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Fact Sheet - Fish Stocking

Fish stocking is one of the most extensive fish management activities undertaken by MNRF. Provincially, we stock hundreds of waterbodies with millions of fish, annually. It is a very visible component of our fish management program. It is often promoted as a positive activity and good use of funding provided by fishing licence revenue. However, many anglers and members of the public are not well informed of the purpose and limitations of fish stocking, which frequently leads to disagreement with and disappointment regarding MNRs fish stocking decisions. In some cases, these issues have been exacerbated by past experience with and conditioning due to historic stocking practices that are no longer done. This document was prepared to explain the role and limitations of fish stocking with the goal of increasing public understanding of the reasons stocking may or may not occur in a waterbody.

Role of Stocking within MNRF`s Fish Management Mandate

Guidance for the fish stocking program is found in MNRFs strategic direction documents, most importantly, Ontario's Provincial Fish Strategy (2015).

The key principle imbedded in the Strategy is that, where possible, we will manage to maintain and promote healthy, self-sustaining populations. That means that, in general, **stocking will only occur where it can be done without a significant risk to natural populations.** This fundamental principle explains why MNR doesn't stock most waterbodies.

Day to day stocking decisions are guided by the Guidelines for Stocking Fish in Inland Waters of Ontario, 2002 which recommend operational practices such as the types of lakes each species should or shouldn't be stocked in and the size, number and frequency of stocking.

Stocking Objectives/Purpose

Stocking is done for different reasons. Knowledge of those reasons is necessary to understand MNR's stocking decisions.

Introduction

Fish are stocked for a defined short-term period with the intent of establishing a new self-sustaining population where one did not previously exist. Once that objective is met, stocking is discontinued. Historically, introduction stocking was very common in FMZ 15; large numbers of bass, Walleye and other populations have been created where they were not native. However, introduction stocking is now uncommon due in part to the recognition of the impacts in some cases of stocking on our native trout and the fact that there are limited opportunities for new introduction due to the widespread occurrence of naturalized populations.

Rehabilitation

Fish are stocked for a defined short-term period with the intent of restoring a self-sustaining population that has been degraded to the point that it cannot recover on its own. Once that objective is met, stocking is discontinued. The FMZ 15 plan specifies that any waterbody considered for rehabilitation

stocking will have a strategy document rationalizing the actions that will be taken to rehabilitate a population.

Put-Grow-Take (PGT)

Fish are stocked on an ongoing basis, usually long term, to create a fishery that otherwise would not exist. The stocked fish are not expected to, and usually do not reproduce. Stocking is done into waterbodies that have limitations that prevent ongoing successful natural reproduction of the stocked species from occurring. The limitation is usually lack of spawning or nursery habitat or the occurrence of other species that compete with or prey on the young. **If a lake supports, or is capable of supporting, a self-sustaining population of the species, PGT stocking is generally not done.** In PGT stocking, the fish are stocked at a small size (usually only large enough to by-pass the survival limitations that prevent reproduction), then allowing the fish to grow in the lake, taking advantage of the natural food sources in the lake to grow to a catchable size. In FMZ 15, most stocking is done on a PGT basis to create fishing opportunities for anglers.

Put-Take

Fish are stocked at a catchable size, with the intent of being immediately available for capture. The goal is to create short term recreational fishing opportunities in waters and locations where they would not otherwise be possible. Most put-take stocking occurs in and near-urban environments. The waterbodies stocked may not be able to support the species stocked on a long-term basis, but because the intent is that the fish will be caught fairly quickly, the suitability of the waters is less important than with the other reasons for stocking. In FMZ 15, put-take stocking is uncommon due to the absence of large urban centres and abundance of natural waters. The stocking of retired brood stock from provincial Fish Culture Stations is the most common form of put-take stocking in the zone and occurs infrequently.

Supplemental

Fish are stocked into waters that already support a self-sustaining population of the species. The intent is to increase the abundance of fish for anglers. Supplemental stocking was common in the past but has been largely discontinued because of impacts to natural populations. Stocked fish can compete with and prey on natural fish, inter-breed with natural fish, reducing their genetic fitness and attract excessive angling pressure. **Supplemental stocking is not consistent with MNR's goal of managing to maintain natural, self-sustaining populations and is not done in FMZ 15 unless rationalized by a lake-specific strategy.**

Individual Species

Brook Trout

Brook Trout are primarily stocked on a put-grow-take basis into small lakes that do not have the capacity to support natural reproduction, usually because of the absence of groundwater inputs required for successful spawning and egg incubation. Brook Trout are poor competitors with other species and exhibit the best survival in lakes with simple fish communities. In general, Brook Trout are only stocked in lakes that do not support populations of spiny-rayed fish such as Yellow Perch and Smallmouth Bass. Illegal stocking of these species has greatly diminished our natural Brook Trout populations and opportunities for put-grow-take stocking.

Opportunities for introduction or rehabilitation stocking of Brook Trout are extremely limited due to the irreversible impacts of species introductions and their very specific habitat requirements. In FMZ 15, lakes suitable for Brook trout stocking tend to be small and relatively remote, where their difficult access has prevented the introduction of competing species.

Lake Trout

Lake Trout are primarily stocked on a put-grow-take basis into lakes that do not have the capacity to support significant natural reproduction, usually because of the limited amount of well oxygenated deep-water nursery habitat or reproduction failure caused by invasive species, especially Rainbow Smelt.

Opportunities for introduction or rehabilitation stocking of Lake Trout are limited by irreversible impacts of species introductions and their habitat requirements. Where remnant native stocks are present it is usually preferable to protect them over stocking fish of different genetic origins that may not be a well suited to the lake.

Rainbow Trout, Brown Trout and Splake

Rainbow Trout and Brown Trout are not native to Ontario and Splake are an artificial hybrid of Brook Trout and Lake Trout, created in hatcheries. It is very rare for any of these species to reproduce successfully in inland waters (excludes the Great lakes and their tributaries); therefore, they are stocked almost exclusively on a put-grow-take basis. Their habitat requirements and competitiveness with other species are not as restrictive as they are for Brook Trout and Lake Trout, which provides flexibility for stocking in lakes that have some cold water habitat but are not suitable for Brook or Lake Trout. These species are stocked mainly to diversify and provide artificial fishing opportunities. In lakes that have competing species, trout are sometimes stocked at an advanced size to improve their survival. These species are usually not stocked into lakes that have self-sustaining populations of Brook or Lake Trout to protect them from the effects similar to what occur from supplemental stocking.

Walleye

Walleye is the most sought species in the province. It is also probably the subject of the most inquiries about stocking. Unfortunately, it is also probably the species for which stocking is least effective.

Most stocking of Walleye in the province, historically at least, has been of very early life stages, such as egg, newly hatched fry and small fry to supplement existing populations. Stocking of these small fish is appealing as it is relatively cheap and easy, but it is usually not effective. Walleye are adapted to produce large numbers of eggs and fry, so that, when environmental conditions are right, sufficient numbers are present to survive and grow. Usually, the number of fry that are hatched does not have a strong relationship to the size of the adult population; environmental factors, habitat quality and interaction with other species in each waterbody are much more important. An analogy is a hardwood forest. If you walk through a stand of maple trees you will often see thousands of newly emerged seedlings, but very few of those seedlings will ever grow up to become a mature tree. The limitations of physical space, sunlight and soil nutrients mean that only a small number will survive to become trees, regardless of how many seeds fall and germinate. Similarly, for Walleye, there is not a strong relationship between the number of eggs hatched and the number that eventually survive to adulthood. As a consequence, stocking of Walleye on a supplemental basis, especially of very small fish, typically has low rates of success.

Put-grow-take stocking of Walleye has it' 'difficulties as well. The rearing of Walleye in hatcheries is difficult due to their cannibalistic tendencies. Therefore, consistent production of larger fish in sufficient numbers is a problem. Also, most waters that have suitable habitat for Walleye either already support a reproducing population (and supplemental stocking is not supported) or have populations of competing species, such as bass, that greatly reduce survival of stocked Walleye. For these reasons, in FMZ 15, put-grow-take stocking of Walleye is not done. Instead, resources are directed to managing natural populations.

Other Cool and Warmwater species (bass, pike, crappie, etc.)

In general, we do not stock warm water species that already occur in a lake (supplemental stocking) because they usually have strong natural reproduction. The relative dominance of difference species and their overall abundance is more controlled by other factors such as the suitability of the habitat and the overall productivity of the waters, which are determined by the lakes' physical characteristics. Stocking of early life stages is not likely to change that. For most lakes, what you see is what you get in terms of fish community composition and abundance and it is not feasible to change it significantly.

In the past, extensive stocking of these species occurred to establish new populations, but now that they are widely distributed and it has been learned that ongoing stocking where a population has become established had little or no benefit, stocking has ceased.

Rules Concerning Fish Stocking

MNR Stocking

Stocking done by MNR is subject to the Class Environmental Assessment for MNR Resource Stewardship and Facility Development Projects (RSFD) (MNR 2003). The introduction of a new species to a lake requires successful completion of the EA process.

Private Stocking

It is illegal to transport or stock fish without authorization. Stocking by private individuals into public lakes and streams must be authorized by a Licence to Stock Fish. Applications for licences are reviewed using the same standards as the Environmental Assessment process and guidelines that MNR follows for its' own stocking. In FMZ 15, Licences to Stock Fish are occasionally issued to groups such as cottage associations and large landowners, such as a Haliburton Forest to stock waters that don't have public access or waters that don't meet MNR's stocking priorities.

Artificial Waters

Man-made ponds that are completely within an owners' private property and have no connection to other waters (no outflow or seasonal overflow) may be stocked without obtaining a Licence to Stock Fish. A receipt from the licenced aquaculture facility where the fish were obtained must be carried to enable the transport of live fish. Only species that are eligible for culture in Ontario may be stocked.

Links

https://www.ontario.ca/page/ontarios-fish-stocking-program

https://www.ontario.ca/page/aquaculture-and-fish-stocking-licences

References

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