

The Role of Fish and Wildlife Agencies in Sustainable Biomass Production for Bioenergy

By: The Association of Fish & Wildlife Agencies

Fish, wildlife, and the habitats they depend on not only enrich our lives, they support our economy. Every year, outdoor recreation contributes \$887 billion to the American economy and supports 7.6 million jobs – nearly 1 in 20 of all U.S. jobs. Hunting, fishing, and other wildlife-dependent recreation alone generates \$93.4 billion per year. Organizations such as the Association of Fish and Wildlife Agencies – the collective voice of North America’s state, provincial and territorial fish and wildlife agencies – can partner with industry to ensure the sustainability of our fish and wildlife resources as we move toward the mutually beneficial contributions to society that bioenergy can provide.

Bioenergy production from restoration and/or sustainable management of existing native plant communities offers some of the best opportunities to help meet U.S. energy goals while, at the same time, conserving fish and wildlife. Such opportunities include: 1) removal of woody material to help to restore forest health and ecologically site-appropriate diversity as well as reduce wildfire risk, 2) restoring native grasses (e.g., switchgrass, big bluestem, indiangrass) on lands previously converted to row crops, 3) avoiding invasive species as feedstocks to reduce the \$120 billion/year in damage they cause and their impact on threatened and endangered wildlife, 4) using readily available waste materials when possible before placing more land into bioenergy production, and 5) improving utility and other rights-of-way by planting and managing them for biomass production using site-appropriate, native plants. The more a landuse – like energy crop production – can mimic a native habitat, the more favorable the impact on fish and wildlife.

The biggest factor contributing to fish and wildlife declines is habitat loss. Potential risks of bioenergy production include: 1) additional conversion of land, including native ecosystems and marginal lands that currently support our wildlife, 2) genetically modified energy crops cultivated for increased yields, disease and pest resistance, and broad adaptability – characteristics that mimic invasive species, 3) reduced diversity in the form of single-species plantings, and 4) harvesting at times critical for wildlife (e.g., spring and early summer) or removing all cover, which can serve as a refuge from predators or harsh weather. Though these factors may appear insurmountable, working with state fish and wildlife agencies and other conservation partners can help reduce habitat risks associated with bioenergy production.

The more producers know up-front about wildlife-friendly practices, the easier it will be to avoid potential conflicts down the road. When establishing crops, it is important to use ecologically site-appropriate native species when possible and develop containment plans if non-native species are under consideration. The more diversity that can be introduced through multi-species plantings, the better. If that is not possible, then consider breaking up single species plantings into blocks of different species and use field borders as a place to plant wildlife-friendly mixtures. These buffers not only provide much-needed wildlife habitat, but when widened and placed near waterways they can improve water quality by minimizing runoff from fields. The use of fertilizers, pesticides, and herbicides should always be minimized and special care should be taken to avoid wetlands, rivers, streams, or other natural aquatic habitats. When harvesting, avoid primary nesting and calving seasons and leave as much residual stubble as possible for wildlife cover. If a portion of the field can be left unharvested, that will help by creating refugia or corridors for use by wildlife. Finally, harvest equipment should be cleaned regularly to avoid transporting potentially invasive species to new locations. These and other guidelines can best

be outlined by creating “Best Management Practices (BMGs)” that are developed in conjunction with state fish and wildlife agencies or other conservation personnel.

Can bioenergy development and sound fish and wildlife management co-exist? The answer is, “It depends.” It is important for society to consider our natural resources in the economic equation if bioenergy is to be truly sustainable over the long-term. With attention to advance planning and the assistance of state fish and wildlife agencies and other conservation partners, we can meet the nation’s energy goals and sustain native fish and wildlife.

For more information (including a future list of state bioenergy contacts) please see bit.ly/FishWildlifeBioenergy.