



Attn: Martin Guerena  
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Re: Proposed Changes To The State's Prohibited Aquatic Species List

This letter is regarding proposed changes to Arizona Administrative Code § R12-4-406, Restricted Live Wildlife. While we support restricting species that the best available science indicates have potential to pose harm to native species and habitats, we oppose restrictions for species that present a low risk for establishment and impact. Unfortunately, the current proposed lists many species, seemingly arbitrarily, without evidence that they pose any risk of even surviving in Arizona, let alone have the ability to establish and affect native species. More concerning is that some of the species proposed for listing as restricted species are commonly kept, economically valuable aquarium species, which pet businesses in Arizona rely on for the livelihoods of their owners and employees.

The preliminary summary of the economic, small business, and consumer impact of the rule is misleading. It states:

The Commission's intent in proposing the amendments indicated in #6 is to benefit the regulated community, members of the public, and the Department by clarifying rule language, creating consistency among existing Commission rules, and reducing the burden on the regulated community where practical.

The proposed amendments do much more than this. While some proposed language may clarify language and create consistency, much of the proposed language significantly broadens the scope of the regulations and places significant new restrictions on people and businesses. In addition, instead of reducing the burden on the regulated community, some of the proposed provisions significantly increase the burden on the regulated community.

Additionally, the preliminary summary essentially states that the proposed rule will have little to no economic impact, no impact on tax revenues, and that there is no less intrusive alternative to achieve the purpose of the rulemaking.

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The Commission anticipates the rulemaking will result in little or no impact to political subdivisions of this state; private and public employment in businesses, agencies or political subdivisions, or Notice of Proposed Rulemaking 9 Revision: 4/22/25 state revenues. The Commission has determined that there are no less intrusive or costly alternative methods of achieving the purpose of the rulemaking.

We dispute this contention. Firstly, we have compiled industry data showing that species proposed for listing as restricted species have a direct economic impact of tens of thousands of dollars per year in sales of live fish, and an indirect economic impact in the hundreds of thousands of dollars per year of associated products such as fish tanks, filters, heaters, fish food, substrate, decorations, etc. These impacts on pet businesses will undoubtedly affect employment and state revenues in Arizona. In addition, there are less intrusive alternative methods of achieving the purpose of the rulemaking, which is to protect native species and habitats from invasive species. The less intrusive, but equally effective method is simple: list fish on the restricted list that have a scientific basis supporting that the species has the biological capability of establishing invasive populations in Arizona. Doing so will meet the policy goals of the regulation while not overly restricting businesses and citizens who keep species that do not have the biological capacity to pose a threat to Arizona's native species and habitats.

### **Family Osteoglossidae**

The proposed rule includes adding the family Osteoglossidae to the restricted species list. The premise given for such action is:

To add clarity, the Commission proposes to amend the rule as follows: under subsection (J)(4), replace reference to the species "Arapaima gigas" with All species of the family Osteoglossidae, Common name: arapaima, arowana, and bony tongue". These typically large bodied apex predators have the potential to compete with, and prey upon, current sport and native fish assemblages where they are established and are known to have detrimental impacts to current fish populations; their ability to breathe air makes them especially hardy. Arapaima gigas (giant arapaima) is currently restricted, so expanding this restriction to the family level would help capture other analogous species.

There are several issues with this justification for the proposed rule. Firstly, the proposal substantively changes the rule. It does not merely “add clarity.” *Arapaima gigas* is unmistakable from any other species, even confamilials. The species is not only distinctive in appearance but also attains lengths several times that of the next largest fish in the family Osteoglossidae, with the largest specimens reaching over 14 feet. Due to its large size, the arapaima is uncommon in the aquarium trade, as it is generally unsuitable for home aquariums. However, arowanas, which are also members of the family Osteoglossidae, reach average sizes significantly smaller and are therefore suitable for larger aquariums. Arowanas are popular aquarium fish, unlike the arapaima. Despite claims in the proposed rulemaking, arapaima and arowana are in no way analogous species. While the restriction of the arapaima has very little impact on Arizona businesses and pet owners, the proposal for restricted species status to include arowanas would affect a significant number of people and businesses in the state.

Arowanas, of which there are two recognized species from South America, two recognized species from Australia and New Guinea, one recognized species from Asia, and one recognized species from Africa, do not pose any risk of invasion to Arizona. All hail from exclusively tropical environments. With the exception of the African arowana, which also inhabits densely vegetated savannah rivers, all arowana species reside in rainforest rivers, swamps, lakes, and wetlands, usually with deeper runs and pools, and preferring areas with overhanging vegetation. Arowanas will only breed when specific conditions such as water quality, temperature, food, and other conditions are met. Predatory feeding habits and the ability to breathe air have no relevance to potential invasiveness if climate, habitat, and other factors are not conducive to the establishment of a species. Predation and air breathing cannot save a fish from death when temperatures reach beyond a fish’s biological limits.

Arizona’s waterways do not contain conditions that allow for the year-round survival of an individual arowana specimen, let alone those required for breeding and establishment of a population. Arizona’s waterways on average dip into the 40s and 50s Fahrenheit during the winter, precluding the survival of arowana, or any other obligate tropical species. A large percentage of the water in Arizona is found in the Colorado River, which averages in the mid 50s even during the summer. Thus, the policy goal of preventing the establishment of invasive species in Arizona can be met without the intrusive and economically costly listing of the family Osteoglossidae as restricted species.

### **Family Pimelodidae**

The proposed rule also includes adding the family Pimelodidae to the restricted species list. No reasoning is given for the proposed listing. This family is composed of catfishes native to tropical rainforest habitats in Central and South America. The family includes some of the most widely sold aquarium fishes, including the spotted pictus catfish (*Pimelodus pictus*), which is popular with hobbyists because of its small size, attractive pattern, and peaceful nature. Many members of the species are migratory, and all require specific conditions and triggers to facilitate spawning. Like the Osteoglossids, members of the family Pimelodidae are biologically limited by water temperature outside of limited thresholds and cannot survive in Arizona's waterways. Industry data indicates that the economic cost to Arizona businesses of placing members of the family Pimelodidae on the restricted species list is even higher than members of the family Osteoglossidae. Similarly, such a listing is intrusive for businesses and citizens of the state, and the policy goals of preventing the establishment of invasive species would not be furthered in any way by listing Pimelodidae as members of the family are unable to establish in Arizona.

### **Family Siluridae**

The proposed rule includes a provision to add the family Siluridae to the restricted species list. This family is comprised of around 100 species of catfishes native to Europe and Asia. The majority of the family are exclusively tropical species, although the family does include some temperate species, namely those of the genus *Silurus*. Tropical species in the family, such as the glass catfishes (genus *Kryptopterus*), are widely sold and kept as aquarium fish. Their small size, translucent bodies, schooling behaviors, and peaceful nature make them popular with hobbyists, especially for planted aquariums. They are an economically valuable species in the aquarium trade. Due to their tropical nature and special requirements for reproduction, they pose no threat of becoming established in Arizona.

While we oppose the listing all members of the family Siluridae as restricted species in Arizona, we support a more specific listing of the genus *Silurus*. We recognize the issues posed by the large, temperate members of this genus, particularly *Silurus glanis*, the Wels Catfish. We agree that this species, and possibly congeners, may have the ability to become invasive in Arizona based on climate matching with the native range, a history of invasiveness in other temperate regions, and significant incidences of illegal stocking in other regions. Listing the genus *Silurus*, as an alternative to banning the entire family Siluridae, would achieve the policy goal of prohibiting species that may become invasive in Arizona, while continuing to allow species that have biological requirements that would prevent them from becoming established in waters of the state, including some economically important species.

### Conclusion

We thank the Department for considering our comments. We hope that the best available science will be used to assess the risk species pose to Arizona. We therefore ask the Department to remove the families Osteoglossidae and Pimelodidae from the proposal to be listed as restricted species, and to replace the family Siluridae with the genus *Silurus*.

In addition, we would welcome the opportunity to discuss other species listed that are economically valuable and do not present a risk to Arizona but are currently listed as restricted. Currently, included in the restricted species list is at least one family which is exclusively comprised of marine species. To the best of our knowledge, Arizona does not contain or border any marine environments that would be at risk of invasion.

Our staff and members have extensive knowledge of the biology of aquatic species as well as risk assessments and the ecology of invasive species. We are willing to be of assistance in any way we can, particularly if we can be of assistance in crafting a restricted species list that protects the native species and habitats of Arizona while avoiding unduly restricting businesses and hobbyists in the state in ways that yield no ecological benefit.

Thank you for your time and consideration. We look forward to hearing from you.

Sincerely,

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