

ECOSYSTEM RESPONSES TO BIOFUEL PRODUCTION

A McIntire-Stennis supported project



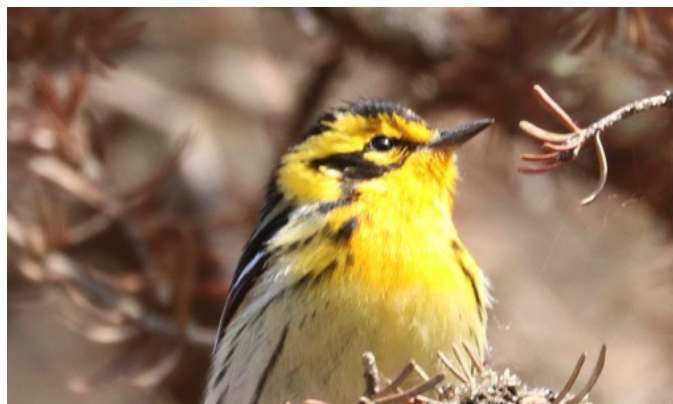
Michigan Tech
School of Forest Resources
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Biofuel production from forest ecosystems can modify plant production, greenhouse gas emissions, soils, water, and biodiversity. Changes in any of these processes and systems can greatly alter forest carbon absorption or emissions and water quality and quantity and these relationships provide the rationale for developing sustainable biofuels production.

This research project looked at biodiversity questions related to biofuel production in tree plantations. It also clarified the relationship between habitat management in production landscapes and bird movement and habitat use. This project confirmed the general notion that retained legacy trees enhances bird diversity within intensively managed aspen stands.

The goal of this project was to identify how biofuel production alters:

- (1) greenhouse gas emissions and the amount and type of soil carbon that is being sequestered or lost.
- (2) water cycling and quality
- (3) the richness of native species, including birds.

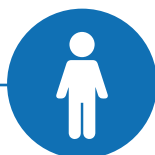


About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.



COLLABORATION



Michigan Tech is collaborating with the Universities of Juarez Autonoma de Tabasco, and Postgraduado-Villahermosa, Mexico, and Universities of New Hampshire and Northern Arizona

Established new collaborative relationships with Mexican and U.S. scientists that led to new M.S. and Ph.D funding

IMPACT

This project has contributed new knowledge on how tree plantations for biofuels support or fail to support birds and pollinators and how we can better manage habitats to enhance biodiversity of these species.



6

Peer reviewed publications included results from this research project



14

undergraduate, masters, and Ph.D students received education and mentorship through work on this project



148,000

acres of operational short-rotation woody crops in the U.S. grown for biomass