

Guest Editorial for STS Oct/Nov 2004 By Jack Berryman

Why Wild Steelhead Are Important

As President of the Wild Steelhead Coalition (WSC), I represent a Board of Directors and general membership that found Doug Olson's Guest Editorial "Wild Fish vs Hatchery Stock: Any Difference?" published in the August/September 2002 issue worthy of a response. Olson, who admitted that he was offering "a layman's random observations," proclaimed that "to this non scientist...a salmon is a salmon and a steelhead is a steelhead." He concluded by asking, "Will someone please explain where and why I'm wrong?" Thus this response from the WSC.

The WSC is dedicated to increasing the return of wild steelhead to the waters of the Pacific Northwest because they are the key to the survival of this magnificent fish. And, because of this belief, we advocate year-round catch and release of all wild steelhead. This does not mean we are against hatcheries. In fact, we see hatchery fish as being very important for the future harvest opportunities. But, as our mission statement clearly states: "Hatchery programs must be closely examined and be carried out in such a manner that the negative impacts on wild fish are removed or minimized." Further, the WSC advocates "the mass marking of all hatchery steelhead, and for science, not politics, to be the basis for the retooling of hatchery practices."

Olson based many of his conclusions on how a hooked fish fought and noted that it was "difficult to tell the difference until the fin clip is visible." Well, I supposed this may be true for some fish in some places, but my personal experience and those I have polled, have generally seen a noticeable difference in the strength, speed, size, and aggressiveness of wild fish over hatchery fish. Anglers who pay a lot of money and travel long distances to fish the Dean, Thompson, Babine, Kispiox, Morice, Sustut, and other famed British Columbia rivers do so because of the type of fish they hope to catch. The same is true for Washington's Skagit and Sauk or some of the Olympic Peninsula rivers during late spring when the wild fish return. Likewise for all the anglers who travel to Montana to catch wild trout. Very little of this excitement and quest would occur for stocked hatchery steelhead or stocked trout. Yes, hatcheries indeed improve fishing for a lot of people and we hope they will in the future, but it is the wild fish that are crucial to the steelhead survival and in the end, to steelhead fishing.

The fisheries biologists throughout the Northwest who have studied steelhead and salmon as their life's work are universally in agreement that the major differences do exist between wild fish and hatchery fish. Staying with Olson's major concern, that of "catchability," anglers on both the Deschutes and Columbia report they catch more wild steelhead even though there are more hatchery fish in the river. In fact, data gathered on the Deschutes by the Oregon Department of Fish and Wildlife between 1977 and 1993, show that the catch rate per 100 hours of angling was 5 wild fish to 2 hatchery fish when the wild fish count was 87,000 and the hatchery count was 150,000. Then their data

between 1994 and 1997 show the catch rate was just about equal, even though the hatchery run was over 10 times larger than the wild.

While Olson believes “the jury is still out” on whether hatchery fish negatively impact wild fish, the scientific evidences is very clear. Extensive studies done by the Oregon Department of Fish and Wildlife on a number of major rivers and other studies also done in Oregon (Alsea) and Washington (Kalama) by Chilcote and Leider among others, show that wild fish are much more efficient in producing offspring (wild fish have more than a 10 fold advantage over hatchery fish). Chilcote reports that 72% of the variation in productivity of a natural spawning population can be explained by the percent of hatchery fish in that spawning population. Another study by the National Marine Fisheries Service on the impacts of Fall Creek hatchery coho within the Alsea River, found that the hatchery stock was contributing to the decline of the natural Alsea coho. Additionally, in the mid-1980’s when the Oregon Department of Fish and Wildlife attempted to boost the population of wild coho in coastal streams by releasing hatchery coho, just the opposite happened. The numbers of adult spawners failed to increase in the stocked streams and the number of juveniles in the next generation declined 46%. These studies and many more like them contain important information for serious anglers. We need to develop ways to keep hatchery fish from spawning in the wild or at least keep their spawning abundance to 10% or less of the total spawning population. Anglers should keep all hatchery fish within their limit (on some rivers like the Deschutes, as many as 57% of the hatchery fish are released) and they should release all wild fish to keep the percentage of wild spawners as high as possible.

Olson believes too the “hatchery breeding of former wild stock in a relatively short time span could somehow materially weaken the species seems a stretch.” Well, the scientific evidence suggests that it is not by any means “a stretch.” A study on the Deschutes in 1977 showed clearly that the hatchery fish from wild native Deschutes stock reared in a hatchery began to lose “survivability” in only two generations. They also found that crosses between hatchery fish and wild fish actually reduced compared wild crosses. In a more recent study in 1996, Reisenbichler fro the US Geological Survey, found that the survival rate for hatchery fish from egg to adult was reduced about 25% after one generation and as much as 85% after six generations.

Olson also questions the genetic makeup of wild fish versus hatchery fish. Here, the scientific evidence is overwhelming and quite conclusive in favor of the genetic diversity of wild populations. In fact, it has been the genetic differences within the DNA of thousands of wild stocks, or races, that have allowed them to survive millennia in Northwest waters despite floods, earthquakes, droughts, volcanoes, and ocean conditions. On the other hand hatchery fish are produced with eggs that represent only a fraction of the gene pool of their wild ancestors which makes them very vulnerable to disease and eradication by a cataclysmic event often translating to a “boom or bust” scenario. And as one biologist suggests relying on such a narrow genetic base is equivalent to “putting all your eggs in one basket.” This point was forcibly made by the Nation Academy of Sciences and their National Research Council in a 1996 report where they unequivocally linked the survival of anadromous fish to genetic diversity. It is this genetic diversity that

controls the fish's migration routes, spawning times, growth rates, distribution throughout a particular watershed, and adaptability. All crucial to survival in an ever changing environment.

There are several other important differences between wild fish and hatchery fish such as the size of wild fish and their increased productivity, the nuances of surviving in each unique watershed, and the importance of repeat spawners, but I wanted to address specifically the points raised by Olson.

The WSC believes a healthy wild fish populations can support a significant fishery (look at Montana, Alaska, and British Columbia for example) and we do not want to risk the future of our steelhead and salmon on hatcheries. Accordingly, we suggest that a good start is to stop killing wild fish and to use hatcheries and hatchery fish in ways that will not harm wild steelhead, salmon, and sea-run cutthroat populations. To this end, the WSC fought hard last year to get the Washington Department of Fish and Wildlife to restrict the allowable harvest of wild steelhead from 2 per day and 30 per year to 1 per day and 5 per year on several rivers. And, we wholeheartedly agree with Frank Amato who said in the same issue as Olson's "Guest Editorial" that, "In this day and age only thoughtless anglers kill wild steelhead."

For a copy of WSC 87-page report on the "Biological and Economic Benefits of Wild Steelhead," a list of references cited in this article, information about the WSC or to find out more about our "Steelhead Summit," please visit www.wildsteelheadcoalition.com.