

An Overview of Uses and Applications of Ultrasound in Fish Culture

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Ultrasound has long been used as a rapid non-invasive diagnostic tool in human medicine. Advances in technology have allowed its application to extend to other fields such as veterinary medicine and aquaculture. In the Grande Ronde Basin Captive Broodstock Program, ultrasound has assisted in separating maturing fish from immature fish in multiple year classes and determining the sex of the fish months earlier than in past years. This has reduced the number of handlings and stress to which the fish are subjected and allowed maturing saltwater fish to be transfer to freshwater in a timelier manner, thus reducing osmoregulatory stress. It also permits fish culturists and researchers to better plan for spawning and implement the use of spawning matrices to preserve the genetic diversity of the stocks. The intent of this presentation is to explain the basic principles and technology of ultrasound and show the practical uses and applications for fish culture.