

Tools Assessing Risks: Ongoing Efforts to Evaluate Potential Harm of Introduced Aquatic Organisms

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A number of relatively recent fish introductions into the United States have caused considerable concern among government agencies, resource managers, researchers, and the public. A few of the more notorious are three species of Asian or Chinese carps (i.e., black carp, bighead carp, and silver carp), and members of the families Channidae (snakeheads) and Synbranchidae (swamp eels). U.S. Geological Survey (USGS) researchers have conducted or are finalizing risk assessments on these and other fishes following procedures developed by the former Risk Assessment and Management Committee of the Aquatic Nuisance Species Task Force. Based on past experience, there are a variety of risks associated with a species' arrival into areas where it is not native. The risks are evaluated by estimating the probability of several factors, such as whether the organism is present in a given pathway and capable of surviving the journey, and whether it can successfully colonize and subsequently expand its range. Other factors to evaluate include environmental and economic impacts, and social and political consequences. The intended use of these risk assessments is to provide government agencies with the necessary information to make informed decisions. A biological synopsis and risk assessment of snakeheads is already available, published by the U.S. Geological Survey in 2004 as Circular 1251. A biological synopsis and risk assessment of the black carp (*Mylopharyngodon piceus*) is currently in press and should be available by the spring 2005 (as a Special Publication of the American Fisheries Society). A detailed assessment of bighead and silver carps (*Hypophthalmichthys* species) is in preparation. Closely allied with these risk assessments are other USGS publications and products. Included is a guide to introduced foreign cyprinid fishes (currently in press) as well as our long-established and continually updated database which houses geographically referenced data and information on aquatic introductions in the United States.