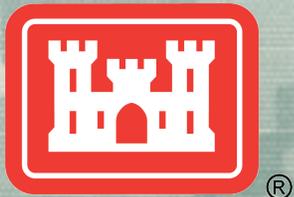


Partnering with Schools & Universities



US Army Corps of Engineers
BUILDING STRONG[®]



Why Partner with Educational Institutes?

- Involvement with local universities and schools is a natural fit with the Corps' increasing emphasis on environmental stewardship and STEM.
- A good program can foster ownership of the project which is beneficial when seeking community support.
- The easiest way to reach an adult is through the experiences of their children. Don't forget these programs have the ability to drive visitation from these contacts.
- Think outside the box: graphic design, environmental studies, event planning, recreation, biological sciences, engineering, architecture
- Give them the opportunity to say yes.



Job/Intern Fairs

These are an easy way to begin interaction with your local university.



- Recruit volunteers
- Educate
- Establish an agency presence
- Establish relationships



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Court Your Local School Teachers

- Parks as Classrooms
 - You have the resource they have the students
 - Reaching students now can result in changed behaviors later
- Meet with your school superintendents and let them know what your projects have to offer its teachers and students.
- Host curriculum-based CE courses
 - Project Wet
 - Project WILD
 - Aquatic WILD
 - Aldo Leopold Education Project
 - Food, Land & People



Where Preparation Meets Opportunity!



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Read With a Ranger

- Present interpretive programs at your local library
- Literacy is a great tool to teach environmental education (The Lorax)

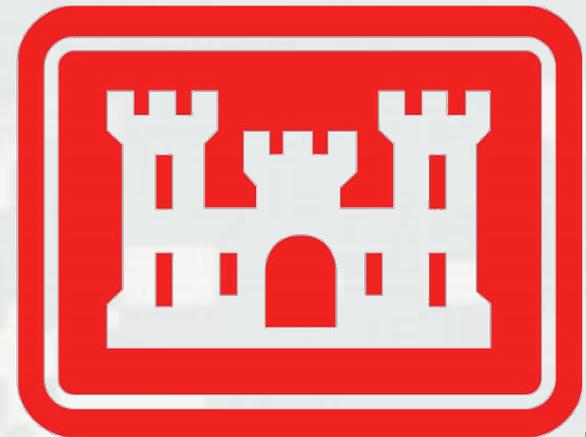


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Guest Speaker for Intro to Rec Classes

The Athletic Department is a great way to promote water safety but the Recreation Department is your best way to get direct student interaction at your lake project.

- Educate
- Establish an agency presence
- Recruit
- Develop relationships



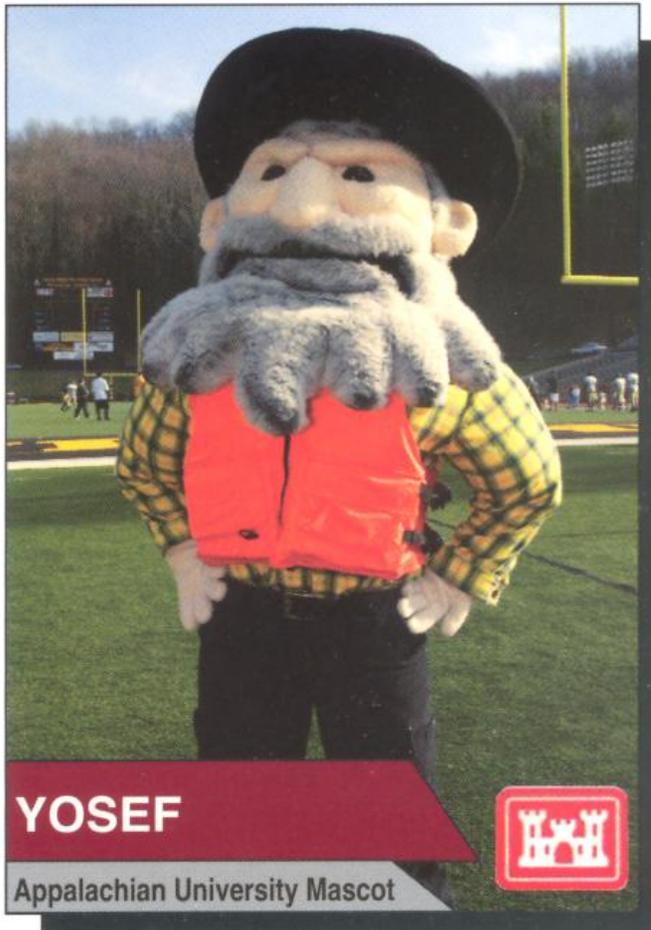
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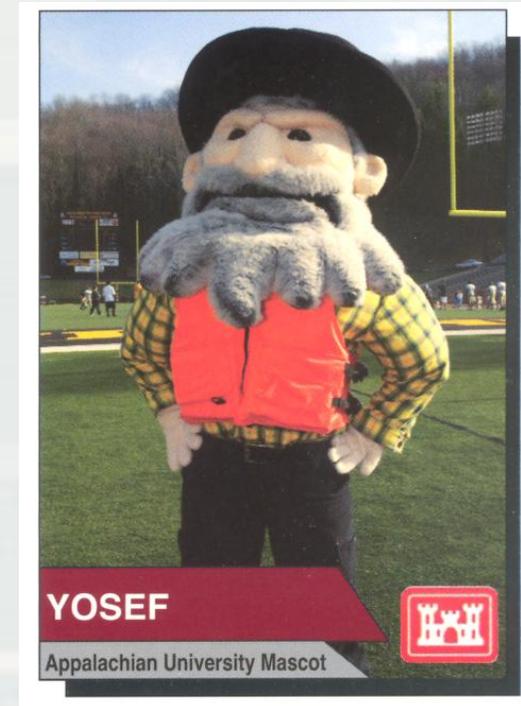
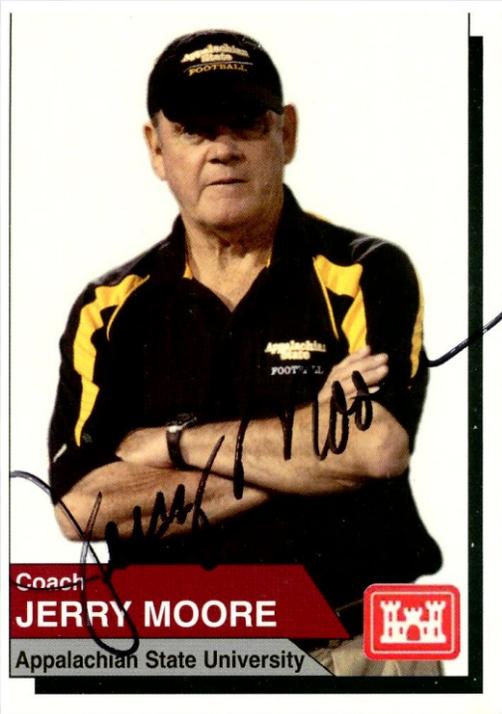
Case Study: W. Kerr Scott Lake & ASU



- Make initial school commitment easy, i.e. “Could we have 10 minutes of your time to take a picture of the mascot in a life jacket? Anytime would work for us.”
- At W. Kerr Scott Reservoir in SAW, Appalachian State University allowed a ranger to come to a practice to get photos and video of players, coach and mascot wearing life jackets and promoting water safety.



Water Safety Trading Cards



These are popular with kids and are cost effective way to promote water safety (4 cents per card)



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Take Advantage of the Image

Once you have established contact and made a successful interaction, get creative!

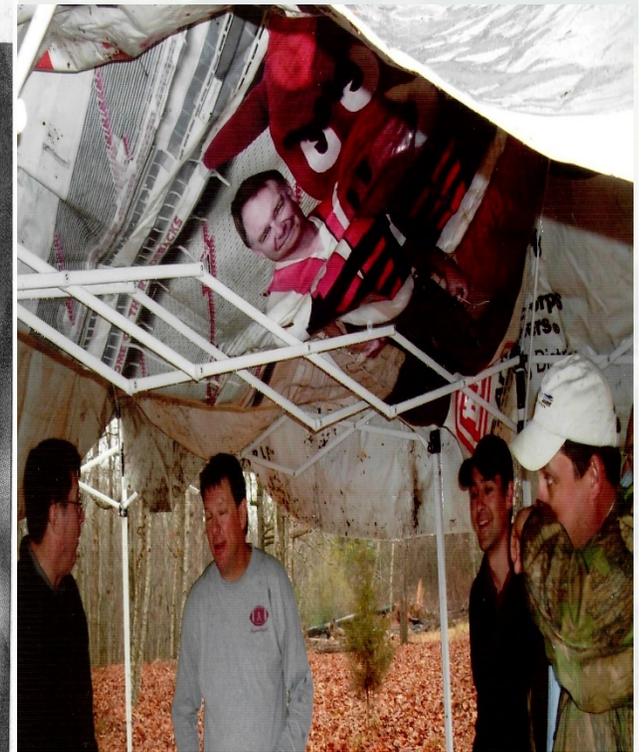
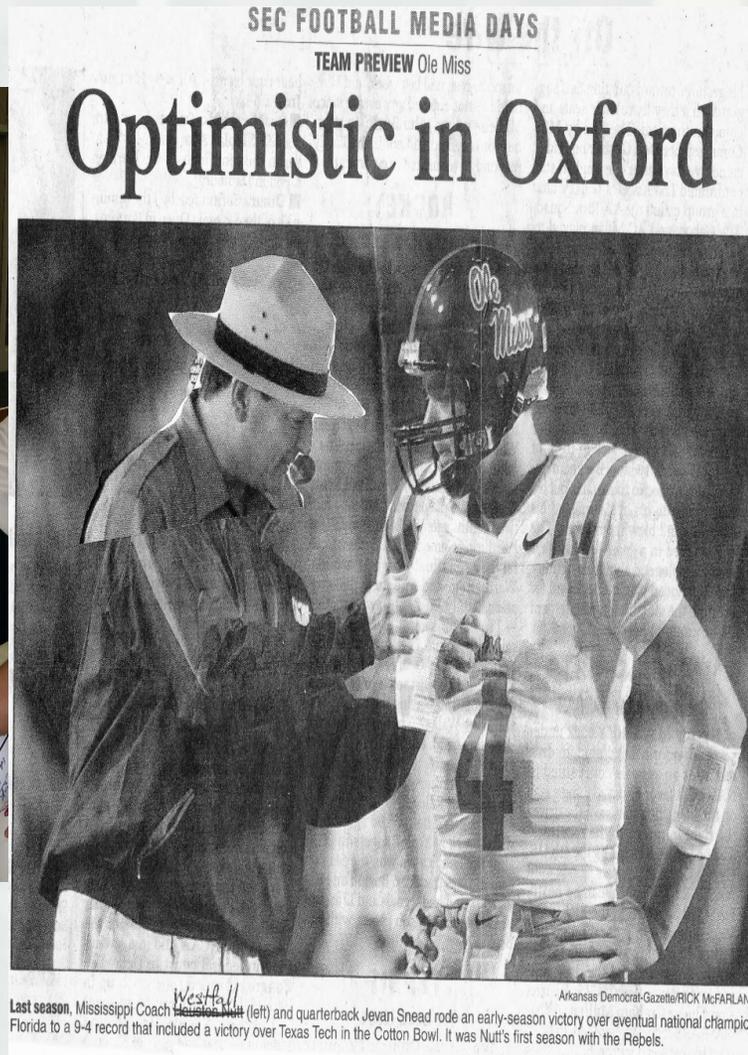
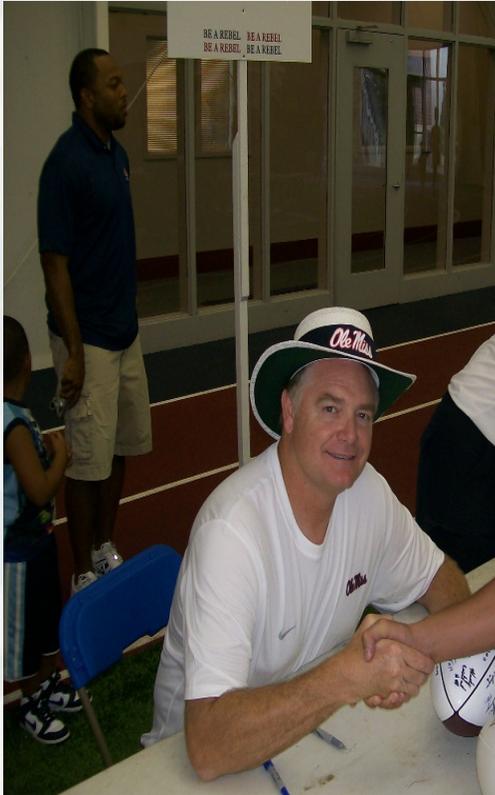


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Lessons Learned



Just Two Years Later!



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New Coach...We are Back in the Game!



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Nope. We're NOT!



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DeGray Lake Visitor Center Renovation

Estimate-\$350,000

Mary Beth Trubitt, PhD, Station
Archeologist for the Arkansas Archeological
Survey at HSU

- Serves as research and resource center
- Maintains archeological records, collections
- Teach anthropology courses and outreach

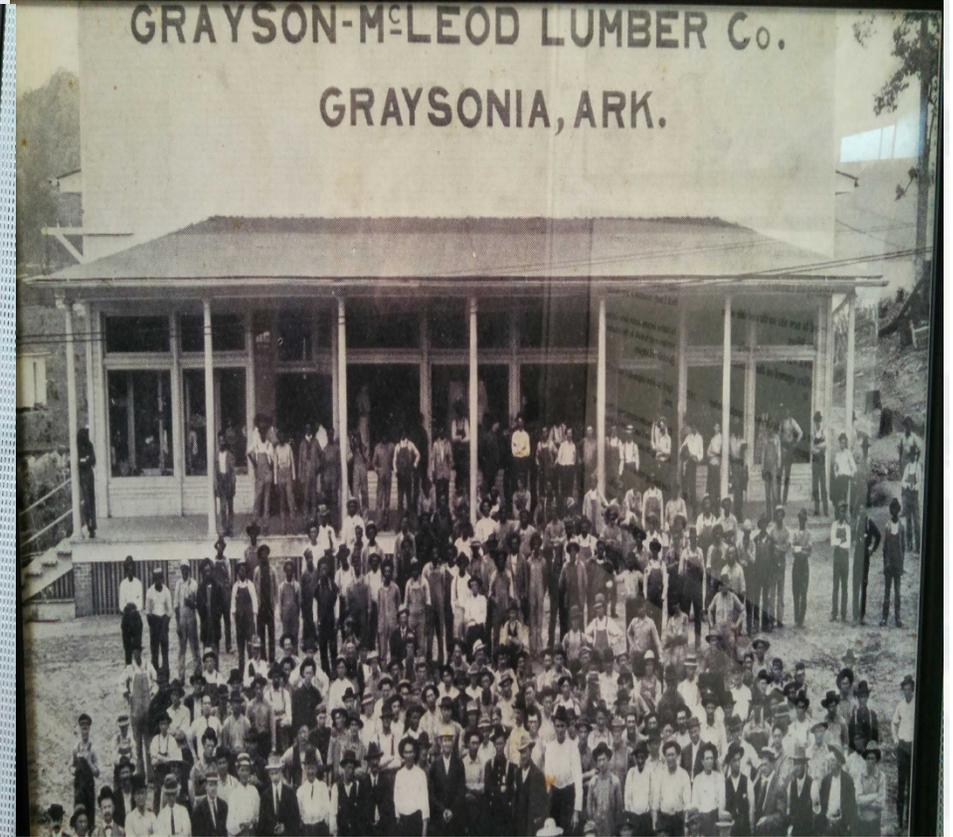
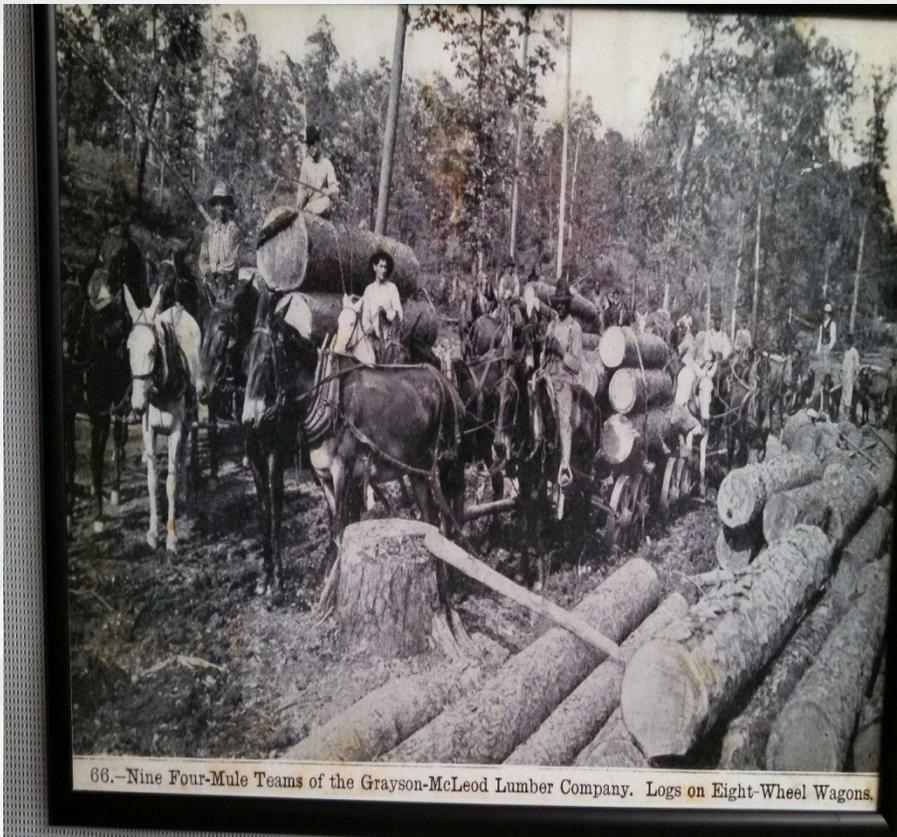


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- Artifacts on loan from the University (free)
- Caddo Village mural- cost of materials only
- Identification labels and labor for display (free)
- Provided historic trivia, loan historical photographs



Gone but not Forgotten



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Don't be a Settler!

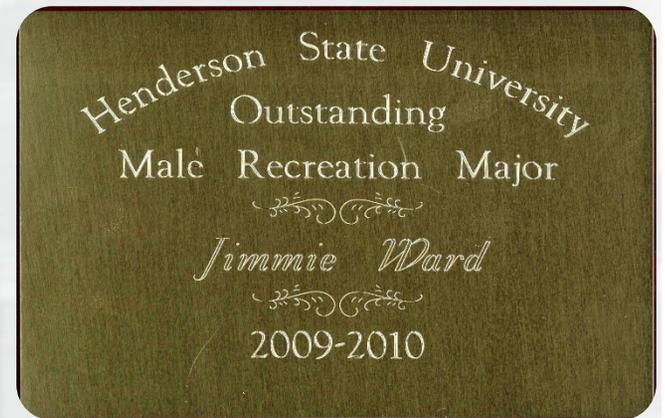


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Volunteer Interns

If you have a good working RELATIONSHIP with a university in proximity to your project, you can recruit volunteer interns.

Students are often required to do internships to fulfill their graduation requirements.



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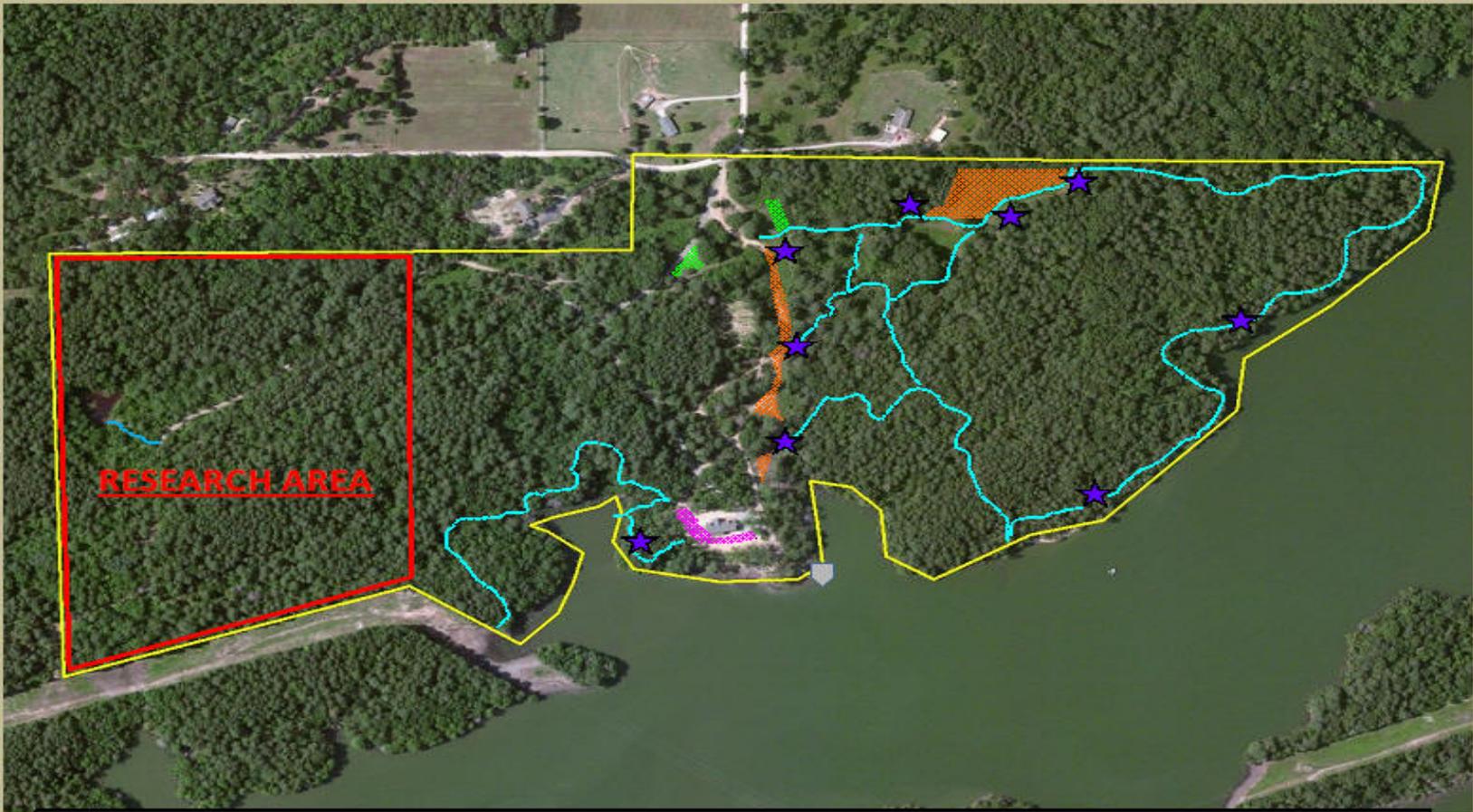
Simonson Biological Field Station

Henderson State University

- 7,200 square-foot log structure on 104 acres
- Classrooms and laboratory
- Student dormitory rooms
- Supports HSU faculty research, field based courses, educational outreach, biology club and biology department retreats and events
- Support use consistent with its mission



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- Field Station Boundary
- Research Area (Limited Access to Authorized Personnel Only)
- Hiking Trail
- Tall Grass Prairie Habitat
- Short Grass Prairie Habitat/Butterfly Garden
- Wildlife Food Plot
- Boat Dock (planned)
- ★ Wildlife Observation Blind (planned)



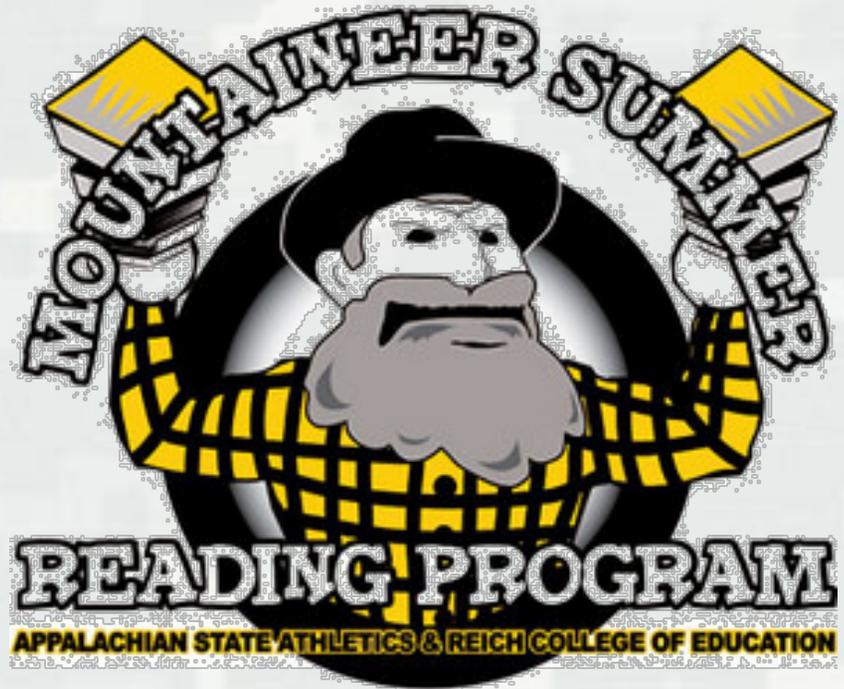
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Get creative and research the schools existing programs.

- Recreation Club
- Biology Club
- Sports Teams
- ROTC
- Art Club
- Greek Organizations

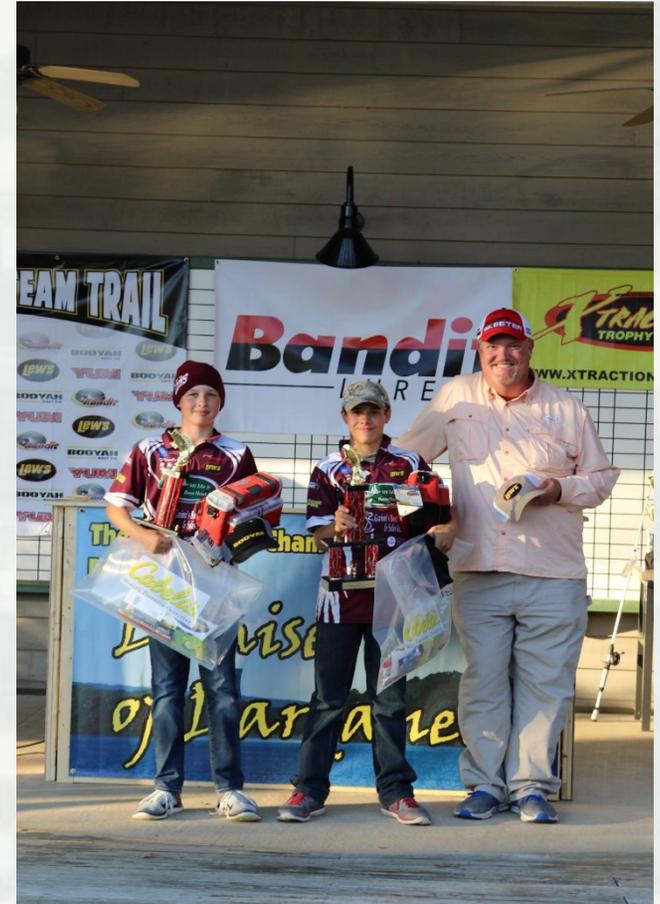


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High School/Collegiate Bass Fishing Teams

Mount Ida Jr. Bass Hookrz

- Habitat improvement
- Water Safety- (bullet proof demographic)
- Environmental education
- Volunteer for National Public Lands Day
- Building RELATIONSHIPS



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Get Students in your Park

Bird watching = partnership?

NC State biology and computer science department

+ interested citizens

+ Jordan Lake

= EAGLE CAM



NC State Eagle Cam

- This project originated when Army Corps of Engineers biologist, Francis Ferrell, led a class of NCSU ornithology students on a visit to an active Jordan Lake Bald Eagle nest in March 2010.
- A team of volunteer engineers, NCSU graduate students, faculty, and staff formed over the next six months.
- Video cameras installed at an active nest in October and began monitoring the breeding pair just before female laid two eggs in early December.

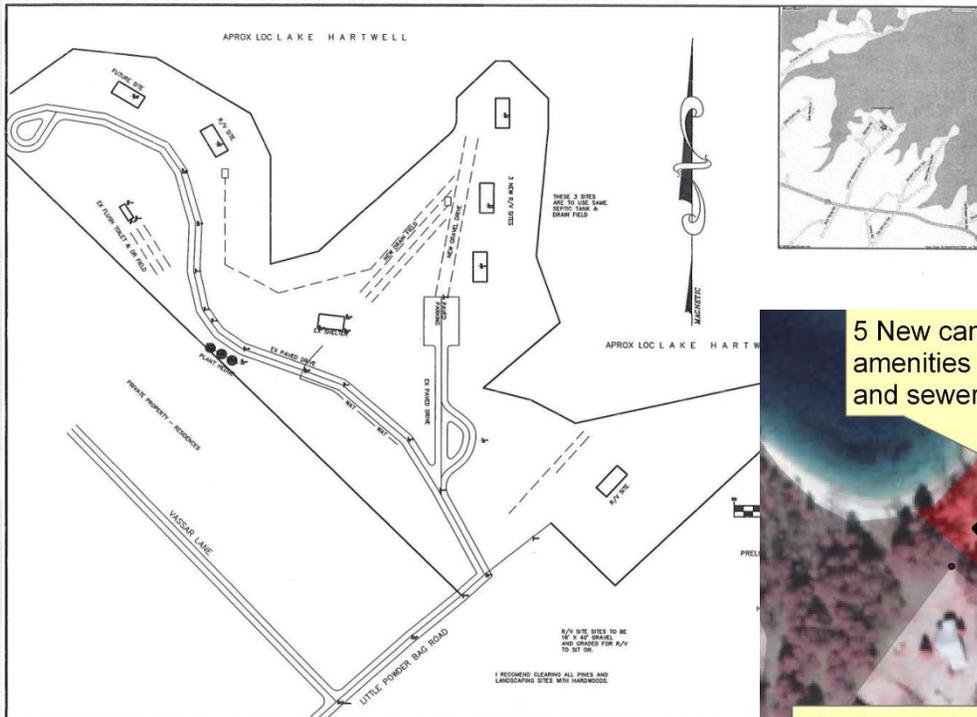
NC STATE UNIVERSITY

Live Video - Bald Eagle Nest at Jordan Lake, NC



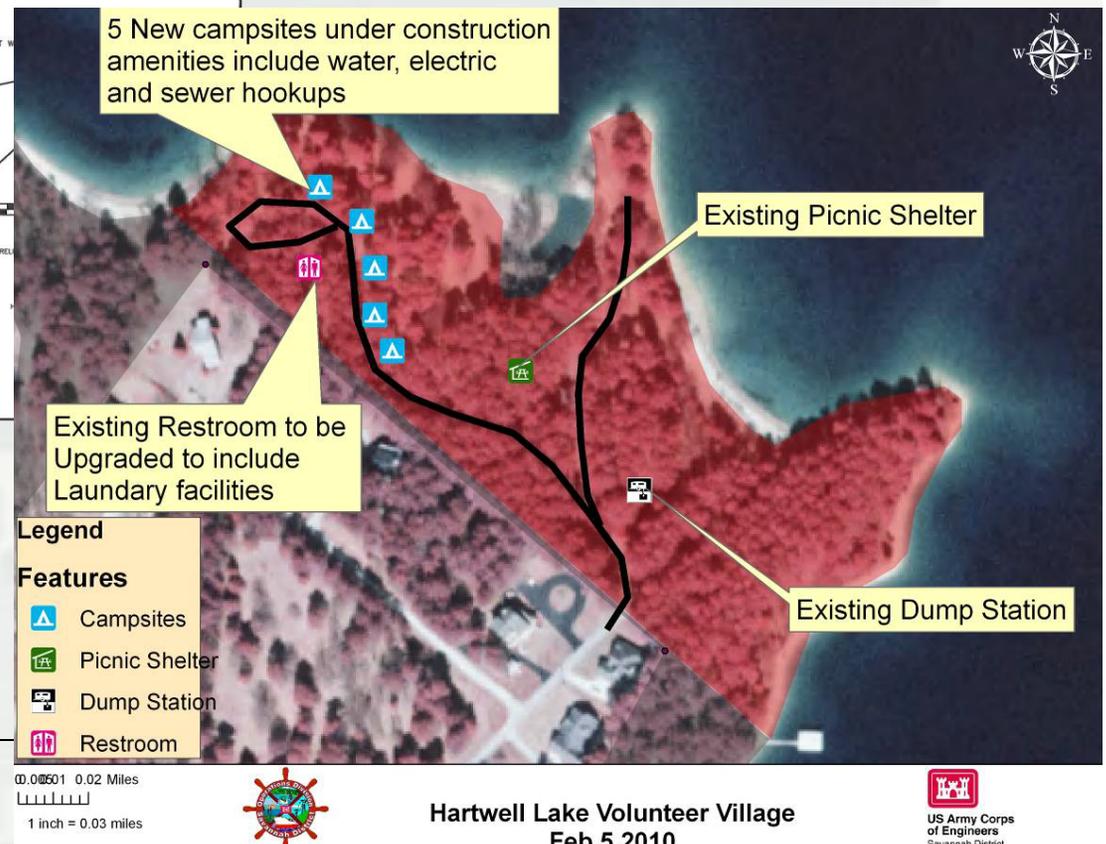
Nest is visible dawn to dusk Eastern Standard Time.

Clemson University Department of Parks, Recreation, Tourism



- 2009 MOU with Clemson for facility planning, outreach, data collection, program development

- Student assignment to design a volunteer village
- Winning design implemented at Hartwell



Hartwell Lake Volunteer Village
Feb 5 2010





Walla Walla District MOU with WSU



- Issue: Lower Granite- Illia Dunes Recreation area overuse. Popular party area for WSU students resulted in habitat degradation, littering, parking problems, safety concerns
- MOU signed with WSU in 2015 to involve students in addressing the problem and providing volunteer clean-up and restoration of the area



Juniata College Raystown Field Station



- Lease since 1974 to Juniata to provide opportunities for environmental research and education at Raystown.
- Developed Raystown Conservation Education Partnership
- Led to 2007 Handshake funded challenge partnership agreement for environmental education programming.



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Restoring Native Species at Allatoona

- Lake Allatoona has a 10-year plus relationship with Berry College.
- Ranger Terrell Stoves approached a professor at the college about a possible partnership to reintroduce the Mountain Longleaf Pine to Pine Mountain at the project.
- This success led to the expansion of the program 7 years later to include the project as a test site for the introduction of potentially blight resistant American Chestnuts.

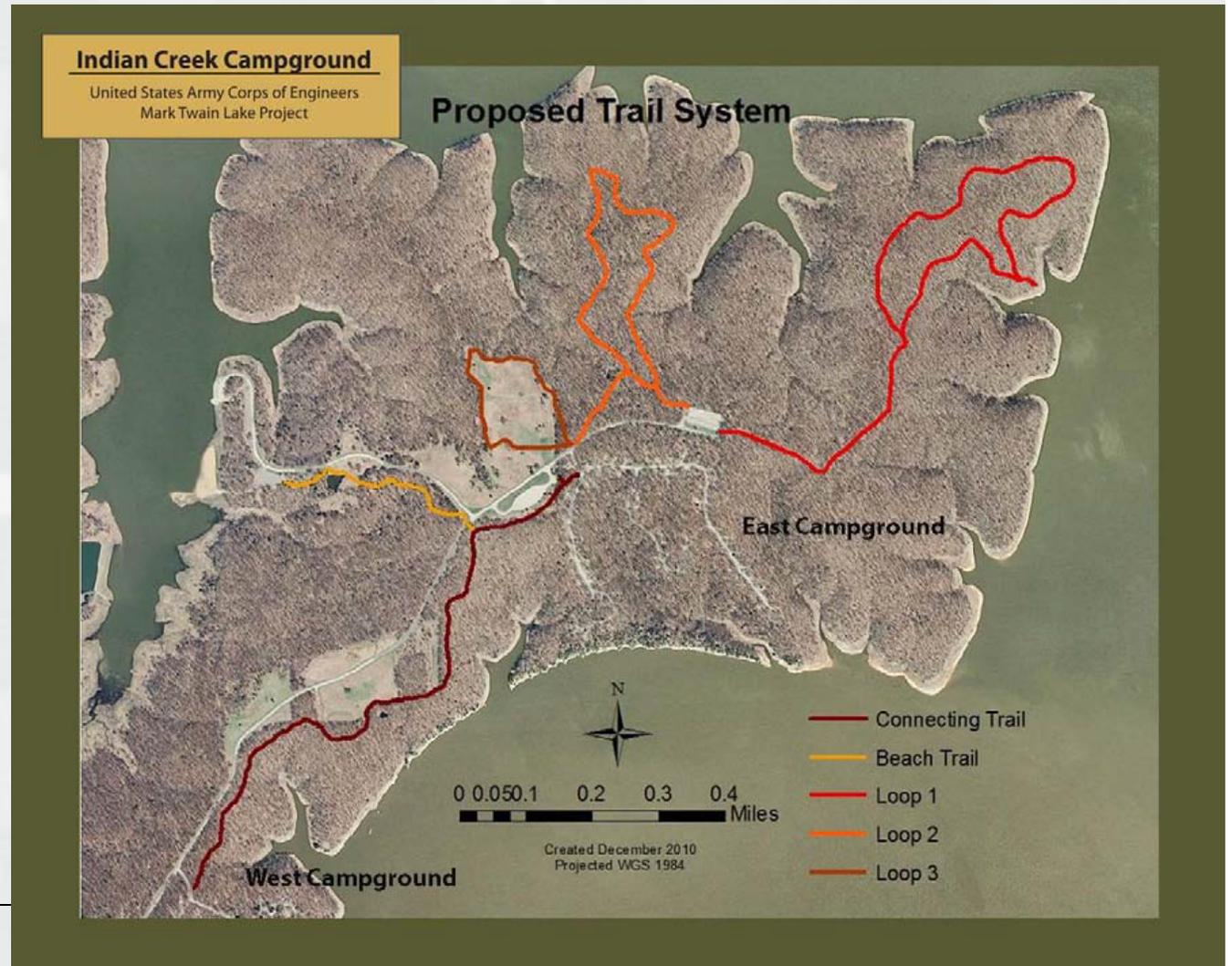


- The Professor on the Longleaf Pine project also happened to be the state coordinator for the American Chestnut Foundation with whom the Corps has a National MOU.



Trail Design at Mark Twain Lake

- MOU with Western Illinois University and the FOREST Council
- Worked with Open Space Park Planning/Landscape Construction class on needs assessment and design of multi-use trail project
- FOREST Council applied for grant \$



Clemson Water Quality Monitoring

- Clemson University awarded \$3M by the National Science Foundation to design, develop and deploy a basin-wide network of computerized sensors that provide real-time remote data acquisition to monitor water quality along the entire length of the Savannah River.
- Partnered with the Corps to place sensors and share data.

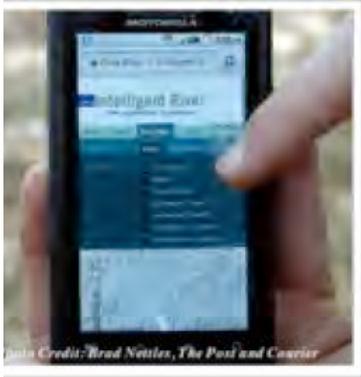
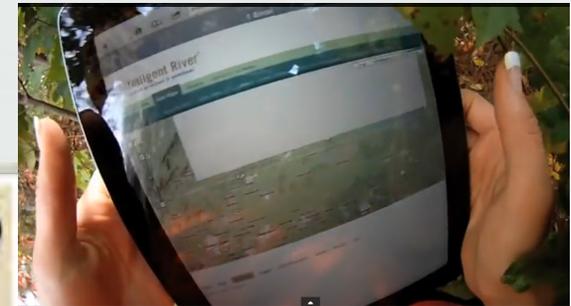
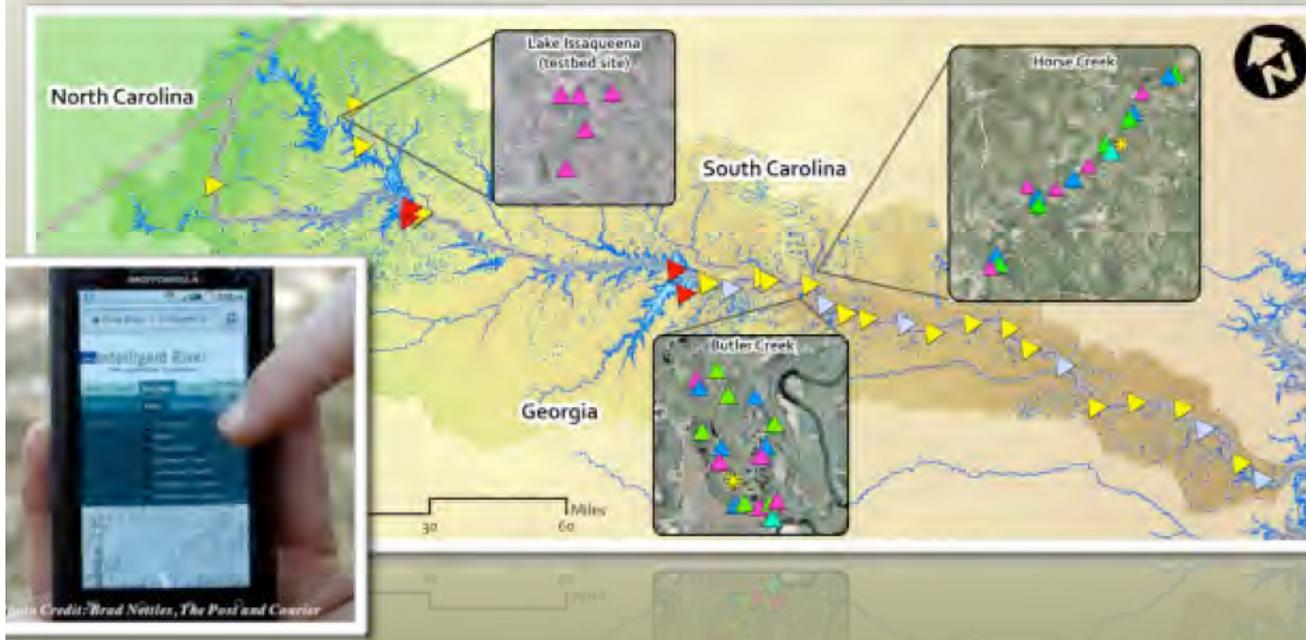
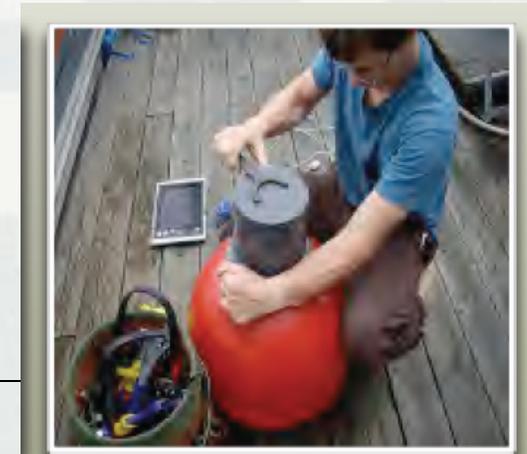


Photo Credit: Brad Nettles, The Post and Courier



Boise State Kestrel Box Program

- Students at BSU build and install kestrel nest boxes, develop management plan, monitor populations, band birds



Western Kentucky University Water Quality Work at Nolin River Lake

- Set up Interagency Personnel Agreement (OF-69) to fund water quality research by two WKU employees. No competition required. (*not to be used for students/grad students... must be a technical expert*)
- Authority: 5 USC 3374 Intergovernmental Personnel Act of 1970
- Allows temporary assignments of state, local, or tribal government, and university employees at Federal agencies
- Assignments should have mutual benefits for both organizations with sound public purpose to further the goals of the organizations
- Developed sampling/work plan to investigate harmful algal blooms and non-point source pollution
- End product: document that can be used to contract for sampling
- Led to partnership with USGS to install real time WQ monitoring stations that use remote controlled submarine

ESRI ConnectED Initiative

- ESRI offers an online ArcGIS organization account to every K-12 school in the U.S. for FREE. Also provide instructional tools and tech support.
- <http://www.esri.com/connected>
- Powerful tools to engage students with digital/electronic media and connect them with their nearby public lands and waters.
- Good way to meet the “Every Kid in a Park” initiative to get every 4th grader to a local park.



Beating the Odds: A Year in the Life of a Piping Plover

A story map | Audubon

Piping Plovers flock to the same shores that attract people. These birds are on the brink, with only 8,000 adults left. From Canada to the Caribbean, Audubon is working to safeguard sandy reaches critical to the birds' survival, and encouraging people to share the beach.

Intro Summer Fall Winter Spring

LEGEND

A map of North America showing the migration path of Piping Plovers. The path is highlighted in orange and red, starting from the Gulf of Mexico and moving north through the Atlantic coast to the Great Lakes region. The map includes labels for the United States, Mexico, and the Gulf of Mexico. A play button is visible on the map.

Shawn P. Carey/Migration Productions

A Diminutive Beachcomber's Life on the Edge

START

The Piping Plover, a federally threatened and endangered shorebird, inhabits wide, open beaches, shorelines, and dry lakebeds in North America. The global population of these sparrow-sized birds is only about 8,000 adults. It breeds primarily along the Atlantic coast from eastern Canada to North Carolina, on the shores of the Great Lakes, and along rivers, lakes, and wetlands of the northern Great Plains. In winter, the birds migrate to coastal beaches, sandbars, and lowlands from the

Help Audubon protect Piping Plovers



Outdoor Nation Campus Challenge

- 6-week competition between 59 colleges in 30 states to see who can get the most people outdoors and active
- Participating schools near Corps lakes:
 - Clark Atlanta University (GA)
 - Clemson University (GA)
 - College of St. Scholastica (MN)
 - Chico State (CA)
 - Hampshire College (MA)
 - Lyon College (AR)
 - Morehead State (KY)
 - Ohio State (OH)
 - Ouachita Baptist (AR)
 - Stephen F Austin (TX)
 - Spelman College (GA)
 - Texas Women's University (TX)
 - University of Iowa (IA)
 - University of MN Duluth (MN)
 - University of Washington (WA)
- <http://www.oncampuschallenge.org/>



DECA

- 501 (c)(3) student organization with more than 3,500 high school chapters and 5,000 college members in all 50 states
- <http://www.deca.org/about/>
- DECA prepares emerging leaders and entrepreneurs for careers in marketing, hospitality, management
- Potential to connect with DECA participants for school projects and contests that will provide tools and materials for the Corps (nature apps, outreach/marketing materials, digital web content, etc.)



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Cooperative Ecosystem Studies Units

- A national network of federal agencies, universities, tribes, state/local governments working together to provide technical, scientific, and educational support for natural/cultural resource management
- Organized in 17 geographic units with >377 partners
- MOU between agencies. Specific projects set up through cooperative agreements.
- Corps agreements coordinated by Al Confrancesco and Glenn Rhett through ERDC
- Host universities coordinate admin support and access to staff/students
- Projects for education, research, technical assistance



Cooperative Ecosystem Studies Units

- Facilitates collaboration across agencies/non-fed partners
- Provides a pathway for federal agencies to fund projects at partner institutions with defined overhead (17.5%) and cost-sharing
- Cooperative agreement can be issued for 5 years (using options)
- Examples of USACE work completed through CESU agreements
 - ▶ Coastal restoration of seagrass, saltmarsh and dune grass in Chesapeake Bay
 - ▶ Japanese Hops monitoring, control and management
 - ▶ Citizen science avian monitoring (helps to meet Level 1&2 inventory requirements)
 - ▶ Economic analysis of low water levels in Hartwell Lake
 - ▶ Web-based hunting permit program for Lavon Lake
 - ▶ Georeferencing and operational missions of Nova 2 UAS
- <http://www.cesu.psu.edu/>
- Procedures to initiate a CESU project on Gateway



Process to Initiate a Project with a CESU

1. Identify a project and the appropriate CESU region – must be a public benefit and clear R&D element
2. Prepare a statement of interest (SOI) – (like a Scope of Work)
3. Transfer funds via MIPR to ERDC for processing by their grants officer. Typical admin costs = 6% of project cost
4. Grants officer contacts CESU host university to post the SOI for a minimum of 10 days.
5. District technical POC reviews SOIs and prepares a Request for Full Proposal (RFP) to the selected recipient.
6. Technical evaluation
7. Award

Note: Average time to award is 2 – 4 months depending on ERDC workload and priorities



CESU Study Summaries

Great Lakes and Northern Forest

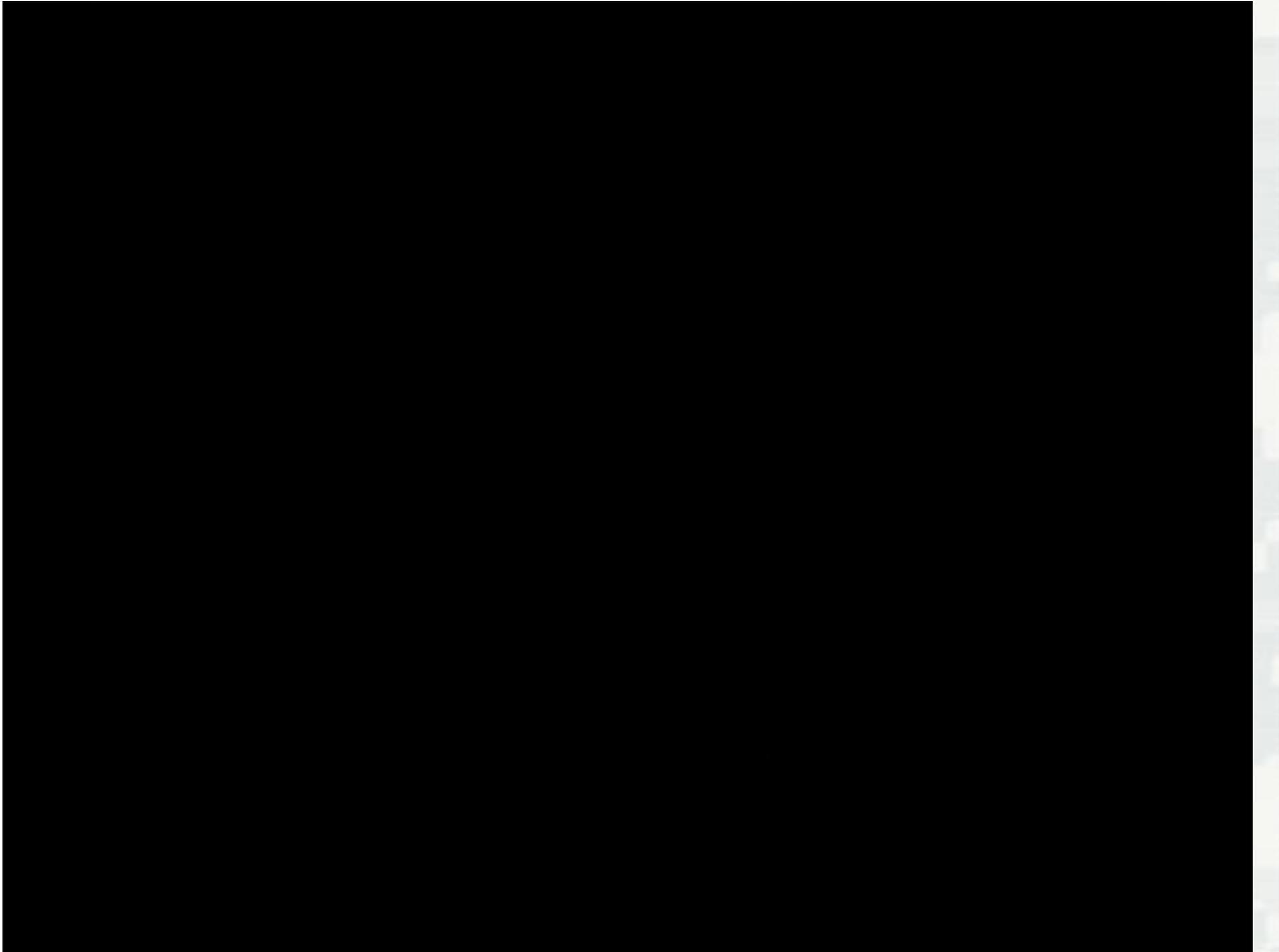
- [Potential Effects of Aquatic Nuisance Species on the Behavior of Recreational Anglers, Boaters, and Beachgoers](#)
- [Net Benefits of Recreational Fishing, Beachgoing, and Boating in the Great Lakes, Upper Mississippi River, and Ohio River Basins: A Review of the Literature](#)
- [Net Benefits of Recreational Fishing in the Great Lakes, Upper Mississippi River, and Ohio River Basins](#)
- [St. Marys River Coordinator and Working Group for the International Upper Great Lakes Study](#)
- [IUGLS Ecosystems Study Area Working Group: Investigating the Effects of Changes in Lake Level on Coastal Ecosystems](#)

Great Rivers

- [Support for the UMRS Navigation and Ecosystem Sustainability Program Science Panel](#)
- [Side Channels of the Impounded and Middle Mississippi River: Opportunities and Challenges to Maximize Restoration Potential](#)
- [Upper Mississippi River System Ecosystem Restoration Objectives 2009](#)
- [Genetic Analysis of the Federally Endangered Winged Mapleleaf Mussel to Aid Proposed Reintroduction Efforts](#)
- [Research to Determine Cultural Affiliation of NAGPRA Remains from Truman, Pomme de Terre, Stockton and Smithville Reservoirs in Missouri](#)
- [Partial Restoration of Natural Hydrology on the Upper Mississippi River System: An Adaptive Management Approach for Water Level Reductions](#)

Gulf Coast

- [Georeferencing Capabilities and Operational Missions of the Nova 2 Small Unmanned Aircraft System](#)
- [Webbased Hunting Permit Program for Lavon Lake Office, Texas](#)
- [A Water and Sediment Budget for the Lower Mississippi/Atchafalaya River in Flood Years 2008-2010: Implications for Sediment Discharge to the Oceans and Coastal Restoration in Louisiana](#)
- [Development of Riverware Model of the Rio Grande for Water Resources Management in the Paso](#)



Questions?



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