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## Waterbirds on Working Lands Recommended Practices for All Crops

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Regardless of your farm location or crops grown, there are some general management techniques that can be applied to improve wildlife habitats on farmland. For most farmers, improvements will only require minor modifications to current practices. The recommendations fall into the following five areas of your operation:

1. Nutrient Management
2. Tillage Management
3. Integrated Pest Management (IPM)
4. Harvest Management
5. Field Border and Edge Management

### **Nutrient Management**

As nutrient costs continue to rise, producers are paying much closer attention to the cost of nutrients and are trying to improve overall use and return. Good nutrient management practices for growing a profitable crop are very similar to those needed for improving waterbird habitat. Nutrient management that ensures good water quality will benefit waterbirds. Consider the following:

1. Have a written nutrient management plan. This plan should account for all of your nutrients and will be used as the starting point for your crop management plan. In addition to conventional nutrient management considerations, the plan should also address the potential impacts of nutrients on ground and surface waters and wildlife populations. Good water quality is critical to waterbird success. Having an agronomist help you prepare the plan will ensure that all details will be included.
2. Use soil testing and manure analysis in making nutrient recommendations. If your region of the country allows, use in-season nutrient testing and apply only the nutrients that are needed by the crop.
3. Apply nutrients when they can be most effectively used by the crop. In many cases, a split application system that allows maximum use by the crop

will benefit yield as well as waterbird habitat.

4. Focus management on all important nutrients, not just nitrogen. Phosphorous and potassium as well as micronutrients need to be part of a nutrient management plan. Excessive phosphorus can impair surface water quality.

5. Use management practices that prevent movement of nutrients into ground or surface waters. These practices include filter and buffer strips, as well as following wellhead protection procedures.

## **Tillage Management**

Tillage systems vary widely across most production systems and crops. However, any tillage practice that leaves crop residue, reduces erosion, and maintains and protects wetlands will benefit waterbirds. Commitment to long-term reduced-tillage systems not only will benefit wildlife, but improve soil health and crop productivity. Therefore, consider the following when evaluating your tillage systems:

1. Consider a tillage system that will leave residue and waste grains. The residue will protect the soil, and the grains can be used by wildlife as a food source.
2. If tillage needs to be done, conduct it at a time that will have minimal impact on bird populations. This generally means delaying tillage for as long as possible. In the Northern Plains, groups such as Ducks Unlimited have implemented programs to help producers delay stubble tillage of winter wheat. This practice provides habitat for late-nesting waterbirds including Northern Pintail and Upland Sandpiper.
3. When possible, use a no-tillage system that will reduce trips in the field and soil disturbance. Fewer trips across the field will leave a better nesting and bird-resting environment.

## **Integrated Pest Management (IPM)**

Integrated pest management involves using the best pest management practice that will benefit not only the cropping system, but also the environment. In many cases, IPM utilizes multiple methods of control that are based on economic and pest thresholds. Prudent use of agrichemicals that are part of an IPM plan will not only benefit the economics of production, but waterbirds and the overall environment. When building an integrated pest management plan, consider the following:

1. Have a written IPM plan for the crops you grow. This plan should include all possible alternatives for pest management, how pest monitoring will be conducted, what thresholds will be used, and costs for control activities. You may consider including a section on reducing agrichemical effects on wildlife. Having an agronomist assist you will ensure that all details will be included.
2. Adopt proactive, ecological pest management solutions. Use the safest practice that will have the least environmental impact. For many pests, crop

rotations offer the most economical and effective method of control. Also consider planting pest-resistant cultivars, creating habitat for beneficial organisms, and maintaining healthy, biologically active soils. These practices reduce the carrying capacity of the farm for pests. Biotech varieties that contain a protein to protect the plant from specific insect pests can reduce surface applications of pesticides that kill a broad range of pests.

3. When choosing agrichemicals, choose herbicides, insecticides, and fungicides with low toxicity and good environmental profiles. When possible, avoid the use of liquid or granular insecticides. Since many bird populations are dependent on insects for food sources, it is important to select insect control systems with minimal impact on beneficial insects.

4. When using agrichemicals, make sure that you read the label, use the correct rate, and apply only what is needed. This means using proper calibration and making applications under the right environmental conditions that will reduce drift. Many times agrichemicals can drift into non-target areas that will destroy waterbird edge habitat.

5. Monitor pest levels, set economic threshold levels, and keep detailed records of IPM practices for future evaluation.

## **Harvest Management**

Today's harvesting machinery is much more efficient than equipment that was used even 10 or 15 years ago. It is important for producers to manage and set up this equipment to be as efficient as possible. However, there are a few simple practices that a producer may consider that can benefit waterbirds and wildlife, as well as improve agronomics:

1. The importance of crop residue has already been discussed in the tillage section. An additional consideration for many cropping systems is to increase crop harvest height (the distance from the soil surface to that at which the combine header is run) so that more residue remains during overwintering and early nesting. In northern climates, this may also allow the soil to warm faster in the spring, which may have a positive agronomic impact.

2. If a portion of a field is damaged by flood, drought, weeds, etc., and the grain is difficult to harvest or is of poor quality, consider leaving some of this crop for wildlife. Always check with your crop insurance provider to determine the feasibility of leaving unharvested crops.

## **Field Borders and Edge Management**

1. Waterbirds and other wildlife can often be found in areas surrounding fields. Field edges are essential habitat for many species. Some simple management practices can be used to enhance these for food plots. Areas of waste grain also can be left near borders.

2. Identify, maintain and manage wetlands and moist soil units to encourage waterbird use. If a cropped area is consistently unproductive, consider enrolling in a [conservation program \(http://www.nrcs.usda.gov/programs\)](http://www.nrcs.usda.gov/programs) such as CRP or WRP.