

Additional Information from FWP – Commissioner Walsh Madison River Amendment

Upper Madison Regulation Proposal Response

Single, Barbless Hook Response:

In fall of 2023, the Fish and Wildlife Commission adopted a rule requiring artificial lures with single-point, barbless hooks from Varney Bridge to Ennis Lake. That regulation change took effect in the spring of 2024. Hook requirements above Varney Bridge were left unchanged so FWP could compare changes in hook injuries between the two areas. The comparisons below use three years before the rule (2021–2023) and three years after it took effect (2024–2026).

Hook injuries declined by similar amounts in both areas, even though only one received the new rule. For rainbow trout, the proportions with hook injuries decreased from 23% to 16% in the Varney Section and from 23% to 17% in Pine Butte. For brown trout, it decreased from 11% to 8% in Varney and from 14% to 9% in Pine Butte (Table 1). The error bars in Figure 1 (below) show the uncertainty around the estimates and often overlap. Together, these results show no clear added improvement in the area with the new hook rule. A full statistical analysis of the late-September 2026 data is still pending, but the similar trends in both areas support this preliminary conclusion.

Table 1. Proportion of presumed hook injuries for rainbow and brown trout captured in the Varney and Pine Butte sections of the Madison River. “Pre” estimates are from 2021-2023 while “post” estimates are 2024-2026.

Section	Pre-rainbow trout	Post-rainbow trout	Rainbow Difference	Pre-brown trout	Post-brown trout	Brown Difference
Varney	0.23	0.16	0.07	0.11	0.08	0.03
Pine Butte	0.23	0.17	0.06	0.14	0.09	0.05

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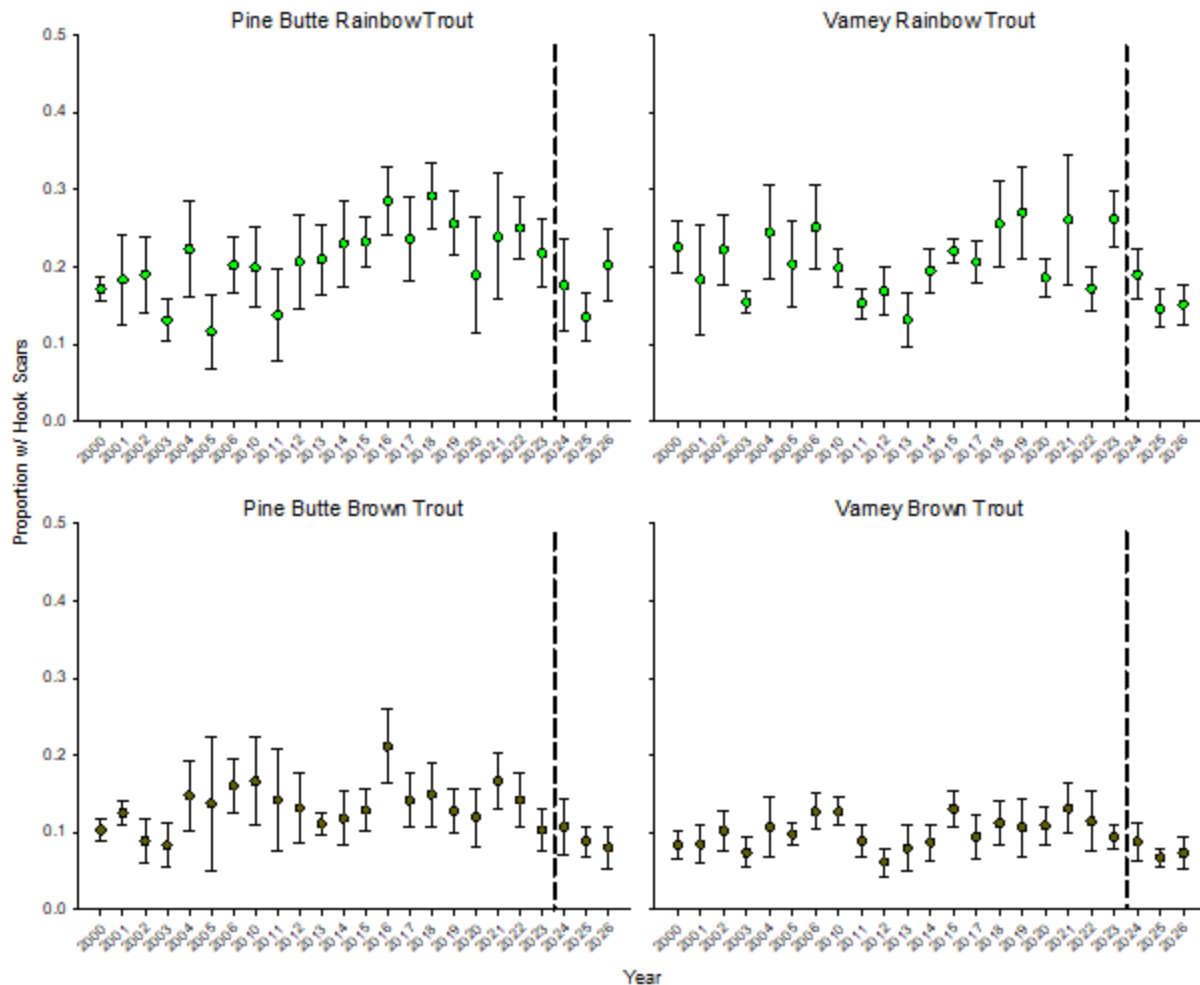


Figure 1. Proportion of rainbow (green circles) and brown trout (brown circles) captured in the Pine Butte and Varney sections of the Madison River exhibiting signs of presumed hooking injuries. Dashed lines delineate implementation of barbless, single-pointed hook regulation from Varney Bridge to Ennis Reservoir in the spring of 2024 (no regulation change was implemented upstream of Varney Bridge). Error bars are 95% confidence intervals.

These results align with previous studies that demonstrate no differences in hooking injury or mortality rates for salmonids caught by anglers regardless of hook type (barbed or barbless) or number of hooks (e.g., single vs. treble hook; Hunsaker et al. 1970; Dotson 1982; Taylor and White 1992; Gjernes et al. 1993; Schill and Scarpella 1997; DuBois and Dubielzig 2004; DuBois and Kuklinski 2004; Meka 2004; Kerr et al. 2017; Carline et al. 2021).

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Although potential effects of changes in angling pressure and trout abundances were not analyzed, angling pressure in the Madison River was relatively high in 2020 and 2021 followed by a decrease of nearly 40,000 angler-days in 2023 (Figure 2). The decreased angling pressure *could* explain the decrease in hooking injuries for rainbow and brown trout throughout the entire upper Madison River in recent years.

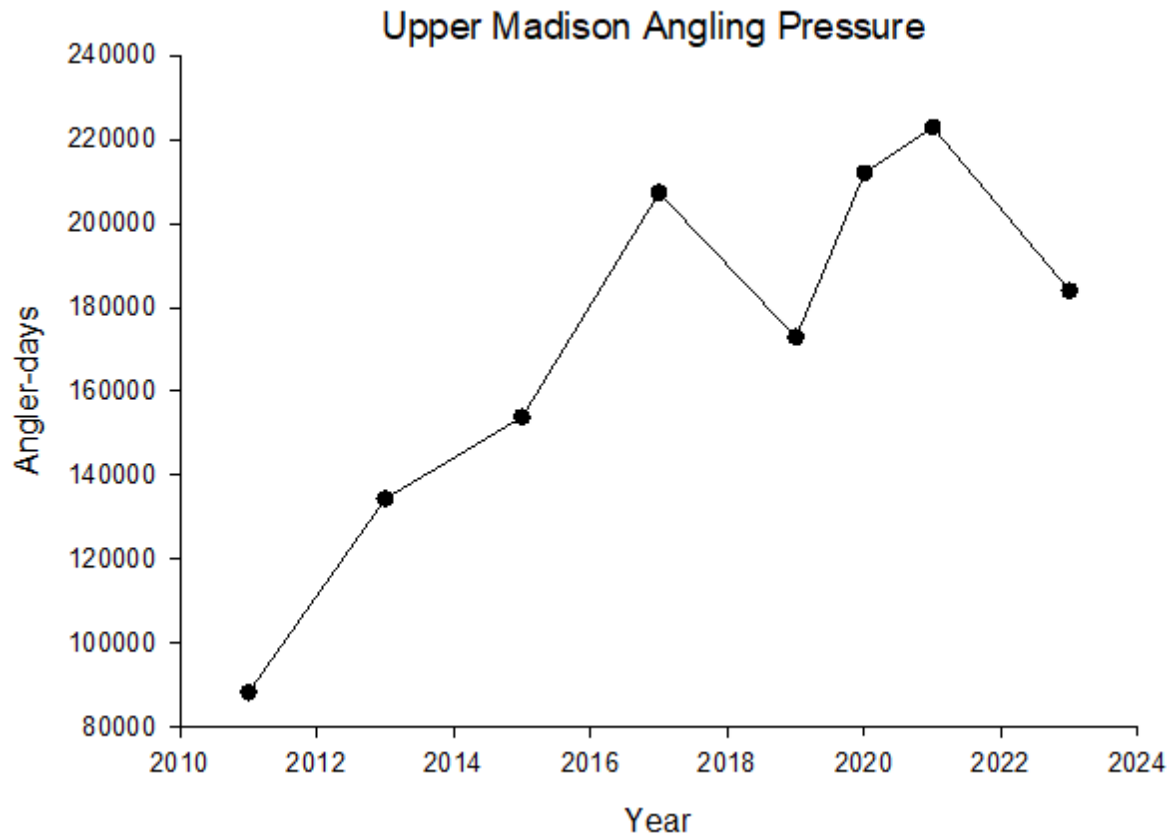


Figure 2. Estimated angling pressure on the Madison River between Hebgen Dam and Ennis Reservoir.

FWP is working with Montana State University to quantify potential limiting factors for the trout fisheries in the Beaverhead, Big Hole, and Ruby rivers. The inclusion of the Upper Madison River for fisheries related purposes was to provide a control system that supports relatively abundant, stable populations of rainbow and brown trout to compare with the other three rivers that recently reached historically low abundances. Rainbow and brown trout populations are near or above the long-term averages in the Pine Butte and Varney sections (Figure 3). The size structures of the populations in those sections have been relatively stable over the last 20 years, indicating consistent survival over that period (Figures 4 and 5). The MSU studies are ongoing; therefore, results from those efforts will not

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be available for several years. However, existing data do not indicate angling induced mortality is currently a major limiting factor for rainbow or brown trout in the Madison River.

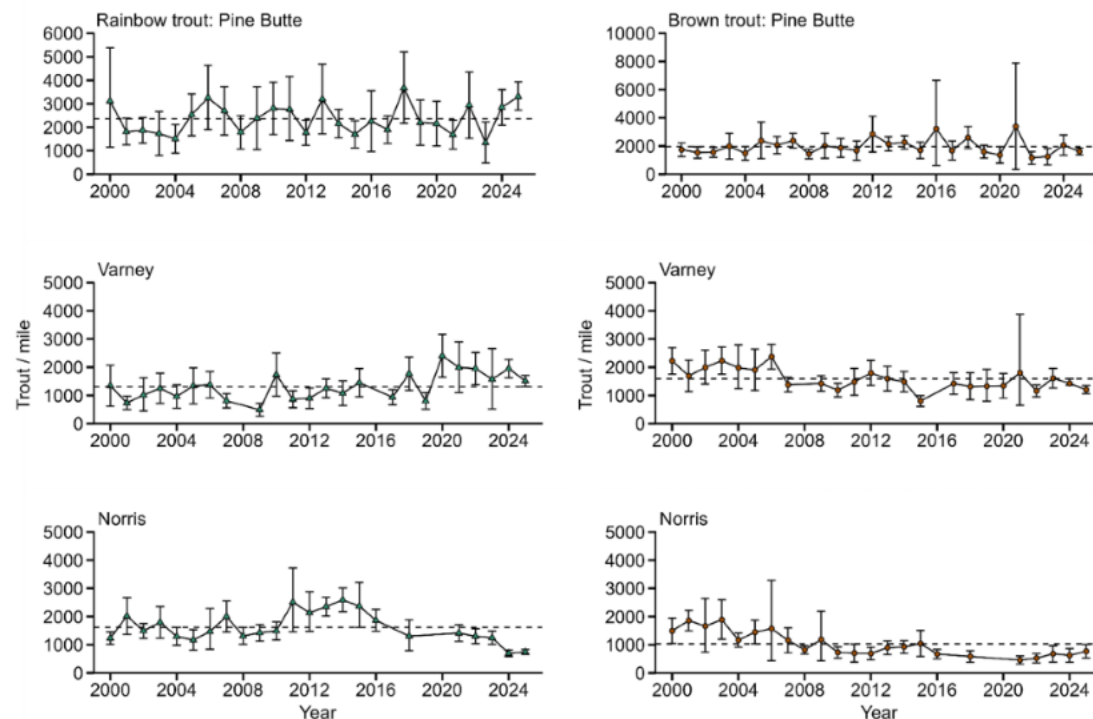


Figure 3. Estimated abundances of brown (brown circles) and rainbow trout (green triangles) ≥ 152 mm ($\approx 6''$) in the three long-term sampling sections of the Madison River. Dashed lines represent the long-term average trout abundances (2000-2025), and error bars represent the 95% confidence intervals.

Finally, creel surveys completed by MSU indicate 96% of the 438 interviewed anglers on the Madison River in 2025 were fly fishing. Eighty-seven percent of those anglers were fishing with single-pointed hooks while 68% were fishing with barbless hooks.

Taken together, the trout abundance estimates, size distributions, fishing-pressure history, and similar declines in hook injuries indicate that expanding the single-point, barbless-hook rule is unlikely to produce a meaningful increase in trout abundances or improve the size of fish in the Upper Madison.

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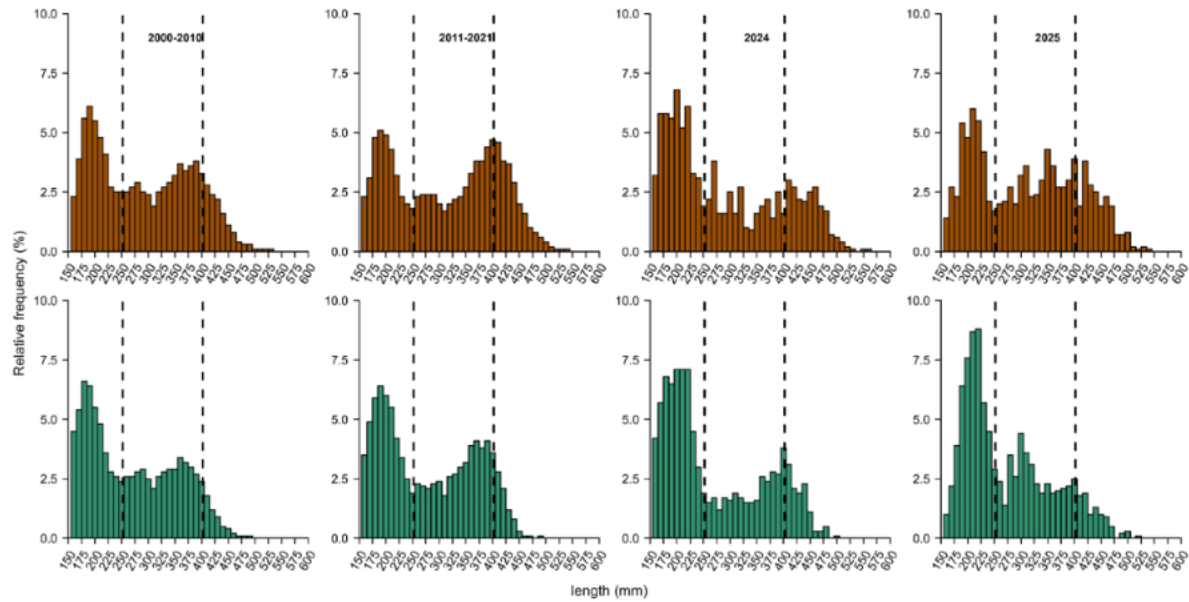


Figure 4. Length frequency histograms of brown (brown bars) and rainbow trout (green bars) ≥ 152 mm ($\approx 6''$) captured in the Pine Butte Section of the Madison River. Black dashed lines delineate 252 mm ($\approx 10''$) and 406 mm ($\approx 20''$).

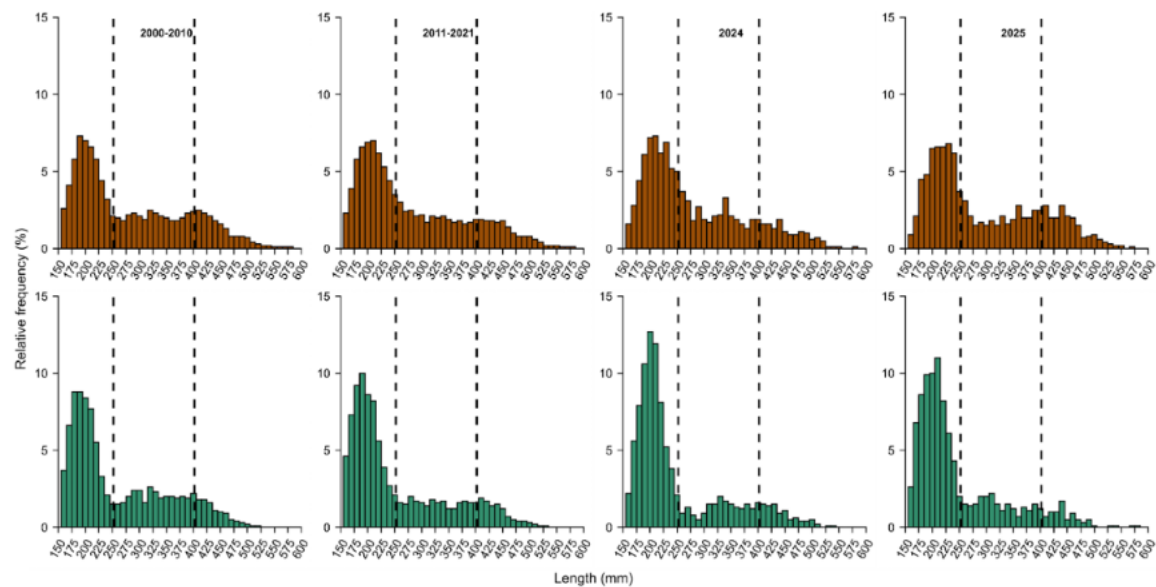


Figure 5. Length frequency histograms of brown (brown bars) and rainbow trout (green bars) ≥ 152 mm ($\approx 6''$) captured in the Varney Section of the Madison River. Black dashed lines delineate 252 mm ($\approx 10''$) and 406 mm ($\approx 20''$).

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Catch-and-release Response:

A creel survey between Hebgen Reservoir and Quake Lake indicated few anglers harvest rainbow or brown trout on the Madison River (Horton et al. 2018). Interview anglers reported fishing a total of 268 hours and harvesting four rainbow trout and zero brown trout, which equated to the total estimated angler-hours during the study period (June 1 to September 15) and resulted in an estimated total harvest of 17 rainbow trout.

Although the MSU studies referenced above are still ongoing, preliminary results from 2025 creel surveys indicate that little harvest of trout occurs throughout the entire Madison. An estimated 1,513 rainbow trout and 1,164 brown trout were reported to be caught by 438 anglers; no anglers reported harvesting any trout from the Madison River. The creel survey is a subsample of the anglers fishing the Madison River, so it is likely a small proportion of the angling community harvests trout. However, based on the preliminary results of the creel surveys and the sampling data above, there is no biological effect of harvest on the rainbow and brown trout populations in the Madison River under the existing regulations. Therefore, FWP does not expect the proposed catch-and-release regulation change to have statistically significant or biologically meaningful effect on the Madison River fishery.

Lastly, using the same evidence above indicates that the small amount of harvest allowed for youth anglers **will not** have a meaningful effect on the trout population. Removing that opportunity would restrict families without an expected population benefit. FWP's role is to protect fish populations and provide fishing opportunities where those populations can support them. Where harvest is sustainable, it is not the role of FWP to decide if the angler chooses to release or harvest a fish.

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