

Office of Applied Science

ACTIVE RESEARCH

2018-2019



WILDLIFE RESEARCH

SOUTHWEST WI CWD, DEER AND PREDATOR PROJECT

LEAD SCIENTISTS | Drs. Daniel Storm and Nathan Roberts

GOAL | Evaluate population-level impacts of various deer mortality factors with a focus on Chronic Wasting Disease (CWD) impacts. Improve understanding of deer/predator associations

END | June 2021

SNAPSHOT WISCONSIN

LEAD SCIENTIST | Dr. Jennifer Stenglein

GOAL | A year-round, statewide effort to engage citizens and students in monitoring wildlife populations through the use of trail cameras. The goals of Snapshot Wisconsin are to provide data necessary for wildlife management decisions by monitoring wildlife more consistently across the state and throughout the year and to increase public engagement with Wisconsin's natural resources and the DNR

END | Phase 1 concluded June 2017; Phase 2 underway

BOBCAT RESEARCH IN WI

LEAD SCIENTIST | Dr. Nathan Roberts

GOAL | Evaluation of bobcat population, harvest rates and habitat use in northern and southern Wisconsin. Preliminary results were used to inform recent changes to bobcat quotas

END | June 2019

DEER POPULATION MODEL

LEAD SCIENTISTS | Drs. Jennifer Stenglein and Daniel Storm

GOAL | Base project support for annual deer population modeling and monitoring and CWD trend analysis. Review and modification of Sex-Age-Kill formula for estimating population size

END | Ongoing

ADVANCED PRION DETECTION METHODS

LEAD SCIENTIST | Dr. Daniel Storm

GOAL | Assess the reliability and sensitivity of next-generation prion detection methodology on a variety of bodily tissues, fluids and environmental sources, to improve testing procedures of hunter-harvested deer

END | June 2021

CWD SURVEILLANCE STRATEGIES

LEAD SCIENTIST | Dr. Daniel Storm

GOAL | Forecast the change in CWD across Wisconsin over time by better understanding factors that influence how the disease spreads and grows

END | June 2021

SCIENTIFIC CONSULTING

LEAD SCIENTISTS | All OAS scientists

GOAL | Scientific consultation services provided to the Division of Fish, Wildlife and Parks in the form of population analyses, scientific design and analysis services and consultation on management issues to ensure the best possible scientific information is available to decision makers

END | Ongoing

PRAIRIE GROUSE VIABILITY ANALYSIS

LEAD SCIENTIST | Chris Pollentier

GOAL | Population Viability Analysis of the statewide Greater Prairie-Chicken population to inform the update of the management plan and management planning process

END | June 2018

PRESCRIBED FIRE

LEAD SCIENTIST | Dr. Jed Meunier

GOAL | Evaluate the effect of prescribed fire on habitat management operations, starting with examining fire as a woody vegetation control tool and investigating how timing of burns can impact efficacy

END | June 2019

DEER METRICS (FAWN-TO-DOE RATIOS)

LEAD SCIENTIST | Dr. Daniel Storm

GOAL | Improve fawn-to-doe ratio data collection methods. Incorporate distance sampling and snapshot data into estimates. Incorporate improved data into Sex-Age-Kill formula

END | December 2018

BEAR POPULATION ESTIMATE

LEAD SCIENTIST | Dr. Nathan Roberts

GOAL | Use genetic sampling to estimate black bear population size to inform management actions and improve long-term population modeling efforts

END | June 2022

FURBEARER MONITORING

LEAD SCIENTIST | Dr. Nathan Roberts

GOAL | Evaluate methods used to inform furbearer management decisions

END | June 2020

HABITAT MANAGEMENT OUTCOMES

LEAD SCIENTIST | Dr. Jed Meunier

GOAL | Strategically evaluate Department habitat management initiatives at the landscape and local levels to ensure efficacy and efficiency in achieving target objectives

END | June 2021

OTTER POPULATION ASSESSMENT

LEAD SCIENTIST | Dr. Nathan Roberts

GOAL | Develop new methods to monitor otter population trends and refine population models

END | December 2019

DMAP - DEER METRIC EVALUATION

LEAD SCIENTIST | Drs. Daniel Storm, Dustin Bronson and Amanda McGraw

GOAL | Develop easily collected metrics of deer health. Evaluate the associations between deer body condition and habitat

END | June 2019

WATERFOWL POPULATION DYNAMICS

LEAD SCIENTIST | Dr. Drew Fowler

GOAL | Gather additional information on the population dynamics and habitat associations of ring-necked ducks to aid in population, habitat and harvest management

END | June 2021

WOOD DUCK DEMOGRAPHICS

LEAD SCIENTIST | Dr. Drew Fowler

GOAL | Examine wood duck demographics across WI that will eventually inform a statewide wood duck population model that can be used to evaluate harvest frameworks

END | June 2020

BEAVER MONITORING METHODS

LEAD SCIENTIST | Dr. Nathan Roberts

GOAL | Evaluate new beaver population monitoring methods to meet objectives outlined in the new beaver management plan. Reduce costs associated with beaver monitoring

END | June 2020

WOLF MONITORING

LEAD SCIENTIST | Dr. Nathan Roberts

GOAL | Evaluate current and alternative wolf monitoring methods to ensure population data and analysis is robust and data collection efforts are efficient

END | October 2018

WOLF POPULATION VIABILITY ANALYSIS

LEAD SCIENTIST | Dr. Jennifer Stenglein

GOAL | Conduct a population viability analysis for Wisconsin's gray wolf population

END | October 2018

ELK RESEARCH AND MONITORING

LEAD SCIENTIST | Dr. Daniel Storm

GOAL | Evaluate success of recent elk relocations including survival and reproduction

END | June 2019

CAR-KILLED DEER BODY CONDITION

LEAD SCIENTISTS | Drs. Daniel Storm and Amanda McGraw

GOAL | Develop methods to monitor deer body condition through sampling of car-killed deer. Evaluate relationship between deer body condition and winter severity and habitat

END | August 2018

FISHERIES RESEARCH

BRULE RIVER SALMONID ABUNDANCE ESTIMATES

LEAD SCIENTIST | Dr. Iyob Tsehaye

GOAL | Produce an optimal sampling design for reviewing video recordings of salmonid runs in the Brule River to reduce cost and staff time associated with conducting a full census of spawning runs

END | June 2019

COARSE WOODY HABITAT EFFECTS

LEAD SCIENTIST | Dr. Greg G. Sass

GOAL | Investigate whether dropping trees to increase abundance of coarse woody habitat in lake ecosystems improves carrying capacity of fish populations

END | June 2023

WALLEYE, PERCH AND WHITEFISH INTERACTIONS IN GREEN BAY

LEAD SCIENTIST | Dr. Iyob Tsehaye

GOAL | Characterize the feeding habits of walleye, yellow perch and lake whitefish to test for the extent of walleye predation on yellow perch and lake whitefish and assess the buffering effects of other prey fishes

END | June 2020

MUSKELLUNGE AGE AND GROWTH STUDY

LEAD SCIENTIST | Dr. Greg G. Sass

GOAL | Examine non-lethal means for determining muskellunge age and growth

END | June 2019

NORTHERN HIGHLAND FISHERY RESEARCH AREA

LEAD SCIENTISTS | Drs. Greg Sass and Stephanie Shaw

GOAL | Five lakes within the Northern Highland American Legion State Forest were selected for study in 1946 by Aldo Leopold and the Wisconsin Conservation Commission to evaluate the sustainability of our inland fisheries. This study involves participation by anglers to collect data that can be implemented in managing inland water resources around the world

END | June 2019

TROUT AGE AND GROWTH IN WISCONSIN STREAMS

LEAD SCIENTIST | Dr. Matthew Mitro

GOAL | Quantify variation in trout growth and population age structure to calibrate growth and age-structured population models, which will be useful for evaluating how trout respond to changing angling pressure and environmental conditions

END | June 2020

MONITORING TEMPORAL TRENDS IN TROUT POPULATIONS

LEAD SCIENTIST | Dr. Matthew Mitro

GOAL | Measure environmental conditions over time to better understand how and why trout populations vary in response to factors like water temperature, stream flow and other habitat variables

END | June 2022

EXPLOITATION EFFECTS ON TROUT POPULATION DYNAMICS

LEAD SCIENTIST | Dr. Matthew Mitro

GOAL | Study how lowering population density affects trout growth in Spring Coulee Creek, a highly productive Driftless Area stream in Wisconsin, to determine the effects that exploitation has on the brown trout population

END | June 2019

ECOLOGICAL FACTORS THAT INFLUENCE WALLEYE RECRUITMENT IN CEDED TERRITORY LAKES

LEAD SCIENTISTS | Drs. Stephanie Shaw and Greg Sass

GOAL | Identify characteristics of lakes associated with natural reproduction of walleye from egg to the fall recruited stage to gain a better understanding of the causes behind declining walleye population trends in northern Wisconsin

END | June 2023

REASSESSING LAKE MICHIGAN PREDATOR-PREY BALANCE

LEAD SCIENTIST | Dr. Iyob Tsehaye

GOAL | Account for recent changes in the prey fish community and associated shifts in salmonine feeding ecology and population dynamics, and inform salmonid stocking and management in Lake Michigan

END | June 2021

BEAVER INFLUENCES ON COLDWATER STREAM HABITAT AND TROUT POPULATIONS IN WISCONSIN

LEAD SCIENTISTS | Drs. Matthew Mitro and Nathan Roberts

GOAL | Characterize the influence of beavers, beaver dam construction, and beaver dam removal on coldwater streams and trout populations in ecoregions and beaver management zones across Wisconsin

END | June 2023

WALLEYE-CISCO INTERACTIONS IN WISCONSIN LAKES

LEAD SCIENTIST | Dr. Greg Sass

GOAL | Study the population status of cisco in Wisconsin's inland lakes and its interactions with predator species like walleye, muskellunge, northern pike and lake trout

END | June 2020

ANGLING AND HOOKING MORTALITY IN LAKE STURGEON

LEAD SCIENTIST | Dr. Stephanie Shaw

GOAL | Quantify hooking mortality rates of lake sturgeon in Wisconsin to better inform biologists and the public on best angling practices

END | December 2019