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An Assessment of the Potential Use of *Gambusia* for Mosquito Control in Michigan

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Abstract.–We reviewed scientific literature and made management recommendations regarding future introduction of non-native fish species, in the genus Gambusia, for the intended purpose of controlling pest mosquitoes in Michigan. Gambusia are small, highly aggressive fish native to the southern United States that have been stocked in nearly every state. They are very predaceous and will consume small prey animals causing serious environmental damage. A number of scientific studies in the U.S. and across the world found that introduced Gambusia had negative effects on native invertebrates, fish, and amphibians. Gambusia stocked in small Michigan ponds as recently as the late 1970s failed to establish self-sustaining populations. However, a warming climate would likely increase the ability of Gambusia to overwinter in Michigan. We followed the American Fisheries Society, Policy Statement for Introduction of Aquatic Species to determine that the introduction of Gambusia into Michigan waters would have negative impacts on existing aquatic communities and fisheries, with little or no mosquito control. We recommend that Gambusia not be used for mosquito control or otherwise be introduced into the waters of Michigan. Instead, we should protect and enhance the quality of Michigan's waterways so that native fishes thrive and naturally constrain mosquito populations. Many native Michigan fish will readily consume mosquito larvae, so if stocking fish is required, we encourage stocking of native fishes, such as the fathead minnow. We also suggest alternative mosquito control methods including an educational campaign to inform people of how to reduce man-made mosquito breeding areas.