

**TO:** Atlantic Striped Bass Management Board

**FROM:** Patrick Keliher, Commissioner, Maine Department of Marine Resources  
Daniel McKiernan, Director, Massachusetts Division of Marine Fisheries

**DATE:** January 21, 2021

**RE:** A Proposal to Study the Tube Rig Fishery and Consider Its Exemption from the Circle Hook Provision

## Overview

The Maine Department of Marine Resources (ME DMR) and the Massachusetts Division of Marine Fisheries (MA DMF) are submitting a proposal to collect data on the recreational striped bass baited tube rig fishery. Goals of this study are to assess the prevalence of baited tube rigs in the fishery and their incidence of deep hooking. To enable this study, ME and MA are requesting an allowance for the continued use of traditional baited tube rigs (with a J hook) in the recreational striped bass fishery. This allowance, either for ME and MA alone or coastwide, would terminate after the two-year study unless additional action is taken by the Board to extend or permanently approve the use of tube rigs in the fishery.

## Background

At its October meeting, the Atlantic Striped Bass Management Board (Board) voted to prohibit any exemptions to the Addendum VI provision specifying the use of circle hooks when recreationally fishing for striped bass with bait. In order to come into compliance with this provision, ME DMR adopted an emergency regulation on December 16, 2020 which removed the state's previous exemption for those fishing with baited latex and rubber tube rigs. Similarly, MA DMF initiated rule-making to remove the state's exemption for those fishing with any artificial lure to which natural bait is attached (which allowed for baited tube rigs among other terminal tackles including an artificial lure) prior to the fishery's onset.<sup>1</sup>

In response to these regulatory actions, ME DMR and MA DMF heard from a wide assortment of stakeholders expressing concern, frustration, and confusion with these changes. Many individuals, while supportive of measures to protect the striped bass resource, were surprised by this management outcome, given an understanding that Addendum VI's circle hook requirement was meant to address simple hook-on-a-line tackle—the type of baited hook configurations for which studies have shown a difference in deep hooking rates between J hooks and circle hooks. In particular, they did not understand the purpose of prohibiting a tube rig with a J hook given their experience that this terminal tackle rarely, if ever, results in deep hooking. Because they did not see a conservation benefit in requiring the use of circle hooks with a tube rig, they worried that such a measure would unintentionally erode public support for circle hooks. Others indicated that it is not possible to fish a tube rig with a circle hook because the circle hook will not set in the fish when the bait is being trolled or cast through the water;

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<sup>1</sup> Massachusetts' regulation also exempted anglers aboard for-hire vessels; this part of the exemption will be eliminated without further Board guidance, and is not a focus of this proposal.

hence, the circle hook requirement effectively prohibits this popular terminal tackle for striped bass fishing. Members of Maine's worming industry highlighted resulting economic impacts to their business given worms are often attached to the tube rig when fishing.

In response to these concerns, ME DMR and MA DMF have developed this proposal to collect data on the use of tube rigs in the recreational striped bass fishery. While agency staff and industry anecdotally describe the low incidence of deep hooking with a tube rig, to our knowledge, a study focused on this terminal tackle has not occurred. Further, given the MRIP survey does not collect information on terminal gear, the population of those using tube rigs is unknown. Given this dearth of information, there are key questions regarding the size of the fishing population impacted by the removal of the tube rig exemption as well as the relative biological impact of fishing this type of gear. Given the goal of the Addendum VI circle hook provision is to reduce the discard mortality of striped bass in the recreational fishery, should tube rigs already result in a low incidence of deep hooking, the net benefit of requiring circle hooks may be negligible. Said another way, a narrow exemption for tube rigs may not undermine the goal of the circle hook provision.

### ***Description of a Tube Rig***

Tube rigs are a traditional method of recreational fishing. As a part of this terminal gear, a section of latex or rubber tubing encircles the mainline with the hook protruding from the end of the tubing. Bait, such as worms, can be attached to the hook. The gear is actively monitored while fished, whether it is cast into a current or trolled at low speeds behind a boat or kayak. Under Maine's prior regulation, tube rigs exempt from the circle hook requirement were required to have a tube measuring at least 8 inches long and were restricted to having a single hook protruding from the end to which bait is attached.<sup>2</sup>

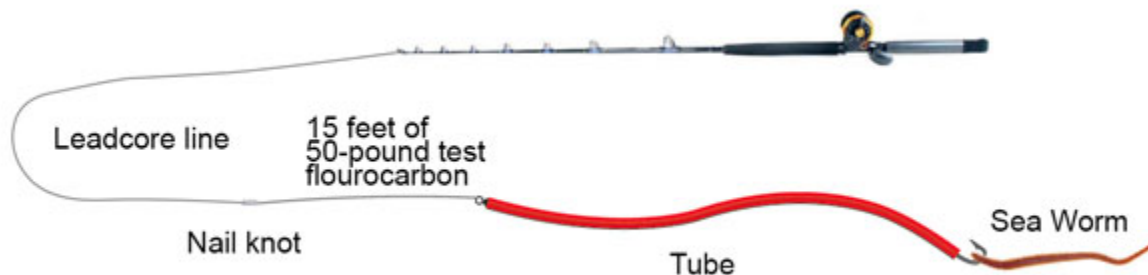


Image from: [www.onthewater.com/best-striped-bass-trolling-rigs](http://www.onthewater.com/best-striped-bass-trolling-rigs)

### ***Proposed Tube Rig Study***

ME DMR and MA DMF are proposing a two-year study (2021/2022) to gather information on the use of tube rigs in the recreational striped bass fishery. The two primary management objectives of this work are:

- Understand the size of the fishing population which participates in the use of tube rigs
- Understand where tube gear hooks on a fish (lip, gills, gut, etc.)

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<sup>2</sup> ME exemption language: Rubber or latex tube rigs will be exempt from the circle hook restriction as long as they conform with the following: the lure must consist of a minimum of 8" of latex or rubber tubing with a single hook protruding from the end portion of the tubing where bait may be attached. Use of treble hooks is not allowed with these rigs.

In addition, ME DMR is interested in understanding the potential impacts of the circle hook requirement on Maine's worming industry.

To make this study possible, ME DMR and MA DMF are requesting that Maine's previous circle hook exemption for those fishing with a tube rig be authorized for the two-year duration of the study, either a) in Maine and Massachusetts alone by way of Board approval of an exemption request; or b) coastwide by way of Board action to delay Addendum VI's circle hook implementation date for this particular terminal tackle. This authorization is necessary to allow ME DMR and MA DMF staff, in collaboration with recreational anglers and for-hire operators, to collect pertinent information on the use of tube rigs in the fishery, including participation rates and incidence of deep hooking. It is ME DMR and MA DMF's intent that this allowance for traditional baited tube rigs would expire after two years, unless additional Board action is taken to extend or permanently approve their use.

The proposed study has several components for collecting data including: 1) an angler survey (ME & MA); 2) an angler logbook (ME only); and 3) at-sea data collection (ME & MA).

#### Angler Survey

In both Maine and Massachusetts, the population of striped bass fishermen using a baited tube rig is unknown. As a result, it is unclear how large of a population is impacted by the Board's recent decision to prohibit a circle hook exemption for tube rigs.

As a first step, both states plan to administer an online survey to recreational fishery participants—both private anglers and for-hire vessel operators—through the use of their respective angler databases (whether that be for recreational permit holders or those in a saltwater registry). Collecting participation information from a broad set of recreational anglers will provide insight into the proportion of the recreational community that uses tube rigs. Questions in the survey would ask private anglers about their knowledge of tube rigs, level of engagement in recreational striped bass fishing, frequency of using tube rigs in the striped bass fishery, and choice of bait; for-hire captains would be asked to provide similar information of the anglers they have taken fishing.

#### Angler Logbook

As a second component to this study, ME DMR plans to utilize its Volunteer Angler Logbook (VAL) program to collect data on the use of tube rigs in the fishery. The VAL program is primarily aimed at striped bass fishermen in order to collect additional length as well as catch and effort data. In 2021, ME DMR will be expanding the VAL program to include an electronic logbook which recreational anglers will be able to complete online or through an App. Not only does this electronic logbook provide ME DMR the flexibility to easily modify the questions asked, but Maine also believes it will expand the population of recreational anglers who provide data. For reference, a copy of the existing logbook is attached to this proposal. A preliminary list of questions ME DMR plans to add to the VAL program, and their associated management objective, are shown below in Table 1.

ME DMR plans to conduct extensive outreach on the new electronic VAL program in order to promote strong engagement and participation by the recreational sector. Methods of outreach will include list-serve mailings, an announcement on ME DMR's website, outreach at tackle shops, and collaboration with industry associations.

In combination with the broader recreational industry survey, the VAL program should provide important information on the tube rig fishery. As efforts are taken to publicize the new electronic

logbook, ME DMR is conscious that those participating in the VAL program may not represent a balanced cross-section of the recreational fishing community. This may be particularly true if those who fish with tube-and-worm gear are eager to collect data on their fishing practices. The online survey administered by ME DMR will allow for a comparison between the subset of individuals who participate in the VAL program and the broader recreational community. Moreover, the survey results will help ME DMR to understand whether those who participate in the VAL program represent a small or large portion of fishermen who use baited tube rig gear. These two sources of information should also help ME DMR to draw conclusions about the broader impacts of the tube rig fishery.

*Table 1: Management objectives and the corresponding preliminary questions to be added to Maine's Volunteer Angler Logbook under ME DMR's proposed study.*

<b>Management Objective</b>	<b>Corresponding Questions in Logbook</b>
Understand size of population which participates in the tube-and-worm fishery	Did you use a baited latex or rubber tube rig when fishing? [options for "yes" or "no"]
Understand impacts to the worming industry	If yes, what bait did you use on the tube rig? [options for "seaworm" "artificial including synthetic" and "other"]
Understand where tube and worm gear hooks on a fish (lip, gut, etc.)	Number of fish caught using tube rig Where was the hook set? [options for "lip" "interior mouth" "gill teeth" "other"]

#### At-sea Data Collection

While logbooks are a cost-effective way (and safe way during Covid) to gather large amounts of data and engage industry, a potential criticism of logbook data is that they are self-reported. To address this concern, ME DMR and MA DMF are developing plans to conduct at-sea sampling of tube rig fishing. Data similar to what is proposed in the VAL program would be recorded, including the number of fish caught, the location of where the hook set on the fish, and the condition of the fish when discarded. Further, the agencies will manufacture/obtain and fish with tube rigs with circle hooks to understand the impact on catch given industry's assertion that the circle hook will not set in the fish. Collecting this second stream of data will provide greater insight into the data collected through Maine's VAL program; the data collected by agency staff will either highlight discrepancies with the data collected in the angler logbooks or it will ground truth what is reported in the logbooks.

MA DMF plans to utilize its own staff and fleet of research vessels to conduct dedicated striped bass fishing trips for at-sea data collection on tube rigs. By employing DMF staff and vessels (rather than collaborating with the for-hire industry as Maine intends), the agency plans to perform this activity in year 1 of the study. Depending on Covid-related impacts to field sampling activities, additional data collection in year 2 may be required to acquire a robust dataset. This research into tube rigs will build upon MA DMF's ongoing Striped Bass Terminal Tackle Study begun in 2020 to evaluate discard mortality rates between circle hooks and J hooks. It is anticipated that the information collected on the hook setting location associated with tube rigs will be able to be compared to that collected on circle hooks and j hooks in that study, as well as prior published studies.

ME DMR has identified a set of funds with which the agency plans to hire charter boat captains to go tube rig fishing and collect the at-sea data. ME DMR plans to focus this on-the-water work in year 2 of the study, largely due to Covid-19. Covid presents many challenges for safely conducting collaborative research, particularly at a time when Covid rates are high and the timeline of the vaccine is uncertain. It is much more likely that in-person collaboration with fishermen will be possible by 2022. Another advantage of partnering with charter boat captains in year 2 is that, based on information from the angler survey and the VAL program, ME DMR may have identified a broader pool of industry members with which to collaborate.

### Analysis

Following the two years of the study, ME DMR and MA DMF will analyze the results and compile them in a report. We anticipate that this research program will: 1) estimate the size of the angling public in our states using tube rigs and the frequency and reason for their use; 2) evaluate the incidence of deep hooking associated with traditional baited tube rigs, and compare this to other terminal tackle configurations; and 3) demonstrate whether a circle hook could be used on a tube rig with equivalent success of catch and hook set properties.

The agencies intend to provide this report to the Striped Bass Technical Committee (TC) for their review and comment by the fall of 2022. Following this TC review, ME DMR and MA DMF would present the results to the Board for their consideration at the 2022 Annual Meeting. With this information, the Board can decide whether to take action to extend the exemption for the use of tube rigs for the 2023 fishery or allow the exemption to sunset.