It is a new semester here at Westfield State University. The transition into the fall season is unveiling change—and not only in the landscape!

WSU’s Department of Environmental Science’s newsletter has been out of commission for the past six years but I have recently been given the opportunity to coax it back to life! As a senior English major here at WSU I am proud to present a fresh print of the newsletter after its absence of more than half a decade!

Emphasizing the inter-dependence of the natural and social sciences, WSU’s ENVS program is one of the oldest of its kind in the Northeast. And having just recently developed into a full-fledged department in 2010, the revival of the department’s newsletter is meant to signify this recent transformation!

Focused on field work and hands-on learning, students of the program and department faculty often have opportunities to find themselves out in nature and not stuck in the classroom where they can engage the environment and experience the wonders of Western Massachusetts.

The program is designed to connect the Environmental Sciences, Biology, Geography, Regional Planning and other departments through a series of relative core classes, three major areas of study and a final senior capstone project.

Typically, students engage in approximately 40 hours of both lab and classroom style courses. Beyond their core, students of the program are expected to choose one of the three offered areas of study: the natural dimension, the human dimension, or the methods/technology dimension of the environmental sciences. They are also encouraged to take at least one extra course from an area of study they have not chosen as their focus. As the final step before graduation, Environmental Science majors are required to become involved with either a related internship or develop an independent research project based on the knowledge they have acquired of their field over their years of study.
CURRENT STUDENTS

During the current semester, Environmental Science students have been compiling research on various areas of study in the field. For about the last three months, majors have been expanding and refining their thoughts, working towards capstones and field-specific internships. Here are some individuals currently conducting and presenting information on different EVNS topics:

POTENTIAL IMPACTS OF RUSSELL BIOMASS COOLING WATER DISCHARGE

by Julie MacAdam

Julie's analysis of the Westfield State River shows that the river's average potential downstream temperature lies within state regulations. Her report assures that the discharge of water from the Russell Biomass Plant does not cause river temperatures to rise. Without checks like these, rising temperatures could drastically change the environment surrounding the Westfield State River.

WSU BIODIESEL PROGRAM PROPOSAL

by John Dodson

"If Westfield State University intends to flourish throughout the following generations, it will need to integrate sustainable programs."

In his report, John proposes a conversion to biodiesel fuel to more accurately predict the university's yearly budget, to reduce its carbon footprint and also to reduce reliance on foreign fossil fuels.

MASS DEPARTMENT OF ENVIRONMENTAL PROTECTION

Kim Burlingame

Working for MassDEP's Springfield office in the Drinking Water/Municipal Services Department, Kim helped ensure a continued compliance with the Federal Safe Drinking Water Act Amendments of 1996. She evaluated threats to source water protection for transient non-community water systems, like wells. Kim has also participated in on-site sanitary surveys of various Western Massachusetts public water systems, including West Springfield and the Quabbin Reservoir.
ALUMNI

Internships

DAN DEMERS, a 2011 Environmental Science major graduate with a minor in Regional Planning partook in two environmental science internships. One was at the Pioneer Valley Planning Commission (PVPC) where he collected water samples from Connecticut river tributaries for coliform testing.

“If a sample tested positive on the Connecticut River [for coliform], the source could be tracked further up the river or back to the tributaries, where I collected samples. The whole point was to localize and identify sources of coliform.”

Demers says the most common sources of coliform bacteria were geese and Sewer Overflows.

His other internship was working for Westfield as a GIS coordinator.

“I would hike around wetlands searching for storm-water outfalls. When I found one, I would GPS the point and later download that point into the city’s GIS database. Storm-water outfalls are where storm water lines end and where runoff from roads and parking lots leave municipal storm-water systems and enters wetlands”

“Both internships lasted about three months and included some various office work other than my primary duties.” Both positions were also compensated, the former in course credits that helped towards getting him to graduation, and the latter in wages without any credits applied.

Congratulations, Dan!

Independent Research

TAWNY VIRGILIO (ENVS / BIOL 2010) is one of the best scientists we’ve had in the ENVS program. She graduated from WSU and is now in grad school at UMaine. She was interviewed this summer by WABI TV for her independent research on Wasps, which she uses as biological tools to help collect samples of beetles.

In particular, she’s looking for Emerald Ash Borer beetles, an extremely destructive invasive species that will likely decimate our Ash Trees in the future.

Her research tracks a species of wasp that preys on beetles similar to the Emerald Ash Borer.

“It’s Cerceris Fumipennis species, most people call them ground nesters, they don’t sting or bite.

They’re incapable of stinging people, they sting the beetles but they’re definitely helping us out a lot.”

Virgilio and other researchers set up cups to slow down the wasps after they’ve gone out to catch prey. Since the wasps hunt beetles similar to the Emerald Ash Borer there is a possibility they will come back with any Borers that have populated the area. This link will take you to the WABI article, and the TV interview.
In Fall of 2006, **DR. CARSTEN BRAUN** started teaching here at WSU. He’s taught a variety of courses here as well, including Physical Geography, Intro to GIS, Advanced GIS, Sustainable Energy. But his personal favorite course to teach is Climate Change.

Recently he took a trip to Africa to study the recession of glaciers on Kilimanjaro and the causes of the recession.

Here are some pictures from the trip!

Dr. Braun also has this to say for current Environmental Science students:

“Add-value to your education via studying abroad, internships, National Student Exchange, etc. Just having a major or a minor is not enough.”

**DR. DAVE CHRISTENSEN**, another professor in the faculty spotlight, started teaching labs as a graduate student at Washington State University about eight years ago. He began work here at WSU teaching as a permanent full time assistant professor in 2007.

“I teach aquatic biology lecture and lab. This course is my favorite and is in my area of expertise. I am also teaching a Conservation Biology lab and a BIOL 128 lab.

My students are currently finishing an extended project in which they collected ecological data on Russell and Hammond Pond monthly since May. This project is ongoing and is currently in it’s fourth year. I had ten students working on this project in pairs. Each pair focused on a particular aspect of the pond such as plankton, water quality and aquatic plant distribution and education. The projects were conducted specifically for the communities of Russell and Goshen, MA. These students just presented their data at two separate community meetings to concerned citizens. They did great!

Two students will also present their data at the annual Bridgewater Environmental Research Symposium in November. Their work will help educate community members about the ponds and provide data for management purposes.”

Here’s to these two wonderful professors who have helped their students engage in their Environmental Science studies.
Seniors, for their final capstone project, may choose to involve themselves with an organization or company through internships. Below are examples of some recent ones:

Depending on the focus of their studies, Env. Science students follow up their capstone projects and graduation in different ways. Students may decide to seek out career opportunities and often find work in their fields of study through internship capstone projects working for such sponsors, like these recent graduates listed to the right:

Recent ENVS Capstone Senior Internship Sponsors

The Nature Conservancy
The Trustees of Reservation
National Park Service
US Army Corps of Engineers
The Department of Defense
Pioneer Valley Planning Commission
Southwick Conservation Commission

Contest Analytic Lab
City of Westfield
City of Greenfield
Chicopee Water Department
Springfield Water and Sewer
Wilderness Experiences Unlimited
Forest Park Zoo
Blue Star Equeculture
Riverways

Caitlin (ENVS 2010), Scott (ENVS 2009) and Brian (ENVS 2010) all got jobs at Springfield Water and Sewer in the water quality lab, as GIS/Information manager and engineering technician, respectively.

John (ENVS/REPL 2008) is working as the GIS coordinator for the City of Westfield.

Some students, however, decide to continue their educations. Many apply for and receive acceptance letters from graduate schools both in the region, all over the country, and around the world! Check out these these recent graduates who did just that:

T.J. (ENVS 2009)
Working on his doctorate in Geology at UMASS

George (ENVS/REPL 2006)
Graduate student at Northeastern University

Candace (REPL/ENVS 2007)
Graduate student at University of Edinburg

Tawny (ENVS/BIOL 2010)
Graduate student of Biology/Entomology at Umaine

Marianne (ENVS/REPL 2010)
Working on a dual Masters in Planning and Landscape Architecture at UMASS

These are just a few students among many who have chosen to continue their educations!