Office of Applied Science

ACTIVE RESEARCH 2019-2020

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 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 SAK

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 spatio-temporal change in CWD across Wisconsin by better understanding factors that influence diffusion and growth of the disease

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 GPC 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

BEAR GENETICS SURVEY

LEAD SCIENTIST | Dr. Nathan Roberts

GOAL | Estimate black bear population size through non-invasive genetic sampling 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 SCIENTISTS | 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

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 SCIENTIST | 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

CWD PRION PERSISTENCE IN SOIL

LEAD SCIENTIST | Dr. Daniel Storm

GOAL | Advance the science of detecting prions in soils and improve our understanding of the persistence of CWD prions in soil

END | June 2021

DEACTIVATION OF CWD PRIONS USING COMPOSTING

LEAD SCIENTIST | Dr. Daniel Storm

GOAL | Examine how composting could be used to deactivate CWD prions, potentially providing a solution to long-standing challenges in deer carcass disposal

END | June 2021

FISHERIES RESEARCH

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

COARSE WOODY HABITAT EFFECTS

LEAD SCIENTISTS | Drs. Greg G. Sass and Stephanie Shaw

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

END | June 2023

MUSKELLUNGE AGE AND GROWTH STUDY

LEAD SCIENTIST | Dr. Greg G. Sass

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

END | June 2029

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

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 | June 2021

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 | Indefinite

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

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

SPATIALLY-EXPLICIT ASSESSMENT OF NORTH-MOONLIGHT BAY AND GREEN BAY STOCKS

LEAD SCIENTIST | Dr. Iyob Tsehaye

GOAL | Explore the need to develop spatially-explicit assessment modeling accounting for potential changes in relative productivities and distribution of North-Moonlight Bays and Green Bay lake whitefish stocks

END | June 2022

QUANTIFYING SHIFTS IN SPAWNING PHENOLOGY AND RECRUITMENT IN WISCONSIN FISHES

LEAD SCIENTIST | Dr. Zachary Feiner

GOAL | Test for phenological shifts in spawning of sport fishes around Wisconsin, and if occurring, understand what may be driving these shifts and determine their potential implications for recruitment

END | June 2022

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

EVALUATING SUSTAINABLE MUSKELLUNGE EXPLOITATION IN CEDED TERRITORY

LEAD SCIENTIST | Dr. Stephanie Shaw and Dr. Greg Sass

GOAL | Develop a statistical catch-at-age model to estimate sustainable exploitation rates for muskellunge in the Ceded Territory of Wisconsin and reevaluate the safe harvest model that is currently used to determine tribal muskellunge spearfishing quotas

END | June 2022

UNDERSTANDING PANFISH TRENDS AND RESPONSES TO ANGLING AND PREDATOR POPULATIONS IN WISCONSIN LAKES

LEAD SCIENTIST | Dr. Zachary Feiner

GOAL | Assess trends in Wisconsin's panfish populations and their responses to angler exploitation and predator management to quantify their impacts on panfish abundance and size structure

END | June 2022

JOINT FISHERIES & WILDLIFE RESEARCH

BEAVER INFLUENCES ON COLDWATER STREAM HABITAT AND TROUT POPULATIONS IN WISCONSIN

LEAD SCIENTISTS | Drs. Matthew Mitro and Nathan Roberts

GOAL | Characterize the impacts 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