



Regulatory Guidelines for Managing the Brown Trout Sport Fishery in Ontario

**Fisheries Section
Fish and Wildlife Branch
Ontario Ministry of Natural Resources**

February 2004
Updated August 2005

Regulatory Guidelines for Managing the Brown Trout Sport Fishery in Ontario

NOTE: Since the approval of this document in 2004, MNR has launched the New Ecological Framework for Recreational Fisheries Management. A key component of this new framework is the establishment of Fisheries Management Zones (FMZs) which will replace fishing divisions as the unit for managing recreational fisheries (Appendix I). The recommendations for the application of the regulatory options given herein have been updated to be consistent with the new FMZs.

These guidelines describe the preferred regulatory options for the management of brown trout (*Salmo trutta*) sport fisheries in Ontario. The options are based on current scientific knowledge on the effectiveness of various regulations for managing brown trout (see Kerr 2002b). The goal of this approach is to ensure that regulations can be rationalized on a sound biological basis to achieve resource sustainability while, at the same time, streamlining and simplifying Ontario's fishing regulations, and optimizing angling opportunities.

Regulatory options presented in this tool kit have received both internal (MNR) and external (Environmental Bill of Rights posting) review (see Kerr 2003). To provide consistency to the management of brown trout in Ontario, the regulatory options contained herein are the recommended options to be used in the development of new regulations for brown trout. Fisheries managers across Ontario should undertake to revise existing regulations so that they are consistent with these standards. In cases where new or proposed regulations do not conform to the approach outlined in these guidelines, they should be analyzed using the criteria established in the provincial Approvals-in-Principle process.

Introduction

Brown trout (*Salmo trutta*), a species native to Europe and western Asia, were first released in Ontario water bodies around 1913 (Scott & Crossman 1973, Lasenby and Kerr 2001). Many of the waterbodies in which brown trout were introduced now support self-sustaining populations. In Ontario there are at least 182 waterbodies which contain brown trout (Kerr, 2002a). The majority (93%) of the inland waterbodies are situated in southern Ontario. With the exception of the Great Lakes, most (89.6%) of Ontario's brown trout fisheries occur in streams and rivers.

Brown trout inhabit warmer, slower, more turbid waters than brook trout and display a strong affinity for cover. They can be found from headland streams to slow flowing, meandering spring creeks. They were once thought to be relatively sedentary for most of their life with the possible exception of spawning season. More recent research indicates that adult brown trout may have highly variable movement patterns, on both a daily and seasonal basis, in streams and rivers. In the Great Lakes, they move offshore during the summer seeking temperatures in the 12-15° C range. They are opportunistic predators feeding on a wide variety of fish and aquatic organisms.

In Ontario, male brown trout usually reach sexual maturity by age 3 (approximately 30 cm fork length) while females usually attain sexual maturity at age 4 (approximately 35 cm fork length). Brown trout are fall spawners at water temperatures ranging from 6-9° C. They usually spawn over gravel substrates at the head of riffles or the tailout of pools in headwater areas. There have also been observations of attempted spawning in the nearshore area of lakes.

Three types of brown trout fisheries are present in Ontario. These include river/stream-resident fish which spend their entire life cycle in an inland stream or river; anadromous trout which spend their adult life in a Great Lake and utilize tributary streams for spawning and nursery areas; and those populations which are maintained entirely by stocking to provide artificial fisheries.

Brown trout are currently managed on a regulatory basis by the use of closed seasons, catch and possession limits, size limits, and, in some cases, gear restrictions. Catch and possession of this species is considered in aggregate with other salmonid species, and there is often a restriction on the proportion of the aggregate that can be comprised of brown trout.

When evaluating regulations for brown trout, one must consider the wary, elusive nature of the fish. It has been well documented that brown trout are less vulnerable to angling than other salmonids, such as brook trout or rainbow trout (Cooper 1952, Anderson and Nehring 1984, Behnke 1989), and produce lower yields to a sport fishery (Schuck 1941). Nonetheless, many brown trout populations in southern Ontario are subject to extremely high levels of angling effort which directly impacts the number of fish in the "catchable" range.

Open/ Closed Seasons

Fishing seasons are usually intended to provide protection during vulnerable periods, such as spawning, and to reduce angler harvest. Seasons are relatively easy to enforce and can be modified quickly by a Minister's variation order (if there is an existing season to modify). Where the threat of overexploitation does not exist, the length of the open season should maximize the amount of angling opportunities.

There were seven division-wide open seasons for brown trout in the Province of Ontario in 2002 (Table 1) and several exceptions by waterbody (Table 2). In several instances seasons have been established for other species and brown trout are included by default. The exceptions include lakes and ponds, stocked on a put-grow-take basis, which are open to provide winter angling opportunities.

Table 1. Division-wide open seasons for brown trout in Ontario (2002 Recreational Fishing Regulations Summary).

Season	Division(s)
Open all year	1, 8, 11, designated Great Lake tributaries
Open all year except December 24 th	2, 12A, 16, 17, 23, 25, 35
January 1- September 30	7, 9, 10, 15, 28, 14, 18, 24, 29, 31
January 1- September 15	19, 26, 20, 21, 22/22A, 30, 32, 33, 34
January 1- March 7 & May 18 (Saturday before Victoria Day)- September 15	27
April 26 (last Saturday)- September 30	3, 4, 5, 6, 13
April 25 (last Friday)- September 30	12

Table 2. Open season exceptions for brown trout in Ontario (2002 Recreational Fishing Regulations Summary).

Season	Waterbody (Division)
January 1- March 31 & April 26 (last Saturday)- September 30	Bells Lake, Cameron Lake, Eugenia Lake, Gilles Lake, Irish Lake, Wilcox Lake, Wilder Lake, Williams Lake (4)
January 1- March 31 & April 26 (last Saturday)- September 15	Pinery Park Pond (3)
April 26 (last Saturday)- September 15	Arrow R. (21)
April 26 (last Saturday) - December 31	Designated Great Lakes tributaries
October 1-December 31	Grand River (4)
May 3 (first Saturday) - September 30	Part of Maitland River (4)

Open seasons for brown trout can be standardized to provide consistency without jeopardizing sustainability of the resource.

Recommended Season Dates:

- **The provincial open season for brown trout should extend from the last Saturday in April to September 30. This includes inland waters, in both northern and southern Ontario, as well as Great Lakes tributaries.**
- **Year-round open seasons and extended fall seasons for brown trout in the Great Lakes and designated tributaries should be maintained.**
- **Waters stocked to provide artificial angling opportunities for brown trout should be open year-round.**
- **In FMZs where brown trout are not present there should not be any open season.**

Catch and Possession Limits

Catch limit is defined as the number of fish a person is allowed to catch and keep in one day. Fish which are caught and eaten that day as a shore lunch are counted as part of the daily catch limit. The possession limit is the number of fish a person is allowed to legally possess at any one time whether on-hand, in cold storage or in transit. In most cases, possession limits are the same as one day's catch limit. The general goals of catch and possession regulations are to limit the harvest, to equitably distribute the resource among users, and to convey a realistic expectation regarding capacity of the brown trout resource.

As of 2002, all fishing divisions had a sport catch and possession limit of 5 fish and a conservation limit of 2 fish. There were four exceptions by waterbody (Table 3).

Table 3. Catch and possession limit exceptions for brown trout in Ontario (2002 Recreational Fishing Regulations Summary).

Waterbody (Division)	Catch limit by license type		Possession limit by license type	
	Sport	Conservation	Sport	Conservation
Credit River & Whitemans Creek(4)	1	1	1	1
Grand River (3/4)	1	0	1	0
Grand River (3/4), Arrow River(21)	0	0	0	0
Humber River (4)	2	1	2	1

Recommended Catch and Possession Limits:

- **Catch and possession limits for brown trout should remain at 5 fish (holders of a sport fishing licence) or 2 fish (holders of a conservation licence).**
- **Where a more conservative limit is desired for sustainability of the resource, we recommend a limit of 2 fish (holders of a sport fishing licence) and 1 fish (holders of a Conservation licence).**
- **Brown trout should still be considered as part of an aggregate limit with other trout and salmon.**
- **Catch-and-release only regulations (zero catch and possession limit) may be considered in some cases for designated waters (or sections thereof) being managed to provide a high quality angling experience or where efforts are underway to introduce/establish the species.**

Size Limit Regulations

Size-based regulations should reduce the biological impacts of angling but not restrict angling opportunities. Size limit regulations are usually intended to increase the size of fish caught, maximize yield and protect brood stock while maintaining angling quality often at intense levels of effort. There are three basic types of size limits: (1) minimum size limit whereby all fish below a designated size must be released; (2) slot size limit where fish within a designated range must be released (protected slot) or retained (harvested slot); and (3) maximum size limit where all fish above a designated size must be released. Size-based regulations require a thorough knowledge of growth rates, maturation schedules and recruitment for an individual fish population.

As of 2002, only one size restriction was in place for brown trout in Ontario waters (Credit River and Whitemans Creek) which consisted of a 50 cm minimum length.

Size Limit Recommendations

- **Generally, the use of size limit regulations is not recommended as a widespread regulatory tool for brown trout in Ontario.**
- **Size limit regulations can be considered on designated waters (or portions thereof) being managed to provide high quality angling opportunities.**
- **The use of size limit regulations must be thoroughly rationalized and fully evaluated.**

Sanctuaries

Fish sanctuaries are designated areas where all fishing is prohibited. Sanctuaries can be seasonal in nature or extend for the entire year.

Currently, there are few, if any, sanctuaries specifically for brown trout in Ontario.

Recommendations for Sanctuaries

- **Seasonal fish sanctuaries are a legitimate regulatory tool where required but since the brown trout season is closed during fall and winter, the use of sanctuaries for brown trout should be minimal.**
- **Existing fish sanctuaries below dams and barriers on Great Lakes tributaries should be maintained.**

Special Regulations

Special regulations are those that differ considerably from province-wide regulations and are designed to recycle all or a portion of the anglers creel (Imhof 1989). They may include restrictions on gear (e.g., fly fishing-only, barbless hooks only) or bait (e.g., artificial vs. live bait), as well as harvest (e.g., catch-and-release only). Special regulations must be established based on valid biological criteria and with well established objectives.

Special regulations are usually implemented in heavily-fished waters to prevent overexploitation or in waters where anglers have expectations of increased catch rates or the opportunity to catch a large fish. Special regulations also have merit as a tool to prevent overexploitation during the introduction and establishment of a species. These types of regulations are based on the assumption that trout can be angled several times during the fishing season and released with no significant mortality. There is evidence, however, that brown trout (especially older fish) are not recaptured as many times as some other salmonids (McLaren 1970). Hooking

mortality is generally low for brown trout but varies according to a number of factors including gear type, bait, air and water temperatures, air exposure, and the amount of handling.

There are relatively few instances of special regulations for brown trout in Ontario waters. Examples include sections of the Credit River and Whiteman's Creek where gear is restricted to the use of artificial lures with barbless hooks. There are also four waters which are restricted to artificial flies only and/or have reduced catch and possession limits (Table 4).

In waters which are no longer stocked or which no longer contain sizeable populations of brown trout (e.g., brown trout have not been established successfully) special regulations should be removed.

Table 4. Special regulations for brown trout in Ontario waters (2002 Recreational Fishing Regulations Summary).

Waterbody	Special Regulation
Arrow River (Division 21)	Artificial flies only; barbless hooks, catch and release (zero limit) only.
Credit River (designated section) (Division 4)	Artificial lures with barbless hooks; 50 cm minimum size limit; catch and possession limit of only 1 fish.
East Goulais River (Division 18)	Artificial flies only
Garden River (Division 18)	Artificial flies only
Grand River (Division 4)	Artificial lures with barbless hooks; brown trout catch and possession limit of either 0 or 1 fish.
Whiteman's Creek (Division 4)	Artificial lures with barbless hooks; 50 cm minimum size limit; catch and possession limit of only one brown trout.

Recommendations for Special Regulations

- **Special regulations should only be considered when exploitation is exceptionally heavy or where the goal is to provide unique angling opportunities. Examples of Special regulations which can be considered on designated waters (or portions thereof) include a 50 cm minimum size limit, use of artificial lures only, catch-and-release only designation, and the use of single point barbless hooks. A review of bait and gear restrictions is currently underway.**
- **Special regulations should only be implemented where there are clear management objectives, where there is widespread public support and where they can be fully evaluated.**
- **Special regulations in waters which no longer support brown trout populations should be rescinded.**

References

- Anderson, R. M. and R. B. Nehring. 1984. Effects of a catch-and-release regulation on a wild trout population in Colorado and its acceptance by anglers. *North American Journal of Fisheries Management* 4 : 257-265.
- Behnke, R. J. 1989. We're putting them back alive. *Trout*. Autumn : 47-61.
- Cooper, E. L. 1952. Rate of exploitation of wild eastern brook and brown trout populations in the Pigeon River, Ostego County, Michigan. *Transactions of the American Fisheries Society* 81 : 224-234.
- Imhof, J. G. 1989. Special angling regulations: Their usefulness and their application for wild salmonid management in Ontario rivers. Discussion Paper. Fisheries Branch, Ontario Ministry of Natural Resources. Maple, Ontario.
- Kerr, S.J. 2002a. Atlas of Brown Trout Waters in Ontario. Ontario Ministry of Natural resources. Fisheries Section, Fish and Wildlife Branch. Ontario Ministry of Natural Resources. Peterborough, Ontario.
- Kerr, S. J. 2002b. A literature review of brown trout regulations in North America. Fish and Wildlife Branch. Ontario Ministry of Natural Resources. Peterborough, Ontario. 61 p. + appendices.
- Kerr, S. J. 2003. A summary of public comments on provincial brown trout regulation proposals (EBR posting PB03E6005). Fisheries Section, Fish and Wildlife Branch. Peterborough, Ontario. 7 p.
- Lasenby, T. A. , and S. J. Kerr. 2001. Brown trout stocking: An annotated bibliography and literature review. Fisheries Section, Fish and Wildlife Branch. Ontario Ministry of Natural Resources. Peterborough, Ontario. 187 p-. + appendices.
- McLaren, J. L. 1970. Vulnerability of wild brown trout to fly fishing under catch-and-release regulations. M.Sc. Thesis. Pennsylvania State University. University Park, Pennsylvania. 51 p.
- Ontario Ministry of Natural Resources. 2002. 2002 Recreational Fishing Regulations Summary. Fish and Wildlife Branch. Queen's Printer for Ontario. 96 p.
- Schuck, H. A. 1941. The effect of population density of legal-sized trout upon the yield per standard fishing effort in a controlled section of stream. *Transactions of the American Fisheries Society* 71 : 236-248.

Scott, W.B. & E.J. Crossman. 1973. Freshwater Fishes of Canada. Fisheries Research Board of Canada. Ottawa, Ontario. 966 p.



Appendix I New Fisheries Management Zones for Ontario's Sport Fisheries