UNEVEN-AGED SILVICULTURE AND HURRICANE DISTURBANCE AT THE ESCAMBIA EXPERIMENTAL FOREST

Author: Kimberly Bohn, Christel Chancy and Dale Brockway

A long-term project, entitled the “Comparative Analysis of Reproduction Techniques (CART) for Sustainable Management of Longleaf Pine Ecosystems” at the USFS Escambia Experimental Forest in Brewton, AL, was designed as an operational-scale effort to compare uneven-aged silvicultural methods (single-tree and group-tree selection methods) and even-aged methods (shelterwood with reserves) in longleaf pine ecosystems. However in September 2004, two months after harvesting was complete, the study sites were directly impacted by Hurricane Ivan resulting in significant damage to the recently cut shelterwood treatment plots. Forest damage was less severe, though noticeable, on plots treated with selection system. While the original intent of the study design was to compare regeneration and growth following specific silvicultural treatments to specific residual stocking, the addition of hurricane disturbance provides an opportunity to evaluate the interactive effects of natural disturbance and to determine how best to adapt management in “the hurricane zone”.

Christel Chancy, a graduate student in SFRC’s online Master’s degree program in Ecological Restoration took advantage of her proximity to the Escambia Experimental Forest to complete an independent study project to compliment her coursework. The specific objectives of this research were to compare forest structure and to quantify regeneration responses 6 years following harvesting and hurricane impact. Interestingly, the range of gaps sizes and spatial distribution of remaining trees in either the single-tree or group selection plots did not vary much following hurricane impacts. In fact, four of the six plots in single-tree selection treatment areas had aggregated or clumped tree distributions, indicative of large gap openings interspersed between groups of residual trees. This would be a pattern more likely to be expected, and also was observed, with group selection methods. The group selection plots contained significantly more small grass-stage regeneration than single-tree selection but there were significantly more bolt-stage regeneration in the in the single-tree than the group selection plots, perhaps because of the larger disturbance-induced gaps in these plots. In conclusion, although application of uneven-aged selection system methods requires special attention to both residual basal area and size of regeneration openings, in hurricane-prone areas attention to gap size may be may be less consequential as natural disturbance tends to even out the distribution of gaps sizes and residual trees across a stand. To learn more contact Kimberly Bohn, Associate Professor, West Florida Research and Education Center, kkbohn@ufl.edu
The Value of Forest Conservation for Water Quality Protection


Forests protect water quality by reducing soil erosion, sedimentation, and pollution; yet there is little information about the economic value of conserving forests for water quality protection in much of the United States. To assess this value, we conducted a meta-analysis of willingness-to-pay (WTP) for protecting unimpaired waters, and econometrically determined several significant drivers of WTP: type of conservation instrument (tool), aquatic resource type, geographic context, spatial scale, time, and household income. Using a benefit transfer to two highly forested sites, we illustrate the importance of these factors on WTP for water quality protection programs, forest conservation and policy design.

Forests © 2014. OPEN ACESS JOURNAL. Click here to read full article for free.

Recent Research

Recent Research

The Value of Forest Conservation for Water Quality Protection


Forests protect water quality by reducing soil erosion, sedimentation, and pollution; yet there is little information about the economic value of conserving forests for water quality protection in much of the United States. To assess this value, we conducted a meta-analysis of willingness-to-pay (WTP) for protecting unimpaired waters, and econometrically determined several significant drivers of WTP: type of conservation instrument (tool), aquatic resource type, geographic context, spatial scale, time, and household income. Using a benefit transfer to two highly forested sites, we illustrate the importance of these factors on WTP for water quality protection programs, forest conservation and policy design.

Forests © 2014. OPEN ACESS JOURNAL. Click here to read full article for free.

Upcoming Events


- Spring Restoration and Protection in Northwest Florida: A CFEOR Field Tour (by Canoe) on May 16, 2014 in Youngstown, FL. Take a canoe ride down the Ecofina Creek and learn about springs restoration and protection activities. Registration is now open for CFEOR participants at sfrc.ufl.edu/cfeor/UpcomingEvents.html


Upcoming Events

- Ignition Planning & Prescribed Fire Techniques for Wildlife
  May 5-8, 2014 at the Cecil Commerce Center, 13561 Lake Newman Street, Jacksonville, Florida. This training combines classroom lectures, panel discussions, and field exercises on the use of Prescribed Fire as a management tool for a variety of wildlife and habitats. A full agenda and registration info is available on the chapter website: http://fitws.org/

- Mark your calendars-ACES: A Community on Ecosystem Services Conference will be held December 8-11, 2014 in Washington DC. For more information go to http://conference.ifas.ufl.edu/aces/

CFEOR Mission:
To develop and disseminate knowledge needed to conserve and manage Florida’s forest as a healthy, working ecosystem that provides social, ecological and economic benefits on a sustainable basis.

CFEOR Administration
Dana Bryan, DEP/Florida Park Service
Steering Committee Chair

Newsletter Contacts
Melissa Kreye, School of Forest Resources and Conservation, CFEOR Coordinator, mkreye@ufl.edu
Nancy Peterson, School of Forest Resources and Conservation, CFEOR Executive Director, njp@ufl.edu
Phone 352.846.0848 ·Fax 352.846.1277· PO Box 110410· Gainesville, FL