \$80 million in utility bills and one billion pounds of greenhouse gas emissions would be prevented.

http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=DS

4. Lower the temperature in your home to increase savings up to 12 percent. Control your home's temperature while away or asleep by using one of the pre-programmed settings. Programming the thermostat to turn the temperature down 8 degrees for 7 hours each night and an additional 7 hours each weekday could result in a seasonal heating savings of approximately 12 percent. For the average home, this could result in savings of about \$180. http://www.energystar.gov/index.cfm?c=products.pr_save_energy_at_home

5. Check for water leaks and install WaterSense products to save approximately \$170 per year. The average household spends as much as \$500 per year on their water and sewer bill, but approximately \$170 per year can be saved by installing water-efficient fixtures and appliances. <http://www.epa.gov/watersense>

6. Reduce your food waste. Feed people, not landfills. Food is the single largest type of waste going to landfills and incinerators. Americans disposed of approximately 33 million tons of food waste in 2010. When excess food, leftover food, and food scraps are disposed of in a landfill, they decompose and become a significant source of methane - a potent greenhouse gas. Much of the food that is discarded in landfills is actually safe, wholesome food that could have been used to feed people. So when you are thinking about making your family dinner, think about how you can reduce your food waste to save money, help communities, and protect the environment. <http://www.epa.gov/osw/conservation/materials/organics/food/fd-house.htm>

7. Look for the Design for the Environment label on more than 2,800 products during winter cleaning. EPA's Designed for the Environment (DfE) logo differentiates products that use only the safest ingredients to protect people, our pets, and the environment.

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Ten Ways to Save Money, Energy and Protect Your Health This Winter (continued)

In 2011, Americans using DfE products cut the use of harmful chemicals by more than 756 million pounds.
<http://www.epa.gov/dfe/>

8. **Test your home for radon gas, 1 in 15 homes may have elevated levels.**

Radon, a colorless odorless gas, is the leading cause of lung cancer among non-smokers and levels can increase during colder months. Purchase an affordable Do-It-Yourself test kit online or at a local hardware store to determine the level in your home. Addressing high levels often costs the same as other minor home repairs.
<http://www.epa.gov/radon>

9. Learn before you burn and cut firewood use by more than 30 percent. The Burn Wise program has best burn practices to help better protect your home and your health. Never burn garbage, cardboard, ocean driftwood or wet wood. If you replace an old wood stove with a more efficient one, efficiency can increase by 50 percent, 1/3 less wood can be used for the same heat and 70 percent less particle pollution indoors and out are produced.
<http://www.epa.gov/burnwise>

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10. Prevent Pests. Now is the time when pests such as insects and rodents may try to move indoors. Eliminate sources of food, water, and shelter to reduce pest problems. Prevent pests by using caulk to eliminate cracks, repair water leaks, remove clutter, and clean up crumbs and other food sources. If you decide to use a pesticide, read the label first. The pesticide label is your guide to using pesticides safely and effectively. It contains pertinent information that you should read and understand before you use a pesticide product.
<http://www.epa.gov/safepestcontrol/>

More winter tips:
<http://www.epa.gov/epahome/hi-winter.htm>

More local information from MyEnvironment:
<http://www.epa.gov/myenvironment/>

All year long you can Pick5 for the Environment:
<http://www.epa.gov/pick5/>

Source: U.S. Environmental Protection Agency (EPA)

DEP Accepting Applications for 2013

Environmental Education Grants (continued)

support environmental education about issues including:

- **Water-sheds:** abandoned mine drainage, non-point source pollution and water conservation;
- **Chesapeake Bay:** reducing non-point source pollution, such as nutrient and sediment loads, and meaningful educational watershed experiences for students;
- **Air quality:** ground level ozone, transportation and electric generation issues;
- **Brown-fields:** education and outreach programs in brownfield redevelopment and sustainable communities, along with developing green, open spaces;
- **Energy:** educational programs on energy efficiency and conservation, as well as natural gas, coal, wind, solar and other energy sources and technologies;
- **Environmental literacy:** planning and programming to engage

educators and stakeholders in content standards and field-based environmental education; and

- **Environmental education certification:** formal and non-formal ways to develop and implement institutionalized and community-based certification programs for teachers, naturalists and educators working in schools and environmental education facilities.

The Environmental Education grants were established by the Environmental Education Act of 1993 and mandate that five percent of all pollution fines and penalties DEP collects annually be set aside for environmental education.

In April, DEP awarded 147 grants totaling more than \$642,000 to support environmental education programs across the state. Since 1993, the agency has awarded nearly \$8 million in grants.

Eligible projects include, but are not limited to, teacher professional development; curriculum integration; outdoor learning resources, such as trails, shelters, streamside plantings and educational programming; transportation to field study

sites; water chemistry testing equipment; and educational events. Grants are awarded for up to \$7,500 each.

For more information or to apply, visit www.dep.state.pa.us; call DEP's Environmental Education and Information Center at 717-772-1828; or email adevine@pa.gov. The deadline to apply is Dec. 13.

Invasive species starting upstream may have advantages, study finds

Carcinus maenas. Credit, Hans Hillewaert. Researchers have found that a species invasion that starts at the upstream edge of its range may have a major advantage over downstream competitors, at least in environments with a strong prevailing direction of water or wind currents.

Scientists from the University of Georgia, University of New Hampshire, Smithsonian Environmental Research Center and University of Vermont studied populations of European green crab, *Carcinus maenas*. The species was introduced to the East Coast of North America twice, at both the upper and lower edges of its range. Their findings, recently published in the Proceedings of the National Academy of Sciences, may help inform the control of invasive species and the conservation of imperiled native species.

"In New England, they're worried," said Jeb Byers, an associate professor at the UGA Odum School of Ecology and one of the paper's authors. "These green crabs have been doing a number on native shellfish. They eat a lot of clams. And they're a very cosmopolitan species—they've now spread all over, to places

as far afield as the West Coast of the U.S. and South Africa."

The European green crab was first detected in North America in New Jersey in the early 1800s, Byers said. It spread slowly north against the prevailing direction of ocean currents until it reached Halifax, Nova Scotia in 1964. That was the extent of its range along the East Coast until the 1990s, when populations suddenly appeared throughout the Canadian Maritime provinces.

Conservation biologist Joe Roman of the University of Vermont, another of the paper's authors, determined that these new populations were genetically different from those established earlier. Analysis revealed that unlike the earlier arrivals, they were related to European green crabs found in the Baltic, suggesting a new introduction directly from Europe to Nova Scotia had taken place.

Understanding how the species spread could offer insights into how to control it.

"Our theory was that the old invasion spread as far as it could upstream before fighting the currents made it impossible to spread farther," Byers said. "We suspected that the new invaders were successful es-

entially because of physics. Unlike their predecessors, they didn't have to fight their way against the current to spread. They just had to disperse their larvae into the water column and let the current carry them south along the coast."

The second crab invasion established in the Strait of Canso and Bras d'Or Lake in northern Nova Scotia, locations well suited to serve as large population retention zones. These zones anchor the crab population because they are not subject to the strong currents typical of the outer coast.

"If you look at the prevailing ocean currents in the area, you can see that these population retention zones are at the upstream edge of practically the entire distribution of the crabs," Byers said. "Crab larvae enter the water column from there and drift south."

Byers and his colleagues genetically sampled crab populations from New York to northern Nova Scotia from 1999 to 2007. They found that the northern

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Invasive species starting upstream may have advantages, study finds (continued)

crabs were making up a greater share of the crab population at each sampling site as time progressed. "The northern crabs were 20 percent more common within only a few generations," Byers said.

They also found that areas not previously invaded by southern crabs were susceptible to invasion by northern crabs.

"The currents were carrying the crab larvae downstream from the northern populations into areas that the crabs moving under their own power up from the south were unable to colonize," he said.

The team's findings could help target efforts to control invasive species and conserve native species in environments influenced by strong water or air currents.

"Upstream retention zones should hold dominant sway over species and genetic level diversity in environments with strong physical influences," Byers said. "That's where we need to focus our vigilance, because such retention zones are capable of populating entire regions.

"If you're trying to control an invasive species, you'll be more effective if you can attack the source of the popula-

tion; and if you're trying to conserve a native species, protecting populations in the retention zone will be critical."

--Reprinted from University of Georgia

Evolutionary flexibility may help plants adapt to climate change

In the face of climate change, animals have an advantage over plants: They can move. But a new study shows that plants may have some tricks of their own.

In a paper published in *Science*, the research team identifies the genetic signature in the common European plant *Arabidopsis thaliana* that governs the plant's fitness — its ability to survive and reproduce — in different climates. The researchers further find that climate in large measure influences the suite of genes passed on to *Arabidopsis* to optimize its survival and reproduction. The set of genes determining fitness varies, the team reports, depending on the climate conditions in the plant's region — cold, warm, dry, wet, or otherwise.

"This is the first study to show evolutionary adaptation for *Arabidopsis thaliana* on a broad geographical scale and to link it to molecular underpinnings," said Johanna Schmitt, director of the Environmental Change Initiative at Brown University and an author on the paper. "Climate is the selective agent."

The researchers believe that by identifying the genetic sig-

natures that mark *Arabidopsis*' response to changing climate, scientists may understand how climate may cause the re-engineering of the genetic profiles of other plants. "There is still evolutionary flexibility to help plants take one direction or another," said Alexandre Fournier-Level, a postdoctoral researcher at Brown and the paper's first author. "It gives us good hope to see, yes, it's adapting."

The researchers planted *Arabidopsis*, a small flowering plant popular with plant biologists because its genome is relatively small, at four locations across its native range in Europe — Valencia, Spain; Halle, Germany; Norwich, United Kingdom; and Oulu, Finland. At each field site, genetic strains were planted, originating from across the species' native climate range — from cold (Finland) to warm (Spain), with oceanic (United Kingdom) and continental (Germany) variables mixed in. That way, the researchers could compare local strains with representatives from the other regions and search for signs of "home court advantage," Schmitt said.

"This was a truly massive undertaking, tracking more than 75,000 plants in the field, from near the arctic circle to the Mediterranean coast," said Amity Wilczek, a former postdoctoral researcher in Schmitt's lab now on the faculty at Deep Springs College.

"*Arabidopsis* is an annual plant, so we could measure total lifetime success of an individual within a single year. We gathered plants from a variety of native climates and grew some of each in our four widely distributed European garden sites. We shipped our harvested plants back to Brown and began the laborious task of counting fruits on these plants. In the end, we were able to assemble a very large and comprehensive dataset that gives us new insight into what it takes for a plant to be successful in nature under a broad range of climate conditions."

The team then burrowed into the *Arabidopsis* genome to find the molecular mechanisms that might give the

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Evolutionary flexibility may help plants adapt to climate change (continued)

plant genetic flexibility to roll with climate punches. To identify variations in the genome among the regional representatives, the researchers carried out a genome-wide association study for survival and fruiting comprising more than 213,000 single-nucleotide polymorphisms. These SNPs, Fournier-Level explained, are like signposts pointing to areas in the genome where survival and reproduction may be emphasized and areas that show variations in the regional representatives' genetic makeup.

From the experiments, the team discovered that the SNPs that determined fitness for *Arabidopsis* in one region are surprisingly different from those associated with the plant's fitness in another region. The team also learned from the experiments that SNP variants — "alleles" — associated with high fitness within each field site were locally abundant in that region, demonstrating a kind of home court advantage at the genomic level.

In addition, certain climate variables seemed to control the geographic distribution of fitness-associated SNPs. For

example, fitness SNPs in Finland, at the northern range limit, were limited by temperature. In one example presented in the paper, the researchers identify a SNP allele in a water-stress tolerance gene, called SAG21. This allele was common in *Arabidopsis*'s Spanish populations, but not in the cool climate of Finland where tests showed plants carrying that allele fared poorly.

"Climate explains the distribution of locally favorable alleles," Fournier-Level explained. "This helps explain how climate shapes distribution."

"We found that the genetic basis of survival and reproduction is almost entirely different in different regions, which suggests that evolutionary adaptation to one climate may not always result in a tradeoff of poor performance in another climate," said Schmitt. "Thus, the *Arabidopsis* genome may contain evolutionary flexibility to respond to climate change."

Another study of genetic adaptations to climate

In another study published in the same issue of *Science*, a team led by Joy Bergelson,

professor and chair of Ecology and Evolution at the University of Chicago, identified genetic loci associated with adaptations to climate change in *A. thaliana*.

Genes involved in processes such as photosynthesis and energy metabolism were more common among genes associated with climate adaptation, the researchers discovered. Many of these gene loci also showed evidence of evolving through selective sweeps, where a new mutation appears and spreads through a population — a strategy that may not be effective during rapid changes in climate.

"The contribution of selective sweeps suggests that there will be limits on the rate at which this plant can adapt to climate change," Bergelson said.

--Reprinted from *Brown University*

How can Conservation Efforts help species adapt to climate change?

As the climate changes, conservationists are divided over the most effective way to preserve animal and plant diversity because they cannot simply preserve the status quo. Ensuring species can shift to track the climate to which they are suited is a complex problem, especially when there are competing demands on land use. A simple prediction is that more habitat would help species to shift, but it is not obvious what the best spatial locations for habitat would be.

A new study led by scientists at the University of York says that well placed habitat "stepping stones" would lead to faster range expansion than the equivalent amount and quality of habitat tacked onto existing sites. The result applies to situations where a species will have to cross gaps of several times the distance one individual can normally traverse, i.e. to species whose habitat is fairly rare.

This will be relevant to numerous species that are already threatened for reasons other than climate change, and have very little habitat available. For example, the most important wildlife sites in Europe (called the Natura 2000 sites) make up 18 per cent of the land area, and the habitat for any one priority species will be much less than that.

The study, which is published in PLOS ONE, involved researchers from the Universities of York, Leeds and Aberdeen.

Lead author Dr Jenny Hodgson, of the Department of Biology at York, said: "Species in these fragmented habitats would need to make a series of "leapfrogging" moves over multiple generations to colonise new landscapes. Our research offers a way to identify existing chains of habitat patches that can enable this leapfrogging, but that may not seem obviously connected when looking at a map. When no suitable chains exist, the

method can also help to plan new habitat stepping stones in the gaps that will be most difficult to cross."

Source: ENN

New Life Jacket Requirement Starts

November 1

When sunny days and fall foliage tempt the boater in you, don't forget about your life jacket, especially if you are planning to use a canoe, kayak or similar small boat.

Beginning November 1 and lasting through April 30, boaters are required to wear a life jacket while underway or at anchor on boats less than 16 feet in length or any canoe or kayak, under a new state regulation passed in September by the Pennsylvania Fish and Boat Commission (PFBC).

"Life jackets are the most important piece of safety equipment on a boat," says Laurel Anders, director of the PFBC Bureau of Boating and Outreach. "According to Pennsylvania's boating accident reports, almost 80 percent of all boating fatalities happen to boaters not wearing a life jacket. A disproportionate number of the fatalities occur during the months of November through April. During these cold weather months, boaters are especially at risk due to the water temperature and the risk of sudden cold water immersion."

When a person is unexpectedly plunged into cold water below 70°F, the body's first response is usually an involuntary gasp. Without a life jacket, a victim may inhale while under water and drown without coming back to the surface. If an individual does make it back to the surface, his ability to swim is usually restricted because of a shortness of breath or hyperventilation.

The new regulation applies to all Pennsylvania waters.

Individuals who plan to fish, boat or hunt from a boat this fall or winter are encouraged to follow these cold water survival safety tips:

- Always wear a life jacket, even when not required. Many models also offer insulation from cold air. Read the life jacket's approval label to be sure it's appropriate for your boating activity.
- Never boat alone.
- Leave a float plan with family or friends and know the waters you plan to boat.
- Bring a fully charged cell phone with you in case of emergency.
- Wear clothing that still insulates when wet, such as fleece, polypropylene or other synthetics.
- If you are about to fall into cold water, cover your mouth and nose with your hands. This will reduce the likelihood of inhaling water.
- If possible, stay with the boat. Get back into or climb on top of the boat.
- While in cold water, do not remove your clothing.
- If you can't get out of the water, get into the Heat Escape Lessening Posture (HELP). In this position, individuals bring their knees to their chest and hug them with their arms.
- Once out of the water, remove wet clothes and warm up as soon as possible.

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New Life Jacket Requirement Starts November 1 (continued)

- Seek medical attention when necessary. Some effects of exposure to cold temperatures can be delayed.

To learn more about life jacket wear and cold water survival, visit

- PFBC website - <http://fishandboat.com/safety.htm>
- Coldwater Boot Camp website - <http://www.coldwaterbootcamp.com/pages/home.html>
- Safe Boating Campaigns website - <http://www.safeboatingcampaign.com/new-jacket-pages/angling-hunting-jackets.htm>

For more information about fishing and boating in Pennsylvania, please visit our website at www.fishandboat.com.

Source: Pennsylvania Fish and Boat Commission (PFBC).

Invasive Forest Insects Cost Homeowners, Taxpayers Billions

Green ash killed by Emerald Ash Borer. Credit, David Roberts. Homeowners and taxpayers are picking up most of the tab for damages caused by invasive tree-feeding insects that are inadvertently imported along with packing materials, live plants, and other goods. That's the conclusion of a team of biologists and economists, whose research findings are reported in the journal PLoS One this week.

The authors explain that non-native, wood-boring insects such as the emerald ash borer and the Asian long-horned beetle exact an estimated \$1.7 billion in local government expenditures, and approximately \$830 million in lost residential property values each year.

"Once they become established, invasive species are very difficult to eradicate, and they result in billions of dollars in damages each year," said Juliann Aukema, first author and a scientist with UC Santa Barbara's National Center for Ecological Analysis and Synthesis (NCEAS). The research team, composed of scientists from U.S. and Canadian universities and the U.S. Forest Service, focused on invasive insects that feed on trees in the U.S.

They noted that other countries face the same problems with foreign species.

Aukema and her co-authors provide the most comprehensive estimates of costs due to forest invasion that are currently available for the U.S., according to the team. They also predict the probability of future costs and explain the benefits of reducing the rate of invasion.

The pests are a byproduct of global trade, according to Aukema. "Obviously, international trade has tremendous benefits, but it also has costs," she said. "The regulations we currently have aren't keeping the pests out. We need to strengthen regulations and enforcement of them to protect our forests and our economy."

Wood-boring insects are not the only insects that are causing economic impacts, according to the researchers. Foliage feeders and sap feeders cause an estimated \$410 million and \$260 million, respectively, in lost residential property value each year.

The researchers calculated the economic damages for five cost categories: federal governmental expenditures, local governmental expenditures, household expenditures, resi-

dential property value losses, and timber value losses to forest landowners.

The team also calculated a 32 percent risk that a new borer would invade in the next 10 years, causing even more damage than previous borers.

The study used detailed economic assessments of three highly damaging pests: emerald ash borer, gypsy moth, and hemlock woolly adelgid. The researchers also used an exhaustive database of established non-native forest insects, and a novel modeling approach. The authors have developed an analytical framework that can be used in any country where data are available. The framework can be easily adapted for estimating costs in other natural resource sectors, including fire, disease, and water quality, at scales from municipalities to nations.

--Reprinted from UC Santa Barbara

DCNR joins in groundbreaking for Venango County trail segment

When not addressing senatorial duties, Mary Jo White has a favorite pastime. She enjoys checking out-of-state license plates of vehicles in the parks and along the trails and greenways that abound in her northwestern Pennsylvania district based in Venango County.

“Those vehicles are coming from Ohio, New York and New Jersey,” Sen. White said, “and their operators are driving hundreds of miles to see and enjoy what so many of us are so fortunate to have right outside our door.”

On Oct. 25 the state senator joined DCNR Secretary Richard Allan and others in giving those visitors yet another reason to come: ground was broken in Oil City for a key segment of the Erie-to-Pittsburgh Trail, stretching eventually from Erie’s Presque Isle Bay to Point State Park in Pittsburgh.

Amid a backdrop of crimson oak forests, and framed by Oil Creek and a spur of the Western New York & Pennsylvania Railroad, no less than 10 guest speakers took to the lectern to endorse the McClintock trail and salute the partnerships that made it possible.

“I always say, ‘If you want something done, do it in Venango County, because these are the folks who can get it done,’” said Venango County Commissioner Bonnie Summers. “To DCNR, our state officials, and all the volunteers, I just want to say ‘thank you’ for being here and all that you have done.”

Spearheaded and overseen by the Oil Region Alliance of Business, Industry & Tourism, the groundbreaking marked the ceremonial start of the 1.8-mile south segment of McClintock Trail.

“We know that what people want the most when it comes to outdoor recreation are opportunities close to home—in their neighborhood, at a local park or trail, or at a state park or forest a short distance away,” Allan told the groundbreaking gathering. “The McClintock Trail—a true collaboration among DCNR, the Oil Region Alliance, PennDOT, and the communities that lie along the trail—helps accomplish that for northwestern Pennsylvania residents as well as being a great draw for visitors.”

To the more than 50 attendees, the secretary explained that this cooperative spirit runs deep within DCNR, as marked

by the involvement of three of its bureaus—forestry, state parks, and recreation and conservation.

“This project involves almost every bureau in DCNR,” the secretary said. “Their motivation and dedication are why we do these projects, and do them well.

“Trails are all about connections, and in the case of this new section it will help join Oil Creek State Park with Oil City, and is vital to closing the central gap of a regional trail network that will run from Erie to Pittsburgh,” Allan said. “In recent survey data, trails ranked as the number one recreational interest among Pennsylvanians right now, and people want them close to home.”

DCNR invested \$205,000 in this south segment of the trail through its Community Conservation Partnerships Program. The DCNR grant to the Oil Region Alliance of Business, Industry and Tourism was funded through the Environmental Stewardship Fund generated from landfill and natural gas impact fees.

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DCNR joins in groundbreaking for Venango County trail segment (continued)

The southern segment of the McClintock Trail will run from McClintock Well No. 1 in Cornplanter Township paralleling the railroad tracks and ending at Oil City.

Work will include an 8-foot paved trail surface. Interpretive panels will eventually be installed along the trail. Construction of the trail is anticipated to be completed in late summer 2013.

The Pennsylvania Department of Transportation provided \$1.2 million in Transportation Enhancement funds for the southern trail segment. Other partners include Oil City; Cornplanter Township; National Park Service; OMG Americas; and the Western New York & Pennsylvania Railroad.

“Construction of this segment gives encouragement that sound partnerships and thoughtful engineering will accelerate development along the Erie-to-Pittsburgh Trail corridor,” said ORA President John Phillips.

The Oil Region Alliance is putting finishing touches on the first phase of the McClintock Trail that is a “share the road” course with improved parking areas and trailheads. That segment connects Oil Creek State

Park to McClintock Well No. 1 operated by the Pennsylvania Historical and Museum Commission. DCNR invested \$200,000 in the first phase of the trail project.

A regional trail study in 2007 found that existing trails in the area attract more than 160,000 users and generate more than \$4.3 million in revenues to the region annually.

Source: PA DCNR