

Using the Precautionary Approach to Control Deleterious Effects of Artificial Propagation on Natural Populations

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Artificial propagation has long been a controversial aspect of salmonid conservation and management in the Pacific Northwest. A large part of this controversy stems from considerable scientific uncertainty regarding the deleterious effects that artificial propagation has on natural populations, and the degree to which these effects can be controlled or prevented through management actions. Some effects, for example genetic introgression due to stock transfers, are both relatively well understood and relatively easy to prevent in a cost effective manner. Other effects, such as predation of natural fish by artificially propagated fish, can be effectively monitored and controlled to some degree by adaptive management actions. Finally, some effects, such as genetic change due to domestication, may be of uncertain magnitude, as well as being difficult to prevent in a cost effective manner and difficult to detect before substantial harm has already occurred. Focusing on Pacific salmon and steelhead, this presentation will provide some examples of the deleterious effects that artificial propagation can have on natural populations, as well as recommendations of how the precautionary approach can be used to reduce the risk of those effects.