

**PENNSYLVANIA GAME COMMISSION  
BUREAU OF WILDLIFE MANAGEMENT  
RESEARCH DIVISION  
PROJECT ANNUAL JOB REPORT**

**PROJECT CODE NO.:** 05011

**TITLE:** CREP Administration and Monitoring

**JOB CODE NO.:** 01004

**TITLE:** Impacts of the Conservation Reserve Enhancement Program on the Regional Trends in Bird Populations and Eastern Cottontail Populations.

**PERIOD COVERED:** 1 July 2002 to 30 June 2003

**COOPERATING AGENCIES:** Pennsylvania State University School of Forest Resources.

**WORK LOCATIONS:** Columbia, Montour, Northumberland, Snyder, Juniata, Union, Perry, Cumberland, Franklin, Fulton, Bedford, Somerset, Adams, York, Lancaster, Chester, Berks, Schuylkill, Dauphin, and Lebanon Counties, Pennsylvania.

**PREPARED BY:** Scott Klinger

**DATE:** 30 December 2003

**Abstract:** In April 2000, the Governor of Pennsylvania and U.S. Secretary of Agriculture approved a \$210M conservation initiative for 20 counties. The Pennsylvania Conservation Reserve Enhancement Program (CREP) has a goal of converting 100,000 acres of cropland and marginal pasture to conservation cover for 10-15 years. The program is entirely voluntary, and its goals are to improve water quality, reduce soil erosion, increase farm income, and improve wildlife habitat in 20 southcentral and southeastern Pennsylvania counties. The State must provide 20% of the costs. The State is also responsible for monitoring the effectiveness of the habitat improvements on water quality and targeted wildlife populations. In order to evaluate the regional landscape-level impacts of CREP on birds and eastern cottontail populations using agricultural lands, we established 89 survey routes across 20 CREP-participating counties. Routes were established along randomly selected township roads in the 20-county study area. Roads were biased toward agricultural areas using remote sensing imagery. Routes vary in length from 10-25 miles. Points along routes are 0.5 miles apart and observers will record all birds seen or heard within 250 m of each point. Each route will be run once in May and once in June using Breeding Bird Survey Protocols. Total rabbits observed along survey routes will be used to monitor trends in relative abundance of eastern cottontail populations. Habitat data will be collected within 250 m of each survey point using Anderson Land Classifications. In 2003, all points along survey routes were geo-referenced using GPS units. All routes will be run annually from 2001 thru 2015. Data was collected in the 2001, 2002, and 2003 field seasons and will be entered into an Access Relational Database and analyzed using ANOVA and Regression analysis. A final report will be completed in 2015.

## **OBJECTIVES**

1. To monitor trends in agricultural habitats in 20 southeastern Pennsylvania counties enrolled in the CREP.
2. To monitor trends in breeding bird populations and eastern cottontail rabbit populations on agricultural lands in those counties.
3. To determine the impact of establishing undisturbed grassland habitats on the regional abundance and population trends of grassland nesting birds and eastern cottontail rabbits.
4. To provide recommendations on future habitat management programs to restore farmland wildlife populations.

## **INTRODUCTION**

In April 2000, the Governor of Pennsylvania and U.S. Secretary of Agriculture approved a \$210M conservation initiative for 20 counties. The Pennsylvania CREP has a goal of converting 100,000 acres cropland and marginal pasture to conservation cover for 10-15 years. The program is entirely voluntary, and its goals are to improve water quality, reduce soil erosion, increase farm income, and improve wildlife habitat in 20 southcentral and southeastern Pennsylvania counties. The State must provide 20% of the costs. The State is also responsible for monitoring the effectiveness of the habitat improvements on water quality and targeted wildlife populations. In order to evaluate the regional landscape-level impacts of CREP on birds and eastern cottontail populations using agricultural lands, we established 89 survey routes across 20 CREP-participating counties. In addition, habitat site-specific effects on bird populations are being conducted in another concurrent study.

## **METHODS**

The study area is the 20 counties enrolled in the Pennsylvania CREP. The study area contains 7,774,000 acres. Approximately, 3,136,000 acres is in farmland, and 2,303,000 acres is in cropland. As of 2000, less than 30,000 acres of cropland was enrolled in CREP.

In June and July of 2000, we established 89 survey routes along township roads across the 20 CREP counties. Using remote sensing spot imagery from 1999, we selected township-level roads at random within predominately agricultural landscapes. We avoided interstates and U.S. Highways to avoid traffic problems when conducting surveys. Selected routes varied in length from 10-25 miles. Routes were field-checked in July and August of 2000 to insure roads still existed and construction or other activities would not preclude their use in future surveys. We established starting points for all randomly selected routes at 0.5 miles from the intersection of 2 township roads. All points were established a minimum of 0.5 miles apart along survey routes. In some cases, because of adverse road conditions, points were established greater than 0.5 miles apart. All points along routes will be geo-referenced using GPS in 2003. Using Breeding Bird Survey Protocol, we conducted 2 surveys along each route between 1 May and 30 June, 2001 and 2002. Surveys began one-half hour before sunrise and were completed within 3 hours. All birds heard or observed within 3 minutes and within 250 m of each point were recorded. Flyovers were recorded separately.

The percent habitat in Anderson Landuse Classifications were estimated for each point within a 250 meter radius.

We used routes established to monitor trends in avian populations to monitor trends in eastern cottontail populations. We recorded number of eastern cottontail rabbits seen along each route within 50 m of the road.

## **RESULTS**

Data was collected during the 2003 field season and will be analyzed.