



Perspectives from the Association of Fish & Wildlife Agencies on Integrating Fish & Wildlife Conservation with Bioenergy Production

A heavily stocked pine plantation (left) and a recently thinned and burned, wildlife-friendly pine stand (right).

OPPORTUNITIES

Fish, wildlife, and the habitats they depend on not only enrich our lives, they support our economy as well. Every year, outdoor recreation contributes \$887 billion to the US economy and support 7.6 million jobs – 1 in 20 of all U.S. jobs. Hunting, fishing, and other wildlife-dependent recreation alone generates \$93.4 billion per year in America.

But fish and wildlife – and the outdoor economy they help support – are at risk. The biggest threat to fish and wildlife is habitat loss. Some habitats – such as longleaf pine savannas in the Southeastern US and tallgrass prairie in the Midwest – have declined by 98% or more. The most significant habitat losses are

in the Southeast, Northeast, Midwest, and California – which are also areas with high biomass potential.

Bioenergy production from existing native plant communities offers some of the best opportunities to help meet US energy goals while at the same time preserving fish and wildlife. With deliberate planning and the assistance of state fish and wildlife agencies and other conservation partners, the following win-win solutions can be employed with great success.

FORESTS

Many forest types contain a wealth of small diameter woody plants which could be selectively removed to enhance forest health while improving habitat for priority

wildlife. In the Southeastern US, biomass harvest can be part of pine savanna restoration. In the Western US, woody debris creates considerable wildfire risk, but focusing on technology and innovation to sustainably manage Western forests could reduce wildfire risk and provide huge amounts of woody biomass.

GRASSLANDS

Of the 170 million acres of tallgrass prairie that once existed in North America, only 4% is left. Further west, conversion of mixedgrass and shortgrass prairies to agriculture is ongoing, with 770,000 acres converted from 1997-2007. Using highly productive native grasses as feedstocks in grassland



Invasive Species

Invasive species – including kudzu, above – cause an estimated \$120 billion in losses and damages per year in the US. Invasive species are also a contributing factor in over 400 threatened or endangered species listings in the US. Using invasive plant biomass for bioenergy purposes could benefit control and eradication efforts.



Native Grasses

Using native grasses as a bioenergy feedstock can both support wildlife and produce significant biomass. Using different species of grass instead of planting a monoculture can increase wildlife benefits. Adding native flowers and legumes to a feedstock planting provides the best habitat.

landscapes is an opportunity to meet needs for bioenergy and wildlife. For example, the very first Biomass Crop Assistance Program (BCAP) project area included 39 counties in Kansas and Missouri with a focus on planting native grasses and forbs. Native grass and forb plantings are also attractive to landowners because they can be used for livestock forage if biomass production exceeds market demand.

INVASIVE SPECIES REMOVAL

There are many examples in the US where native ecosystems are invaded by aggressive plants, such as juniper encroachment on prairies and kudzu throughout the Southeast. Harvest and use of these unwanted plants could benefit fish, wildlife, and their native habitats. But, it is important that the focus be on reduction/eradication and does not lead to expanded distribution of destructive plants.

DISASTER & WASTE MATERIALS

Each year, hurricanes, tornadoes, floods, drought, and other natural disaster events damage neighborhoods and affect native habitats. In cities and towns, yard waste is generated in huge amounts and much of it continues to be discarded. To make the most efficient use of our natural resources, it makes sense to use readily available sources where possible before placing more land into production. Increasing investment in mobile conversion processes could yield dividends by allowing processing to go wherever biomass becomes available.

RIGHTS-OF-WAY

Utility, highway, and other rights-of-way (ROW) require management. Some ROWs are broad, easily accessible, and could produce biomass consistently and safely. Planting and managing ecologically friendly native biomass could help meet energy goals and reduce ROW maintenance costs.

Contact your state fish and wildlife agency to learn more about win-win opportunities for bioenergy and wildlife.

Learn more at:

bit.ly/FishWildlifeBioenergy



Integrating bioenergy production and habitat conservation can help preclude the need to list species under the Endangered Species Act. The Gopher Tortoise, above, is a Candidate for listing. Harvesting biomass in Southeastern pine forests can create savanna habitat and help the Gopher Tortoise and other priority species.

References:

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