



# AMERICAN FISHERIES SOCIETY

## MONTANA CHAPTER



January 26, 2011

Senator Jon Sonju, Chairman  
Senate Local Government Committee  
Montana Senate  
PO Box 200500  
Helena, MT 59620-0500

### **RE: Testimony in support of Senate Bill 164**

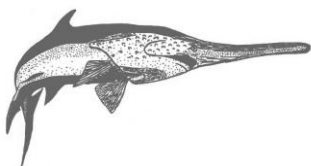
Dear Senator Sonju and Members of the Committee:

On behalf of the more than 350 members of the Montana Chapter of the American Fisheries Society (MCAFS), I write to voice our support for Senate Bill 164, which would require counties to include conservation measures in their growth policies to address riverside development issues along 10 Montana legacy rivers. We regret that we were not able to present our testimony in person at the January 24 committee hearing.

Founded in 1870, the American Fisheries Society (AFS) is the oldest and largest professional society representing fisheries scientists in North America. Our mission is to improve the conservation and sustainability of fishery resources and aquatic ecosystems by advancing fisheries and aquatic science and promoting the development of fisheries professionals. AFS promotes scientific research and enlightened management of resources for optimum use and enjoyment by the public. The Montana Chapter of AFS was chartered in 1967. Our membership is comprised of professional fisheries scientists affiliated with state and federal agencies, universities, tribes and private industry, all dedicated to preserving and enhancing the fisheries resources of Montana. Without a doubt, our organization represents the largest collective knowledge base regarding aquatic resources and issues affecting these resources in the state of Montana. It is for this reason that MCAFS often weighs in on legislation that has a direct effect on these resources, as SB 164 does.

Senate Bill 164 would require county governments in Montana to include in their growth policies conservation measures to protect 10 Montana legacy rivers. These legacy rivers include the Bitterroot, Blackfoot, Clark Fork, Flathead, Gallatin, Jefferson, Madison, Missouri (from Three Forks downstream to the line separating Cascade and Chouteau counties), Smith, and Yellowstone (from the Montana-Wyoming border downstream to the line separating Treasure and Rosebud counties). The Act requires county growth policies to include conservation measures that: protect water quantity and quality; protect functioning floodplains; provide opportunities for recreation; protect valuable water recharge areas; preserve fish and wildlife habitat; preserve the use and enjoyment of private property; and ensure that the state's legacy rivers are protected for the cultural, economic, social, environmental, and recreational benefit for future generations.

While other interest groups will debate the social, economic, and political merits of SB 164, our primary purpose in writing is to provide the committee with some scientific information regarding the effects of riparian development and floodplain encroachment on our aquatic resources and their management and conservation. The bottom line is that streamside development has mostly negative consequences for aquatic ecosystem health. These adverse impacts include removal of streamside vegetation; installation of impermeable surfaces and septic systems; use of fertilizers, pesticides and herbicides too close to waterways; and disturbance of soils and stream banks. Ultimately



these actions harm natural processes necessary for a healthy aquatic ecosystem. For example, sedimentation increases; nutrient and chemical inputs increase; stream shading is lost; and bank instability leads to increased erosion. Native streamside vegetation protects our streams and rivers by shading, acting as a filter, providing important organic inputs to the system, maintaining water quality, stabilizing stream banks, and providing instream habitat for aquatic insects and fish.

A secondary, often more damaging, impact of riverside development occurs when landowners modify the natural channel or stream bank in order to protect their property. Rip-rap and other “hard” stabilizing structures have myriad effects on the hydrology and geomorphology of a river. These impacts come in the form of unnatural rates of erosion on the opposite river bank further downstream; down-cutting, which leads to abandonment of side- and backwater habitats critical to fish production and recruitment, as well as steeper, less stable banks; reduced groundwater tables; and changes in streamside vegetation. With bank stabilization, channel migration back and forth across the floodplain – an important process for the rejuvenation of instream and riparian habitat – is reduced or stopped. Numerous scientific studies have shown the negative response of fish populations after the installation of bank stabilization structures in otherwise relatively unimpacted aquatic systems. Such action often has ecological consequences over spatial scales much larger than the immediately treated area. Schmetterling et al. (2001) and Zale and Rider (2003) provide excellent reviews regarding the potential negative ecological consequences of channel modification – I would encourage members of the committee to review this and other relevant literature.

Development has increased significantly in Montana over the past few decades, and much of this development has focused in valley bottoms along major rivers. I want to point out just a few examples of why MCAFS supports SB 164 and the benefits it will bring to some of Montana’s most biologically rich waterways. In Park County, MT, floodplain development has increased by 57% in the last 20 years. In Ravalli County, MT, about 12% of the banks along the Bitterroot River have been stabilized – primarily with rip-rap. In Missoula County, 21% of 194 km of stream banks surveyed along five major waterways had incorporated some form of rip-rap stabilization. Approximately 40% of the Yellowstone River between Laurel and Billings is now lined with rip-rap. Almost without exception these projects are implemented in order to protect homes or other structures that were placed too close to dynamic, flood-prone rivers.

While MCAFS commends the more than 20 Montana counties that have already implemented some form of river conservation measures (e.g. through setbacks or floodplain development restrictions), we are deeply concerned that the pace at which counties are taking these actions is not keeping up with the pace of development. Furthermore, when downstream counties take proactive measures to curb the negative impacts of riverside development and upstream counties refuse to do the same, the conservation benefits of downstream counties are often undermined. That is why it is so important that all Montana counties containing legacy rivers be required to address riverside development in their growth policies.

The preponderance of scientific evidence suggests that implementing conservation measures such as those encouraged by this Act will be beneficial for Montana’s aquatic ecosystems. Conversely, allowing streamside development to continue unabated will cause acute and chronic harm to the same. On behalf of MCAFS, I hope the committee will give significant consideration and weight to this evidence and vote in favor of SB 164.

Sincerely,

Todd Koel  
MCAFS President