

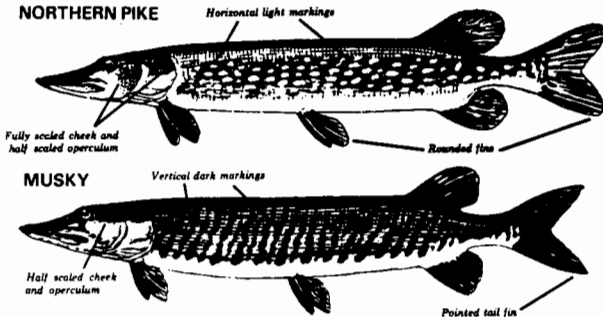
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Natural History Notes

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MUSKY VERSUS NORTHERN PIKE



Within the past 75 years the northern pike has invaded many musky lakes. In most lakes the musky has declined as northern pike numbers have increased. In some lakes the northern pike has completely taken over. This is the first in a series of five "Natural History Notes" that reviews the biology of these fishes and reasons why northern pike have displaced muskies in many waters.

The musky and northern pike are closely related species, both being members of the *Esocidae* or pike family. Other species in the pike family are the chain pickerel, redfin pickerel, and grass pickerel. All five species of this family are similar in appearance with the duckbill-like jaws being their most distinguishing feature. They are all highly predacious fish eaters as adults. All are spring spawners and spawn in flooded marshy areas in bays or slow moving rivers with lots of weeds, logs or stumps, and usually muddy bottoms. The musky is the largest member of the pike family in North America. It is interesting to note that in Europe and Asia, northern pike grow much larger than in North America. There is an unsubstantiated report of a 143 pound Scandinavian northern pike.

Both the musky and northern pike are highly prized gamefishes with excellent table qualities. Keep in mind that angler preferences vary greatly from one geographic area to the next. For example, in the last half of the 19th century our ancestors made the decision to stock carp rather than rainbow trout because they considered carp to be a more desirable fish. Here in Wisconsin we hold the musky in such high esteem that we have designated it our official state fish. To many of us, the musky, like the loon, symbolizes the undisturbed north country and a healthy environment.

Naturally reproducing musky fisheries have drastically declined over the last century. There are many complex and poorly understood reasons for this decline, however, the following are the three most commonly stated causes for this decline of natural musky populations; 1) over-harvest by anglers; 2) loss or modification of habitat, especially spawning habitat, and; 3) invasion of musky waters by northern pike. In the biological world, things are seldom as simple as they seem and the decline in natural musky reproduction is likely a combination of the above reasons and many more which we do not yet understand.

From the biological viewpoint the northern pike is much more adaptable and able to live in a wider variety of habitats than the musky. This point becomes obvious when the range and distribution of the two species is compared. The northern pike is widely distributed across North America, Europe, and Asia while the musky is limited to North America. Furthermore, the northern pike inhabits about 54% of the fresh water in North America while the musky is limited to about 1% of North American waters. The northern pike is better able to live in colder climates while the musky is better adapted to warmer waters. For example, the northern pike's range extends to about 60 N. latitude or well into Alaska and the Northwest Territories while the muskie's northward limit is 50 N. latitude which is just north of Lake Superior. On the other hand, muskies initially occurred as far south as northern Alabama while the northern pike's southern limit is southern Missouri. Why is this important? The far northern lands and waters have not been altered and exploited by man to the extent that the more southern waters have, largely because of the harsh climates. Thus, there is less agriculture, less road and dam building, fewer people, and less intense fishing in a large portion of the northern pike's range. The ice ages have been the dominant event influencing the historical distribution of fish species in the Midwest and the northern pike's adaptation to cold climates was likely a distinct advantage to survival and redistribution after the glaciers covered the landscape. As you might expect, the northern pike is more active, feeds more readily, and has a higher metabolic rate than the musky in the cold water under the ice in winter.