

## Agenda Item Summary

### BACKGROUND

The Department received a petition from Robert Camel requesting that the Commission amend OAR 635-056-0075 to classify Barramundi (*Perciformes Latidae Lates calcarifer*) as a "Controlled" fish species for the purpose of aquaculture and to be regulated like Tilapia. This request is a "petition for rulemaking" under the Administrative Procedures Act. Such a petition is used to request the Commission initiate rulemaking to classify a nonnative species as "Controlled" or "Prohibited." At this point the Commission is merely being asked whether it is interested in beginning a rulemaking process; the Commission is not being asked to act on a proposed rule amendment.

The Commission has broad discretion to decide how to respond to this petition. The Commission may choose to begin rulemaking to consider the Petitioner's request, to begin rulemaking on concepts based on the Petitioner's proposal (but changed in some way), or not to begin rulemaking at all. If the Commission decides to initiate rulemaking, the department will file the proper rulemaking notices and will submit the petition to the Wildlife Integrity Review Panel for its recommendation on the proposed amendment as required by OAR 635-056-0130(4). Staff would then present the Panel's recommendation to the Commission at the rulemaking hearing and the public would have the opportunity to participate. If the Commission decides to deny the petition, staff will issue written notice of the Commission's decision to the petitioner.

A member of the perch family, Barramundi are a large opportunistic predatory fish which can grow in excess of 130 lbs and approximately 6 feet in length, but typically range between 18-30 inches and 11-22 lbs. They are native to the Asian coast from China to the Persian Gulf, the Indo-Australian Archipelago and the Northern coast of Australia. Barramundi have a very unique and complex life cycle, which includes estuarine, freshwater and marine phases. This species is protandrous hermaphroditic, meaning that they begin life as a male and transform after six to eight years into females. In the wild, Barramundi can live up to 20 years. A large female Barramundi can produce as many as 32 million eggs during a spawning season. Barramundi are also a catadromous species, meaning they begin life in salt water and migrate upstream into freshwater to grow and mature. Barramundi are broadcast spawners. Spawning occurs during the night on slack or incoming tides following a new or full moon. The fertilized eggs drift into estuarine nursery swamps where the larvae will settle and develop into fry within a few days. The fry remain in the estuarine nursery for several months until migrating upstream at the beginning of the dry season. Barramundi remain in coastal rivers and creeks to mature for three to four years as males before migrating downstream during the wet season to the coastal estuaries to spawn. After spawning and depending on their size, the males will turn into females at about 6-8 years of age. Both sexes generally return to the nearby coastal streams and creeks during the start of the dry

season; returning to the marine environment at the beginning of the wet season for spawning. If Barramundi cannot have access to freshwater they will remain in the coastal and estuarine areas. Barramundi that have been introduced into freshwater impoundments for recreational fisheries remain as male. Because of this, restocking is the only way to replenish populations in freshwater impoundments. Barramundi prefer water temperatures around 20°C (68°F) for growth. For this species, lethal water temperature is 13°C (55.4°F).

In the United State Barramundi are currently legal to raise in several states such as Massachusetts, Michigan, Texas and Florida. Currently, there have been no reports of feral populations. In northern states, Barramundi are raised in indoor enclosures. In southern states, Barramundi can survive in outdoor ponds, but only if they have access to warm water during cold periods. Once water temperatures drop below 18°C (64°F), Barramundi are known to be susceptible to mass die-offs. However, lethal water temperature is 13°C (55.4°F).

## **PUBLIC INVOLVEMENT**

Members of the public will have the opportunity to view the petition and staff summaries on the ODFW website. A press release will also be issued prior to the Commission meeting to inform the public on a pending petition and the nature of the proposed rule changes. If the Commission decides to initiate rulemaking, members of the public will have the opportunity to review the petition and participate in the rulemaking process.

## **ISSUE 1**

CONSIDER THE PETITION TO AMEND OAR 635-056-0075 TO ADD BARRAMUNDI AS A CONTROLLED SPECIES IN THE WILDLIFE INTEGRITY RULES FOR PURPOSES OF AQUACULTURE AND FOR REGULATION LIKE TILAPIA.

## **ANALYSIS**

Oregon Administrative Rules (OAR) Division 56, "Importation, Possession, Confinement, Transportation and Sale of Nonnative Wildlife" or Wildlife Integrity Rules, separate non-native wildlife species into four categories: Animals exempt from rule, Prohibited species, Noncontrolled species and Controlled species. The listing of the species in one of the categories determines what activity or conditions must be met before a person could legally possess nonnative species in Oregon. If a species is not classified in any of these four categories, then that species by default is considered a "Prohibited Species" (OAR 635-056-0130 (1)).

A person requesting a classification of species to "Controlled" should address the seven criteria listed in OAR 635-056-0130(3). The Wildlife Integrity Panel members must then evaluate the petitioner's responses and any additional information provided to determine the relative risk (high, medium, low, unknown) for each of the criteria. Although the Commission is not being asked to actually adopt any rule amendments today, for the purpose of evaluating this petition staff has addressed the seven criteria listed in OAR 635-056-0130(3).

**(a) Potential to introduce disease or parasites to native wildlife populations:**

The potential to introduce disease or parasites from nonnative to native species could pose a high degree of risk especially if introduced into waterbodies such as rivers or lakes. As presented in this petition, a closed aquaculture system presents a low degree of risk due to management practices, veterinary care and the lack of direct contact with native species.

**(b) Potential for interbreeding or hybridizing with native wildlife:**

The petitioner proposes to raise Barramundi indoors in a closed and controlled environment. The likelihood of escape into an Oregon waterbody from a closed system is very low. Barramundi pose a low degree of risk for interbreeding or hybridizing with native wildlife. There are no known species that Barramundi have or could interbreed with. In the aquaculture industry there is no documentation that hybridization has occurred for the purpose of producing a more cold tolerant variety. However, the lethal water temperature of this species is around 13°C (55.4°F), so survival through a typical winter in Oregon waterbodies would be unlikely. Also, the higher range of normal water temperatures in Oregon's estuarine habitats (50 to 58°F) is not conducive to successful spawning by Barramundi.

**(c) Possible competition with native wildlife for habitat, food, water, etc.:**

In a closed aquaculture system, Barramundi could not compete with native wildlife. If Barramundi were introduced into a waterbody in Oregon, there could be a high degree of risk for competition with native wildlife for habitat, food and space for a short period of time. Barramundi are an opportunistic, large gap feeder within their native range, so almost anything they could fit into their mouth they could eat. However, the degree of risk to native wildlife would be highly dependent on the time of year that the introduction took place due to the temperature tolerances of Barramundi. Since the lethal water temperature for this species is 13°C (55.4°F), they would only be able to survive in the wild during the summer months in Oregon. Water temperatures would likely need to be higher than 18°C (64°F). Based on studies from Florida, Barramundi are known to be susceptible to mass die-offs at water temperatures below 64°F. For this reason, Barramundi pose little risk to salmonids, but could pose a short-term risk to warmwater fish, crustaceans, amphibians or other warmwater tolerant species.

**(d) Impacts on the habitat of native wildlife:**

In a waterbody, Barramundi would likely use similar habitat as native fish such as undercut banks, and various types of structures causing native species to be displaced or preyed upon. In a closed aquaculture system there would be no impact to the habitat.

**(e) Potential predation on native wildlife:**

In a waterbody, the risk for predation on native wildlife could be high depending on the time of year. Barramundi are a large predatory, opportunistic gap feeding fish within their native range, so anything they could fit into their mouth they would likely eat. However, since the lethal water temperature for Barramundi is 13°C (55.4°F), they would only be able to survive in the wild during the summer months in Oregon. In a closed aquaculture facility there would no risk of predation to native wildlife.

**(f) Feasibility and cost of capturing or eradicating escaped animals; or  
(g) Any other factor or consideration the Commission considers necessary to protect and maintain native wildlife:**

Barramundi cannot survive in water temperatures below 13°C (55.4°F). Most Oregon waterbodies drop below 13°C at some point during the fall or winter months, so Barramundi should die naturally. Barramundi would not be able to spawn in Oregon estuaries due to their temperature intolerance. Therefore, eradication of Barramundi from Oregon waterbodies would be highly feasible with variable degrees of cost depending on the method used. Using traditional removal methods such as hook and line, fish traps or nets would minimize impacts to other species, and the cost would be relatively low. Higher cost and greater impact to other species would occur if a more invasive technique such as the use of rotenone was required to eradicate Barramundi.

The petition proposes that Barramundi be regulated under the same conditions as Tilapia. The current rules that apply to Tilapia are as follows:

**Tilapia – OAR 635-056-0075(1)(b)**

(b) Tilapia (Mozambique tilapia *Oreochromis mossambicus*, Nile tilapia *O. niloticus*, Wami tilapia *O. urolepsis*, Blackchin tilapia *Sarotherodon melanotheron*, and hybrids thereof): The possession, propagation, transportation, sale, purchase, exchange and disposition of these tilapia is controlled according to the following restrictions and standards:

(A) A person intending to sell, barter or exchange must apply for and receive an approved propagation license from the Oregon Department of Fish and Wildlife Fish Propagation Program prior to commencing production. A person may raise tilapia in-doors (a house, greenhouse, or other enclosed structure capable of excluding predators) for personal consumption without an Oregon Department of Fish and Wildlife Fish Propagation license;

(B) Propagation outdoors must occur in ponds or tanks covered with nets or screens adequate to prevent the capture or transport of cultured fish by predators or other animals;

(C) Access to production facilities must be through secure locked gates;

(D) Only animals certified as disease-free by the vendor may be purchased;

(E) Permittees must provide adequate veterinary care to identify and minimize the spread of diseases originating from the animals being held;

(F) No live tilapia or their gametes, fertilized eggs, or larvae may be released into waters of this State, as defined in ORS 506.006; and

(G) An Oregon Department of Fish and Wildlife fish transport permit shall accompany live tilapia imported into and transported within Oregon. If transport occurs entirely on the permittee's property, a transport permit is not needed.

**OPTIONS**

1. Accept petition and instruct staff on how to proceed.
2. Deny the petition

**STAFF  
RECOMMENDATION**

Option 1

**DRAFT MOTION**

I move to accept the Camel petition and instruct staff to initiate rulemaking.

**EFFECTIVE DATE**