



Guidelines for Competitive Fishing Events for Muskellunge in Ontario

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Introduction

Competitive fishing is a growing industry in Ontario (Kerr and Kamke 2003, Kerr 2004). Bass (*Micropterus* spp.) are the most commonly targeted species at these events. Although competitive fishing events for muskellunge (*Esox masquinongy*) have been relatively uncommon to date, there apparently is increasing interest in organizing these events on some of Ontario's trophy muskellunge waters. There are already several large muskellunge tournaments in adjacent U.S. jurisdictions.

Muskellunge are subject to physiological stress associated with capture and handling (Miles et al. 1974, Beggs et al. 1980). With the unique nature of wild muskellunge stocks in Ontario, their vulnerability as a low density predator, and a strong desire to protect the fishery, there was the need to develop best management practices for tournaments specifically directed toward muskellunge.

While it is believed that large prize tournaments for muskellunge should be strongly discouraged due to the unique characteristics of the species (low density populations and high susceptibility to post-release mortality), the following guidelines have been developed for tournament organizers who may still choose to hold a muskellunge tournament in Ontario. These guidelines endorse a varying or "tiered" approach for different events depending upon the magnitude of the event, characteristics of the muskellunge population in that water body, and the minimum size limits which are in place. It is proposed that a more cautious approach be taken in those events being held in low population density, less sustainable fisheries (e.g., trophy waters) and where fish are being retained for longer periods of time in order to verify size for entry into the event. Appendix 1 provides an outline of the Tiered Approach to Tournament Guidelines.

Guidelines on good catch-and-release practices for one species may not be appropriate for other species (Tufts 1999, Cooke and Suski 2004). These guidelines are not intended to apply to tournaments involving other fish species although there may be some practical application of these practices to other fisheries.

Key Principles

There are a number of key principles which form the foundation of these guidelines.

1. Competitive fishing is recognized as a legitimate activity in Ontario with many social and economic benefits.
2. At catch-and-release events every effort should be made to ensure fish experience minimal stress in order to maximize post-release survival. Catch-and-kill events for muskellunge should be discouraged.
3. Competitive fishing events should not threaten sustainability of the resource.
4. Competitive fishing events must comply with the Ontario Fishery Regulations and the Fish and Wildlife Conservation Act.
5. Safety should be promoted at all competitive fishing events.

Guidelines for Muskellunge Tournaments

Tournament Rules and Administration

- Tournament organizers should contact the local MNR office, advise them of an upcoming event, and provide the proposed rules for the event.
- Event organizers should identify concerns of local anglers and shoreline owners and attempt to resolve any potential issues prior to the event.
- All events should incorporate strategies to promote good fish handling practices.
- Private boat launch facilities should be used if there is significant potential to cause overcrowding at public access points.
- Tournament participants must hold a valid Ontario sport fishing licence (or a deemed licence) and abide by the Ontario Fishing Regulations. (Note: A deemed licence includes residents of Canada who are under 18 years of age or 65 years of age and older as well as disabled Canadian residents who are in possession of proper documentation).
- Tournament organizers should ensure that rules of the event and relevant provisions of the law are clearly articulated to participants. Organizers should also have mechanisms in place to monitor compliance with the tournament rules.
- Participants who do not comply with the Ontario Fishery Regulations should be disqualified.
- Organizers should have contingency plans for bad/unsafe weather conditions, or for when ecological conditions (e.g.: excessively warm water or late spawn) should dictate a postponement of the tournament until more favourable conditions exist.
- For scientific research and monitoring purposes, tournament organizers are strongly encouraged to report information on their event to the Ministry of Natural Resources. Organizers are asked to collect data on: (a.) the number of participants (b.) the amount of angling effort (i.e. hours fished), (c.) the number and length of muskellunge caught, (d.) evidence of any physical anomalies (i.e. lamprey scars, lymphosarcoma, etc.), and (e.) incidents of fish mortalities.

Tournament Dates

- Pre-fishing before the muskellunge season opens is illegal and must not be allowed.
- Angling during periods of extremely hot weather is known to increase physiological disturbances to the fish and reduce its likelihood for survival after release (Cooke and Suski 2004). To ensure favourable conditions for fish survival, muskellunge tournaments should be scheduled to avoid periods of extremely warm temperatures (e.g., July and August).
- Regardless of whether the season is legally open, tournaments should not be scheduled during periods when muskellunge are likely to still be spawning.

Gear and Angling Techniques

- Tournaments should be based on the use of artificial lures. Hooking mortality is generally low for esocids caught with artificial lures (Tomcko 1997). The use of live or dead bait is discouraged.
- Fish should be landed quickly to minimize the physiological disturbance caused by angling (Cooke and Suski 2004). Fish should not be played to the point of exhaustion or dragged, if caught when trolling, to reduce its fight.
- Tournament participants should be encouraged to use proper gear which is heavy enough to quickly play and land a muskellunge without causing undue stress.
- Snagged fish are not to be eligible and must be returned to the water immediately.
- Landing nets or cradles are preferred over gaff or lipping devices to land or constrain a muskellunge. A rubberized or coated oversized landing net is generally the best to minimize stress on the fish and optimize safety for the angler (Barthel et al. 2003).
- Removal of deeply ingested hooks is known to decrease the chances of post-release survival (Muoneke and Childress 1994). Pliers and bolt cutters should be considered mandatory equipment for participants. Cut and leave the hook as close to the point of penetration as possible in deeply hooked fish.

Holding/Retention of Fish

- All muskellunge events should be based on a live release format. Ideally, an immediate point of capture release format would be followed. An angler shall not resume fishing until the fish has successfully been released.
- Handling of fish and air exposure should be minimized. Fish should never be held by the eyes or gills. Care should be taken to ensure that the protective mucous coating is not removed from the fish during handling.
- Techniques used to artificially deflate the swim bladder of fish angled from deep water (commonly known as “fizzing”) should be discouraged.
- In cases where holding is required for size verification, muskellunge of legal size should be held fully submersed in water using a large net or cradle. A muskellunge that is held for verifying its size is deemed to have been retained and counts towards the angler’s daily catch and possession limit.
- Livewells should not be used to hold muskellunge.
- Any fish that is removed from the water and held for a picture or for any other purpose should be held horizontally, not vertically, to reduce the risk of internal injury (Butler 2004).

- At no time should participants catch and retain or possess more fish than is allowed by law.
- If the fish cannot be released alive, final disposition of the fish is the responsibility of the participant.

Other Considerations

- Organizers and competitors should exercise a high standard of sportsmanship, safety, and courtesy.
- Participants in an event should make every effort to preserve and protect the environment (e.g., avoid littering, do not disturb nesting waterfowl, etc.) and respect the rights of shoreline landowners and other anglers.

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References

- Barthel, B. L., S. J., Cooke, C. D. Suski, and D. P. Philipp. 2003. Effects of landing net mesh type on injury and mortality in a freshwater recreational fishery. *Fisheries Research* 63 : 275-282.
- Beggs, G. L., G. F. Holeton, and E. J. Crossman. 1980. Some physiological consequences of angling stress in muskellunge (*Esox masquinongy*). *Journal of Fish Biology* 17 : 649-659.
- Butler, M. 2004. Vertical holds of larger fish: Not the best choice for catch and release. p. 4-7 *In* Musky. Muskies Incorporated.
- Competitive Fishing Events Review Committee. 2000. Recommendations for the management of competitive fishing in Alberta. Report prepared for Alberta Environment. Edmonton, Alberta.
- Cooke, S. J. and C. D. Suski. 2004. Do we need species-specific guidelines for catch-and-release recreational angling to effectively conserve diverse fishery resources? *Biodiversity and Conservation* 00 : 1-15.
- Kerr, S. J. 2004. A 2004 survey of competitive fishing events in Ontario. Fish and Wildlife Branch. Ontario Ministry of Natural Resources. Peterborough, Ontario. 14 p. + appendices.
- Kerr, S. J. and K. K. Kamke. 2003. Competitive fishing in freshwaters of North America: A survey of Canadian and U.S. jurisdictions. *Fisheries* 28(3) : 26-31.
- Miles, J. M., S. M. Lohner, D. T. Michaud, and S. L. Salivar. Physiological responses of hatchery-reared muskellunge (*Esox masquinongy*) to handling. *Transactions of the American Fisheries Society* 103 : 336-342.
- Muoneke, M. I. and W. M. Childress. 1994. Hooking mortality: A review for recreational fisheries. *Reviews in Fisheries Science* 2(2) : 123-156.
- Ontario Federation of Anglers and Hunters, 1999. Competitive fishing events guidelines. Peterborough, Ontario. 10 p.
- Ramsell, R. 2004. Musky handling techniques to improve the chances of survival for your released catch. p. 13-15 *In* Musky. Muskies Incorporated.
- Simonson, T. 2003. Muskellunge fishing tournament guidelines. *In* Muskellunge Management Update. Wisconsin Department of Natural Resources. Madison, Wisconsin.
- Smith, I. 1999. Competitive fishing events for muskellunge in Canada: Experiences, practices and perspective from Muskies Canada. p. 91-97 *In* S. J. Kerr [ed.]. Competitive Fishing in Ontario. Workshop Proceedings WP-01. Southcentral Sciences Section. Ontario Ministry of Natural Resources. Kemptville, Ontario.
- Tomcko, C. M. 1997. A review of northern pike (*Esox lucius*) hooking mortality. Fish Management Report 32. Minnesota Department of Natural Resources. St. Paul, Minnesota.
- Tufts, B. L. 1999. A physiological perspective on live release competitive fishing events. p. 29-34 *In* S. J. Kerr [ed.]. Competitive fishing in Ontario. Workshop Proceedings WP-01. Southcentral Sciences Section. Ontario Ministry of Natural Resources. Kemptville, Ontario.

Appendix 1. A Tiered Approach to Tournament Guidelines

These tournament guidelines are intended to endorse competitive fishing events to be held on bodies of water that are deemed to have a “sustainable” muskellunge population, as determined by the MNR’s recreational fishing regulations which outline relevant open seasons and minimum size limits. The framework is also designed to take into account the relevant social and ecological conditions that prevail at the time and location the proposed event is to be held.

The primary variable to be applied in delineating which bodies of water hold sustainable populations of muskellunge is the “minimum size limit” designation in the Ontario Recreational Fishing Regulations Summary. The general concept being applied in choosing this metric is that the size limits tend to reasonably reflect the range of muskellunge populations from high density (small body size - lower size limit) to low density (medium to large body size - higher size limit / “trophy class” designation). The geographic boundaries for applying the regulation framework are already clearly defined, as every body of water with a muskellunge population in Ontario has a designated minimum size limit. The other significant benefit of utilizing the size limits in the tiered approach to tournament guidelines is that these limits were determined using a science-based approach (analysis of growth rates and ages of muskellunge as determined through the Cleithrum Project) and are periodically reviewed and amended to reflect the changing status and sustainability of the province’s muskellunge population. The tournament regulations themselves do not need to change as they are directly connected to the designated size limits.

These minimum size limit categories are used as a main variable in determining the range of regulations that would apply for a given “set” of tournament characteristics as described below.

The other axis in the grid of the tiered guidelines framework is based on a “set” of characteristics that best define the nature of the tournament being proposed and prevailing social and ecological conditions at the time of the proposed tournament date.

The tiered framework is intended to serve as a “guideline” for muskellunge tournament organizers when planning an event, and understanding the recommended parameters endorsed by the Ministry of Natural Resources.

The following background / rationale is provided for each of the key components comprising the 4 Tiers (A,B,C and D; see following table) within the tiered guidelines framework:

- I. Size Verification Process: Rule sets reflect a tiered approach that recognizes the positive correlation between prize values and the necessary rigor of the verification process (i.e.: the higher the prize value the more regimented the process) and in turn between the size verification process and stress caused to captured fish (the more rigorous the process the greater the stress factor).
- II. Prize Value: An important variable that contributes to the chosen size verification process, as previously stated.

- III. Eligible Size of Fish Qualifying for the Event: Only Rule Sets A and B permit sub-legal sized fish to be entered in the contest as it is recognized that an honor system, on-board judges or a “CPR” approach allows for immediate release at point of capture. Anything other than immediate release of sub-legal sized fish would constitute an infraction under the Ontario Recreational Fishing Regulations and is clearly not permitted.

- IV. Size and Duration of the Event: A scaled approach endorses larger events (number of anglers) and longer events (duration in days) for those bodies of water with more sustainable muskellunge populations.

- V. Warm Water Temperatures and Related Stress: While the MNR retains the right to revoke a previously issued permit based on recent development of detrimental ecological impacts, including water temperature considerations, Rule Sets C and D automatically prohibit large size / long duration competitive fishing events for muskellunge during the hot summer months. This propensity for a combination of increased angling pressure and added stress due to high temperatures accounts for this seasonal restriction.

Tiered Guidelines	Minimum Size Limit Regulation			
	36"	40"- 44"	48"	54"
A) - Honour system / no catch verification process - Nominal value prizes (ie: under \$100). - Legal and sub-legal sized fish eligible for entry in event. - Immediate release at point of capture. - Maximum number of anglers is 100. - Event should not exceed 2 days in duration.				
B) - Catch verification process involving the use of photos or on board judges - First place prize value not exceeding \$5,000. - Legal and sub-legal fish eligible for entry in the event. - Immediate release at point of capture. - Maximum number of anglers is 150 . - Event should not exceed 2 days in duration.				
C) - Catch verification process includes the use of judge boats and 2 way radios. - First place prize value not exceeding \$15,000. - Only legal-sized fish should qualify for entry in the event. - Fish should not to be transported. - Fish must be released immediately upon completion of size verification - Maximum number of anglers is 200 and event doesn't exceed 2 days.				
D) - Catch verification process using judge boats and 2 way radios. - First place prize value not exceeding \$25,000. - Only legal-sized fish should qualify for entry in the event. - Fish should not to be transported. - Fish must be released immediately upon completion of size verification - Maximum number of anglers is 250 and event should not exceed 3 days in duration.				

	Tournaments generally allowed as social & ecological conditions permit
	Tournaments should be held only under favourable ecological conditions.
	Muskellunge tournaments should be discouraged.

