

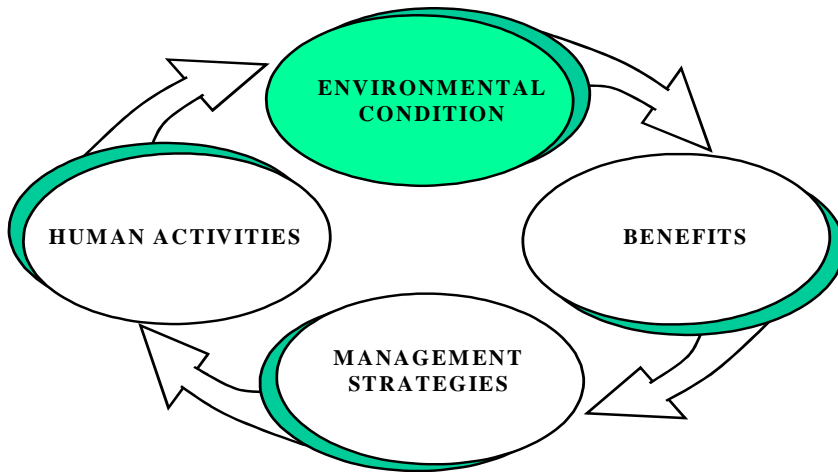
# Environmental Indicators Initiative

DEVELOPING ENVIRONMENTAL INDICATORS FOR MINNESOTA

INDICATOR **F**ACTSHEET

SUSTAINING MINNESOTA'S AGRICULTURAL AREAS

## Ring-necked Pheasant Populations



### What does the indicator tell us?

Ring-necked pheasants nest in long grass or meadow-type vegetation. Pheasant populations can reveal a lot about land-use practices in agricultural areas. Since ring-necked pheasants live short lives (roosters 1-2 years, hens seldom more than 3 years), pheasant populations are very sensitive to habitat conditions. As land-use policies impact their habitat, pheasant populations decline. When grassland habitat improves, populations can increase rapidly.

Ringneck pheasants, native to Asia, are a popular introduced game bird. They are at the northern limit of their range here in Minnesota. Throughout Minnesota's agricultural areas, pheasants breed in hay fields, roadside meadows, and in fields of small grains. Pheasants are on their nests in late May, and the young are vulnerable until mid-August. Cropping practices that leave grassland areas undisturbed during this critical breeding period benefit pheasants, bobwhite quail, and other grassland wildlife, including many songbirds. Before 1950, agricultural

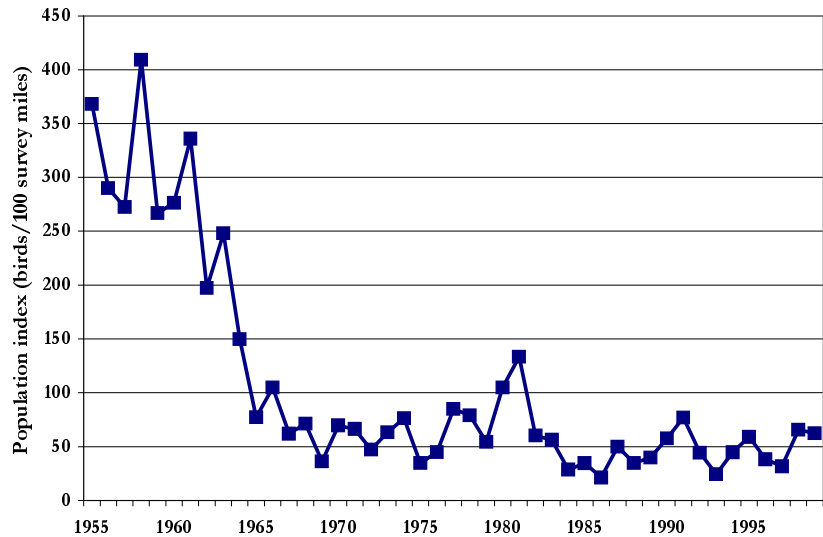
landscapes in the Upper Midwest typically included hay, small grains, late-cut alfalfa, and brush lots, as well as corn and soybeans. Traditional farming systems created a patchwork of different land uses, which offered good nesting and feeding habitat. However, land use practices have changed. As hay and small grains fall out of the crop rotation, as brush lot is cultivated and alfalfa is cut early to maximize its feed value, pheasants and other wildlife lose ground. Across 14 midwestern states, pheasant populations declined an average of 66% between 1957 and 1978.



# AGRICULTURAL AREAS

Many federal cropland set-aside programs retire land from production for a single year. Recent studies of pheasant populations show that these annual set-asides actually harm pheasants and other ground-nesting birds. If farmers leave the land in stubble or as 'black fallow' (plowed earth), there is no suitable cover for nesting. Farmers may plant a cover crop, such as alfalfa or oats, which attracts nesting birds, but commodity policy requires that the crop be destroyed. Rather than providing breeding habitat, annual set-aside acres become death traps for nesting birds and their young when the cover crop is mowed or plowed under. Planting small grains actually benefits pheasants more than an annual set-aside.

## *Ring-necked Pheasants in Minnesota*



Land may be set aside for longer periods, ranging from three to 15 years. These longer set-asides do benefit pheasants and other grassland wildlife.

### **How is this indicator measured?**

Pheasant population trends can be estimated from annual hunting harvest. However, only roosters are harvested, and seasonal changes can affect hunter success. A more complete population picture comes from roadside surveys, which count pheasants of all ages and both sexes. Roadside counts begin at dawn, when pheasants come to roads and other open spots to warm up and dry the dew off their feathers. Biologists drive along the road at about 15 miles per hour, counting the birds as they flush away from the vehicle.

### *Ring-necked Pheasant*



# AGRICULTURAL AREAS



## Can we use this indicator now?

Yes. The Minnesota DNR surveys pheasant populations each year as part of the August Roadside Wildlife Count. Biologists count pheasants (and ten other wildlife species, including gray partridge, mourning dove, and sandhill crane) along 173 roadside survey routes, each 25 miles long. Each agricultural county in the state has at least one roadside wildlife route.

The DNR also collects pheasant harvest data from hunters, in cooperation with groups such as Pheasants Forever.

## What are the limitations of this indicator?

Pheasant populations are just one indicator of the state of the grassland/agricultural system. Wildlife population data should be combined with other indicators to gauge the impact of land-use practices.

## Information Sources

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For Additional Information  
Minnesota Environmental Indicators Initiative

Clarence Turner, Coordinator (651) 297-3357  
Laura Preus, Ecologist (651) 296-1548  
Faith Balch, Ecologist (651) 297-4707  
Keith Wendt, Project Manager (651) 297-7879

