Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: AIRD11922

Name: UNIVERSITY OF FLORIDA: A microsporidian pathogen as a control for invasive crayfish

Type: Aquatic Invasives Grant

Subtype:

Status: ACTIVE

Start Date: 3/15/2022

End Date: 12/31/2024

Purpose: The Grantee is to investigate the mechanism by which the microsporidian pathogen (Nosema sp.) is transmitted, how it impacts rusty crayfish populations, & whether it can effectively facilitate restoration of lake communities. Project activities include: 1) Measure impacts of Nosema sp. by monitoring crayfish densities & microsporidian prevalence in Trout Lake; 2) assess crayfish abundance at the whole-lake scale using traps; 3) conduct statistical analyses on relationship between crayfish density & microsporidian prevalence; 4) conduct laboratory experiments on transmission of Nosema sp. among adult crayfish across a range of water temperatures; 5) test potential for crayfish to transmit pathogen to offspring; 6) conduct statistical analyses on impact of temperature on transmission success & microsporidian development time; 7) assess whether macrophyte biomass & diversity is related to crayfish density & microsporidian prevalence in Trout Lake; 8) conduct controlled mesocosm experiments to test effects of microsporidian infection on rusty crayfish impacts; 9) conduct statistical analyses on how crayfish density & microsporidian prevalence relate to macrophyte biomass & richness; 10) measure effects of Nosema sp. on crayfish growth & survival in mesocosm experiments; 11) examine relationship between Nosema sp. infection & rusty crayfish fecundity; 12) conduct statistical analyses on how infection with Nosema sp. affects crayfish growth, survival, egg number & egg mass; 13) examine incidence of microsporidian outbreaks by monitoring 10 additional lakes. Project deliverables include: 1) Data on crayfish density, size, sex, species & microsporidian prevalence in Trout Lake; 2) results from statistical analyses; 3) data from laboratory & mesocosm experiments; 4) data on macrophyte biomass & composition; 5) data on microsporidian prevalence in WI lakes.

Objective:

Comments: Grantee is UNIVERSITY OF FLORIDA

Outcome:

Study Design:

QA Measures:

People

Name	Role	Status	Start Date	End Date	Organization	Comments

Project Statuses

Date	Reported By	Status	Comments

Actions

Action	Detailed Description	Start Date	End Date	Status
Grant Awarded	Grant AIRD11922 awarded	3/15/2022	12/31/2024	COMPLETE

Monitoring Stations

Station ID	Name	Comments

Assessment Units

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WBIC	Segment	Local Name	Official Name
2331600	1	Trout Lake	Trout Lake
2331700	1	Mann Creek	Mann Creek
2332100	1	Allequash Creek	Allequash Creek

Lab Account Codes

Account Code	Description	Start Date	End Date

Forms

Form Code	Form Name

Methods

Method Code	Method Description

Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name

Documents

Title	Description	Author	Published	Comments

Budget

Combined Budgets:

Combined WSLH:

Combined Total: $0.00

Funding

Organization	Source	Type	Amount	Start Date	End Date

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