

OFAH Fish & Wildlife Research Scholarship

APPENDIX A

Preference of Student Research Topics, as outlined by Mark Ryckman, Manager of Policy, Ontario Federation of Anglers and Hunters.

- Ideally specific to Ontario, or directly transferrable/relevant (i.e., research on moose in Quebec/Manitoba/Minnesota)
- Big game ecology, conservation, and management
 - By species: moose, elk, white-tailed deer, black bears, boreal caribou (lower priority).
 - Development of census/survey techniques to improve monitoring and assessment of populations (eDNA, non-invasive genetic sampling, aerial survey techniques, etc.)
- Small game management
 - Upland game birds: ruffed/spruce/sharp-tailed grouse, ptarmigan, ring-necked pheasants, Hungarian partridge
 - Cottontail and European hares, snowshoe hares, wild turkeys, wolves and coyotes, falconry, cormorants
- Waterfowl:
 - Hunttable migratory birds like ducks and geese, sandhill cranes
 - Wetland conservation
- Invasive species (aquatic and terrestrial, as per Appendix B)
 - Invasion biology/life history for aquatic invasive species (AIS) & terrestrial invasive species (TIS);
 - Invasion history during the Anthropocene of AIS & TIS;
 - Impacts of AIS & TIS, especially on native species and SAR;
 - Biological controls for AIS & TIS;
 - Case studies on alternative control methods/novel approaches for controlling/eradicating for AIS & TIS;
 - Traditional Ecological Knowledge and perspectives on AIS & TIS;
 - Socio-economic impacts from AIS & TIS;
 - Horizon scanning/modelling, including research on climactic tolerances for AIS & TIS;
 - Effects of invasive species policies on the spread, or prevention of, AIS and TIS (e.g., impacts of prohibiting a species or vector of spread);
 - The psychology/sociology behind messaging on AIS & TIS (e.g., use of language, what is effective messaging vs ineffective messaging, etc.);
 - Research on effective media for instilling change related to behaviours around AIS & TIS; and
 - Research on vectors/pathways, including effective management of said pathways.

- Game fish, recreational fishing, fisheries management, and fish habitat conservation
 - researching and developing a predictive model for sympatric species pairs of Lake Whitefish.
 - social study on regulatory compliance with Ontario anglers and bait-related regulations (i.e., bait bucket dumping, bait management zones, etc.).
 - rates of soft plastic lure ingestion in Lake Trout where Lake Trout populations overlap with bass fisheries.
 - water quality research regarding chemicals of emerging concern including microplastics and the impacts on fish health and fish consumption.
 - evaluating the performance of fishing regulations and fishing regulation changes on valuable sportfish species (e.g., Lake Trout, Walleye, Brook Trout).
 - impacts of lethal sampling on fish populations (i.e., gill netting) especially on vulnerable/sensitive species (e.g., Brook Trout).
 - analysis of post-release mortality associated with high release rates due to size limit restrictions (specifically on winter Lake Trout fisheries).
 - predicting temporal distribution and abundance of Alewife in Lake Ontario.
 - re-assessing the presence/absence of small- and large-bodied populations of Lake Whitefish in Como Lake
 - studying alternative stocking strategies (i.e., moving away from traditional put-take/put-grow-take fisheries and exploring opportunities for creating memorable/trophy stocked fisheries by testing size limits).
 - Landscape-level evaluation/assessment of American Eel mortality caused by hydropower facilities within the Great Lakes, St. Lawrence River, and connecting tributaries.
 - predicting and evaluating cumulative effects and environmental thresholds of small- and large-scale projects that cause harm to fish and fish habitat.
- Human dimensions of all of the above
- Could also include impacts of habitat loss/conversion, forestry, climate change, predators, etc. on these species

APPENDIX B – List of Relevant Aquatic and Terrestrial Invasive Species

Fishes:

Asian carps (Bighead, Black, Grass, & Silver)
 Western & Eastern Mosquitofish
 Red Shiner
 Eurasian Ruffe
 Goldfish
 Northern Snakehead
 Prussian Carp
 Ide
 Round & Tubenose Goby
 Rudd
 Stone Moroko
 Tench
 Zander
 Wels Catfish

Chain Pickerel

Invertebrates:

Channeled apple snail
 Chinese & banded mystery snails
 Giant Ghana tiger snail
 Giant east African snail
 Golden mussel
 New Zealand mud snail
 Common yabby
 Marbled crayfish
 Red swamp crayfish
 White River crayfish
 Signal crayfish
 Rusty crayfish
 Spiny & fishhook water fleas
 Killer shrimp

Zebra & quagga mussels

Mammalia:

Wild pigs

Nutria

Aquatic Plants:

Brazilian elodea

Hydrilla

European frog-bit

European water chestnut

Water soldier

Fanwort

Flowering rush

Oxygen weed

Parrot feather

Yellow floating heart

Algae:

Starry stonewort

Forest Pests and Pathogens:

Oak wilt

Hemlock woolly adelgid

Spongy moth

Emerald ash borer

Jumping worms

Hammerhead worms

Beech bark disease

Asian longhorned beetle

Mountain pine beetle

Spotted lanternfly

Terrestrial Plants:

Bohemian knotweed

Giant knotweed

Chocolate vine

Himalayan knotweed

Kudzu

Mile-a-minute vine