



Atlantic Salmon Federation

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ASF Hatchery Policy for Atlantic salmon.

Dated November 8, 2000

Resolved November 9, 2000

Preamble

The restoration of rivers to their natural flow and the sustenance of their optimum supportable salmon populations are among the primary goals of ASF. Where there is a documented conservation need, the use of hatchery-reared fish from wild broodstock is an important enhancement strategy available to reach these goals and is a way to augment other enhancement strategies. There are also risks to hatchery programs if they are not managed well.

The primary benefits are clearly the increasing of juvenile salmon populations, but more specifically the supplementing of those populations in locations where the stocks are identified to be deficient. As supplementary action while lasting solutions are being achieved, hatchery stocking can be utilized for rivers where populations have been depressed by human impacts such as acid rain, dams, pollution, clear cutting of timber, excessive siltation and deleterious alterations of stream flow.

The obvious risks are that hatchery-reared Atlantic salmon may not be carefully selected and raised to be as compatible as possible with the wild populations of any specific river. For example, if non-indigenous genetic strains are introduced they may actually diminish wild survival and reproduction. Genetic adaptation to home rivers is a key feature of Atlantic salmon biology. The introduction of fish to a river from other sites begins to break down this adaptation, so faithful selection of broodstock and river-specific release of hatchery-reared stocks are critical in any hatchery stocking program.

The process of domestication is the alteration of fish through successive generations of hatchery breeding so that they are dependent on humans and the hatchery environment. The longer the fish spend in the hatchery, the more dependent they become, and the more genetic selection will promote survival in the hatchery environment. Eventually, domesticated fish will not have the right stuff to survive in the wild, and they may show less site fidelity to the rivers into which they are stocked, posing a potential risk for neighboring sites. Thus, the renewal of wild adult salmon broodstock each year is critical, as is a minimal holding time for fry and fingerlings under hatchery conditions.

Because of both the benefits and risks involved in hatchery rearing programs for Atlantic salmon, it is vital that such programs be carried out in suitable equipped facilities under professional fisheries management.

Hatchery policy

- 1) The release of hatchery-reared Atlantic salmon to the wild can bring important conservation benefits for wild populations, but can also pose significant risks. Strict professional management disciplines must be practiced in suitably equipped facilities. Resources must be adequate to ensure that hatchery-stocking programs stand the best chance of success.
- 2) ASF supports the operation of Atlantic salmon hatchery programs where there is conservation need. Before initiating a hatchery stocking effort for Atlantic salmon in any river, hatchery managers should carry out careful project-specific evaluations of all the benefits to be obtained and all of the risks to be avoided.
- 3) In watersheds that already have Atlantic salmon populations, river-specific and site-specific broodstock must be used in order to maintain the genetic characteristics of those populations to an optimum degree. The genetic makeup of any river has evolved over centuries of time allowing specific salmon strains in any specific river to adapt for increased survival.
- 4) To reduce domestication, the broodstock used in hatchery programs and the progeny produced should spend the minimum possible time in a culture environment. This can be accompanied by measures such as late collection of broodstock, early release of juvenile salmon, low human contact, satellite-rearing and semi-natural rearing.
- 5) Where rivers have had their wild populations totally destroyed, the use of hatchery stocking programs can be effective and important initiatives to help restore salmon runs to those rivers, providing genetic strains are introduced that are appropriate to the specific river.
- 6) As part of the management plan for any hatchery stocking program, there should be monitoring and evaluation components, including electro-fishing where suitable, to determine if the desired conservation goals have been achieved.
- 7) ASF is opposed to the release of exotic species or transgenics into wild Atlantic salmon rivers, and would strongly oppose the use of any hatchery program for such a purpose.
- 8) ASF will oppose the use of hatchery programs simply as mitigation to permit the conduct of harmful new activities that degrade salmon rivers and populations, such as the construction of dams or like obstructions.
- 9) Providing that good management principles pertain, ASF supports the concept of satellite rearing as a reasonable method of augmenting river stocks and balancing the benefits and risks of hatchery stocking programs, although there is only limited data yet available to support the extent of satellite rearing effectiveness. Satellite rearing is effective as a concept to promote education and awareness about salmon conservation.