



COLORADO

Parks and Wildlife

Department of Natural Resources

Policy and Planning
6060 Broadway
Denver, CO 80216

To: Members of the Colorado Parks and Wildlife Commission
From: Emma Hay, Public Involvement Specialist, Jonathan Boydston, Public Involvement Specialist, and Shana Waldman, Policy and Planning Associate, CPW
Date: August 11, 2023

Re: Public Input on Red Swamp Crayfish Importation

Background

Division staff recently became aware of a significant market for live crayfish that are primarily imported into Colorado from outside of the state. CPW believes that the major species currently being imported is the red swamp crayfish (*Procambarus clarkii*) – a species that is currently not allowed for import or possession per CPW regulations found in Chapter W-0 #012. Regulations prohibiting the import, transport, and possession of most live crayfish into Colorado have been in place for decades in an effort to protect Colorado’s natural aquatic ecosystems and native species.

CPW began engaging with stakeholders impacted by enforcement of the prohibition on red swamp crayfish in the spring of 2023. The businesses and individuals initially impacted were largely unaware of the existing regulations and were in support of allowing importation of red swamp crayfish into Colorado.

In July 2023, CPW published a page on the [Engage CPW public engagement website](#) regarding red swamp crayfish importation. A news release and interviews with news outlets advertised the public input opportunity. Public input on importing red swamp crayfish into Colorado was solicited through an open comment “guestbook” tool. All comments were publicly viewable on the page. The public comment period was open for 25 days.

Public Input

A total of 219 members of the public provided feedback on red swamp crayfish importation through Engage CPW.

Support for Importation

About two-thirds of responses (146 comments out of 219 total) support removing the current ban on red swamp crayfish importation and possession. Comments by those who support importation focus on two main points. First, the most noted argument (70 comments), is that since the cost to the consumer purchasing these crayfish is high, the risk of crayfish being released or used as bait is very low. The general perception from these commenters is that all of the red swamp crayfish imported into Colorado will be consumed and eaten. Secondly,



many commenters (45) feel that there is a limited risk of red swamp crayfish becoming established in Colorado waters because, in their view, these crayfish will most likely not survive in Colorado's colder climate. Other points mentioned by those in support of importation include the significant cultural value attached to these animals (23 comments) and the many families and small businesses in Colorado that depend on importing these crayfish (24 comments). Additional comments (30) supported making edits to the current regulation that would still allow for their importation for human consumption (e.g. requiring permits). Featured below is a comment left by a member of the public in support of the importation of red swamp crayfish. All comments on the Engage CPW website are publicly viewable.

"I'm a chef and hold a CO fishing/hunting combo license. I truly care about the waters and land in our beautiful state, I love hunting and fishing here and I would never want to do anything to hurt our ecosystems. I also personally get live crawfish shipped through a reputable distributor, and my spring catering business is mostly crawfish boils. I would never release any into any body of water. I would have no issue applying for a specific license to handle live crawfish or some sort of regulation. The demand for live crawfish for food is huge in CO and an outright ban wouldn't stop crawfish from coming in, it would just open a black market."

Opposition to Importation

About one-third of responses (62 comments received out of 219 total) were in opposition to allowing the importation or possession of red swamp crayfish. These comments mostly focused on precautionary environmental concerns and the potential harm from introducing a non-native species to an ecosystem (55 comments). Many believe that any imported crayfish species would inevitably end up in our waterways and could adapt to survive like invasive species such as zebra mussels. Others who oppose allowing importation (5 comments) argued that CPW should provide more enforcement and education of the current regulations. Featured below is a comment left by a member of the public in opposition to the importation of red swamp crayfish.

"This is a complex issue. I appreciate that the food industry intends to be responsible with their importation and use of RSC [red swamp crayfish]. I imagine from the perspective of those importing and consuming the concern over introduction in Colorado waters seems like worrying about something they wouldn't allow to happen. However, the history of unintentional species introductions includes many examples of well intended utilization resulting in uncontrollable infestations. In my mind continued importation almost assures an eventual introduction. The fact that CPW has no tools to reverse the results of an introduction of RSC suggests to me that the costs of allowing importation is significant. Are the benefits of this one niche food item important enough to the people of Colorado to warrant the risk? I don't think so."

Neither Support nor Oppose Importation

Lastly, a small number of comments (6) were neither in support nor opposition to the importation of red swamp crayfish. These comments came from members of the public who acknowledge both the potential risk of importing crayfish, and the cultural value of crayfish

boils. Featured below is a comment left from a member of the public neither in support nor opposition to the importation of red swamp crayfish.

“Unenforceable regulations do nothing to alleviate problems. If you can figure out how to prevent suppliers from shipping live crayfish to CO, stick to your existing regulations and go after the suppliers. I love a boil as much as the next person, but I can catch them locally or live with frozen, boiled crayfish from a Colorado store or shipped from Louisiana. At some point, the gulf states need to figure out how to sterilize crayfish prior to shipping them out of state - that won't happen without economic pressure. It's already illegal to release crayfish and other aquatic wildlife in the state. If you can't figure out how to prevent suppliers from shipping to CO, I'd change your unenforceable regulations to allow them into the state and invest your time in public outreach (Don't Let it Loose), make penalties for releasing crayfish very steep, encourage people to turn someone in if they hear of a live release - and let people get their crayfish shipped live to their door and have their crayfish boils.”

ISSUES SUBMITTAL FORM

Date: 08/11/2023

ISSUE: Should regulations regarding live crayfish be changed to allow for the legal import, transportation and possession of red swamp crayfish?

DISCUSSION (FACTS AND FIGURES, EXPLANATION OF ISSUE):

BACKGROUND

Regulations prohibiting the importation, transport and possession of most live crayfish into Colorado have been in place for decades in an effort to protect Colorado's natural aquatic ecosystem and native species. Under PWC regulations #012.C.2 and #012.D.2. only the following crayfish are allowed in the state:

#012.C. 2. Crustaceans

a. The following crustaceans may be possessed east of the Continental Divide:

- i. Virile Crayfish
- ii. Waternymph Crayfish
- iii. Calico Crayfish
- iv. Ringed Crayfish
- v. Southern Plains Crayfish

b. The following crustaceans may be possessed on either side of the Continental Divide:

- i. Freshwater shrimp
- ii. Commercially available brine shrimp
- iii. Commercially available krill

#012. D. In addition to those species identified in Chapter W-0, #012.C, any Food Production Facility may possess the following aquatic wildlife in the State of Colorado:

2. Crustacea

- a. Redclaw crayfish

Many states across the nation have adopted regulations that prohibit the import of non-native and invasive crayfish species out of concern that escaped or intentionally released crayfish could easily become established, out-compete native crayfish species and change native aquatic systems.

About half of Colorado's surrounding states have regulations that completely prohibit the import of non-native crayfish species. The other states have regulations in effect that allow for the importation of certain species with the requirement that they may only be possessed for human consumption, generally within a certain time requirement.

ECOLOGICAL AND BIOLOGICAL CONCERNS

Red swamp crayfish (*Procambarus clarkii*) are native to the Gulf of Mexico coastal plain from the Florida panhandle to Mexico but have established populations in several western and northern states including Minnesota, and Wisconsin (See Below). The red swamp crayfish is one of the most widely introduced crayfish species in the world. Outside of captivity, this crayfish species has yet to be detected or reported in Colorado however CPW does not actively monitor for crayfish beyond some sampling by ANS sampling crews. Laboratory studies indicate the species can survive water temperatures from just above freezing to over 90°F. Individuals can also burrow into the soil to avoid freezing temperatures.

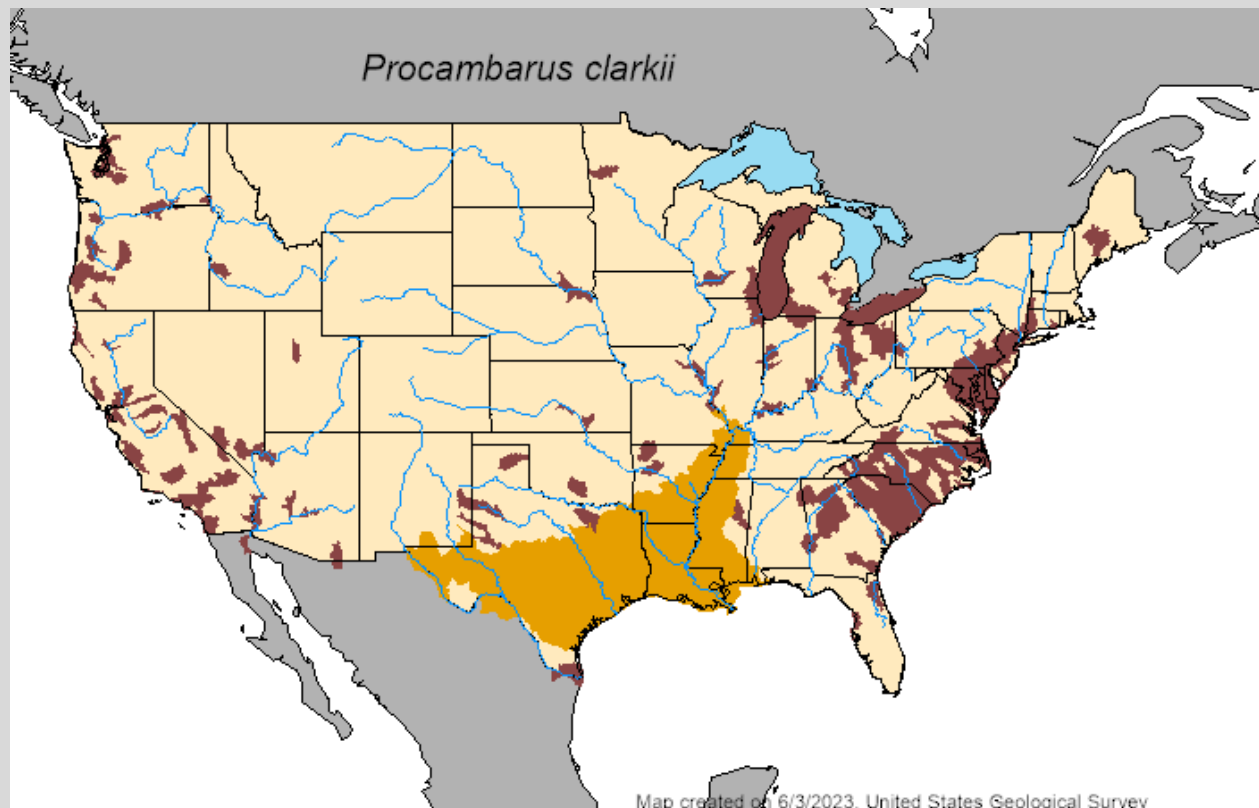
Red swamp crayfish mature early, and have rapid growth rates, large numbers of offspring and short life spans. They can replace indigenous crayfish by competitive exclusion and/or transmission of crayfish plague. It displays generalistic and opportunistic feeding habits and has been shown to impact native and sportfish populations by consuming fish eggs and also altering invertebrate communities. In a laboratory setting red swamp crayfish consumed eggs and larvae of the endangered razorback sucker. Under natural conditions, it is likely that the species reduces the abundance of dragonfly nymphs and the predation efficiency and thereby, directly and indirectly, leads to higher mosquito populations and loss of ecosystem services related to disease vector control. Red swamp crayfish are larger than most of

Colorado's native crayfish and build extensive burrows. Other states have experienced damage to levees, dams, and water control structures.

Colorado's position as a headwater state is also a concern for potential downstream effects on other states, especially those that do not allow for any live importation or possession.

PRESENCE IN COLORADO AND SURROUNDING STATES

Currently, there are no known populations in Colorado. Red swamp crayfish have been found or have established populations in Arizona, New Mexico, Nevada, Idaho, California, Oregon, Washington, Texas, Kansas, Nebraska, and South Dakota. They exist as far north as Wisconsin, Minnesota, and Maine, and are ubiquitous in the Southeast and eastern portions of the United States. In the Rocky Mountain west, the only states that have not yet found red swamp crayfish are Colorado, Wyoming, Montana, and North Dakota.



Additional information about this map and red swamp crayfish can be found on this USGS Website: <https://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=217>

COMMERCIAL AND SOCIAL CONSIDERATIONS

The importation of live crayfish into Colorado has largely gone unchecked and unenforced for years. In the spring of 2023, CPW law enforcement personnel contacted and cited a party for the illegal importation of crayfish into Colorado, leading to hundreds of contacts with the agency and CDA about the "new crayfish ban that CPW put into place." As a result of that case, CPW has been made aware of a significant culture in Colorado regarding social gatherings and meals surrounding crayfish boils.

CPW law enforcement has now documented dozens of restaurants across the front range alone that hold regular crawfish boils and meal services with live imported crayfish. Several major distributors have been identified; one distributor estimates that they are selling between 9,000 lbs - 11,000 lbs of live imported crayfish weekly during the high volume periods. Other distributors operate mobile delivery services, directly delivering live crayfish to local restaurants or selling directly to the public at different food markets.

Additionally, CPW has become aware of a large import market to private citizens for neighborhood crawfish boils and gatherings. In some cases, private citizens are picking up imported crayfish flown into airports. In other instances, companies are shipping boxes of live crayfish overnight directly to the residences of private citizens.

DISCUSSION

Red Swamp Crayfish are an ecological concern outside of their native waterways and ecosystems. Where they have established outside of their native ranges, states have made a significant investment in time, resources, and investigatory efforts to eradicate the species. When introduced, they have established populations in colder environments as far North as Minnesota and Wisconsin. Currently, Colorado does not have any known populations that exist in natural waterways.

However, outside of biological considerations, CPW now understands that Red Swamp Crayfish have been illegally imported and possessed in Colorado for years, if not decades, which has created an established market and industry within the state. There are significant cultural, economic, and industry specific factors involved with the import of Red Swamp Crayfish, from distributors and restaurants to private gatherings, festivities, and fundraisers. Even with this significant market in existence, CPW biologists have not detected this species in the wild- though it is important to note that CPW has never specifically conducted a presence study, research, or focused on the species.

Under current management and enforcement priorities, Colorado likely has thousands of pounds of Red Swamp Crayfish imported into the state, unchecked and untracked, for months at a time. To fully enforce current prohibitions, CPW would need to significantly invest time, resources, and employee effort to make an impact to stop the flow of this species into the state.

A working group from the agency and the Colorado Department of Agriculture began meeting in May to work through potential solutions to mitigate this issue. Additionally, CPW staff used the “Engage CPW” function on its website to solicit feedback from the public. Data from that feedback showed that about two-thirds of respondents desire a solution to allow possession of Red Swamp Crayfish for personal consumption, while one-third were opposed to any allowance. The state Fish Health Board also took public comment related to the issue.

As a result of that process, CPW is recommending a systematic approach to permit the import of Red Swamp Crayfish for human consumption through legitimate businesses. This solution will allow CPW law enforcement additional tools to determine the legality of any imported crayfish and have information regarding the actual amount of import and tracking of this species. Any possession of Red Swamp Crayfish for purposes outside of human consumption (aquaculture, pet trade, etc) or the release of live Red Swamp Crayfish would remain illegal.

Finally, CPW staff will begin to monitor state waters for any presence of Red Swamp Crayfish. These efforts may take different forms, from training to systematic sampling or research. If the presence of the species in the wild is detected, CPW will take action through regulatory and enforcement channels, or through biological control, to mitigate any introduction or spread of the species- including revisiting the regulatory changes proposed herein. CPW hopes to partner with the industry to help ensure compliance and safety protocols are followed to prevent any escape or release of Red Swamp Crayfish into the wild.

PROPOSED CHANGES

CPW’s preferred alternative would allow for the import and possession of live red swamp crayfish ONLY for human consumption. Any company or individual that wishes to import the species would be required to apply for a CPW issued import license, AND no person may possess an individual of the species alive for more than 72 hours, to be accompanied by a receipt or other documentation showing the possession date and time. Additionally, regulations would be altered to specifically allow for the inspection by CPW of any imported live crustaceans. Any release into the wild or possession as a pet would remain prohibited.

STATE LAW REQUIRES CPW TO SOLICIT INPUT FROM STAKEHOLDERS THAT MAY BE AFFECTED POSITIVELY OR NEGATIVELY BY THE PROPOSED RULES. THE FOLLOWING STAKEHOLDERS HAVE BEEN ADVISED OF AND INVITED TO PROVIDE INPUT ON THE REGULATORY CHANGES PROPOSED IN THIS ISSUE PAPER:

***IT IS ASSUMED THAT ALL NECESSARY INTERNAL PARTIES HAVE BEEN NOTIFIED*.**

[List stakeholder groups and briefly summarize comments received]

Most stakeholders (businesses and individuals) that have contacted CPW about this topic would like to bring crayfish into Colorado for consumption. These individuals are largely unaware of the biological concerns related to such activity or do not consider them to outweigh their desire to bring in these crayfish species. CPW is conducting additional outreach and education on these issues.

ALTERNATIVES: (POSSIBLE OUTCOMES or POSSIBLE REGULATIONS):

1. Preferred Alternative

Allow for the importation, possession, and transportation of live red swamp crayfish (*Procambarus clarkii*) for human consumption only, and only with a valid Aquatic Importation License issued by the Division. Additionally, add to regulations that the Division may inspect any shipment of live crustacea imported into Colorado.

POSSIBLE NEW REGULATION LANGUAGE

#010 – TRANSPORTATION OF AQUATIC WILDLIFE

A. Transportation of Approved Aquatic Wildlife: Only the aquatic wildlife approved under #012 of this regulation may be transported within the State of Colorado. It shall be unlawful for any person to transport any live aquatic wildlife not approved under #012 of this regulation.

B. Requirements for Transportation:

1. All Aquatic Wildlife: All aquatic wildlife being transported within Colorado must at all times be accompanied by, and may only be transported within Colorado pursuant to:

- a. A personal fishing license (including the regulations pertaining to live fish as bait set forth in other provisions of CPW regulations, including #104.H),
- b. A commercial fishing license,
- c. A donation certificate,
- d. A receipt from a commercial or private lake licensee, permitted aquaculture facility or permitted pet animal facility,
- e. An aquaculture facility permit,
- f. A pet animal facility permit,
- g. An importation ~~license~~ permit,
- h. A scientific collecting license, or

i. A bill of lading or other similar documentation evidencing that the wildlife is being transported through Colorado for delivery in another state and containing the name, address and phone number of both the source and receiving person or facility. Original documentation is only required when transporting aquatic wildlife pursuant to a personal or commercial fishing license, a donation certificate or any kind of receipt. In all other cases, legible copies of the required documents will suffice.

2. Unless otherwise specified under these regulation or under Title 33, all live fish transported within Colorado must be accompanied by a copy of the fish health certificate for the source facility evidencing its compliance with #014 Aquatic Wildlife Health Management, unless the bill of lading or other similar documentation shows that the shipment is being transported through Colorado for delivery in another state. At the Division's discretion, the Division may waive the requirement that a fish health certificate accompany live fish transported in Colorado when transportation occurs from one Food Production Facility to another Food Production Facility.

#011 – IMPORTATION OF AQUATIC WILDLIFE

- A. Except as provided in these regulations or authorized by the Division or under Title 33 or Title 35 C.R.S., it shall be unlawful for any person to import any live native or nonnative aquatic wildlife into Colorado.
- B. Importation of Approved Aquatic Wildlife: Only the aquatic wildlife approved under #012 of this regulation may be imported. It shall be unlawful for any person to import any aquatic wildlife not approved under #012 of this regulation.
- C. Requirements for Importation License:
 - 1. A person must obtain an Importation License from the Division prior to importing any live aquatic wildlife into Colorado.
 - 2. Application for an Importation License shall be made on the form provided by the Division.
 - 3. Properly completed forms and the license fee must be submitted to the Division at least seven (7) working days prior to the proposed importation date.
 - 4. Upon receipt of the Importation License, a person may import only those species and only from the facility listed on the license. Additional species may be added to the license upon written application to the Division at least seven (7) working days prior to the proposed importation date.
- D. The Division may inspect any shipment of live **crustacea**, fish or viable gametes imported into Colorado **prior to release into waters of the state or private holding facilities**.
- E. Receipt of all wildlife imported must be reported to the Division as specified on the Importation License.
- F. All importations of **aquatic wildlife-fish** must comply with state fish health management regulations. A copy of a facility's health certification, if applicable, must accompany each shipment of live aquatic wildlife.
- G. Release of aquatic wildlife must comply with all applicable regulations including but not limited to the restrictions found in #012, #013 and #014 of these regulations.

#012 – POSSESSION OF AQUATIC WILDLIFE

- A. Except as provided in these regulations or authorized by the Division or under Title 33 or Title 35 C.R.S., it shall be unlawful for any person to possess any live native or nonnative aquatic wildlife in Colorado.
- B. No person shall, at any time, have in possession or under their control any wildlife caught, taken or killed outside of this state which were caught, taken or killed at a time, in a manner, for a purpose, or in any other respect which is prohibited by the laws of the state, territory or country in which the same were caught, taken or killed; or which were shipped out of said state, territory or country in violation of the laws thereof.
- C. The following aquatic wildlife may be possessed by any person in the State of Colorado:
 - 1. Amphibians
 - a. Bullfrogs. Possession of this species is subject to the restrictions set forth in Chapter W-1, #104.H.4 and #107.A.1.m of these regulations.
 - b. Aquatic Gilled forms of Tiger Salamanders. Possession of this species is subject to the restrictions set forth in Chapter W-1, #104.H.4 and #107.A.1.o of these regulations.
 - c. Any amphibians allowed under Chapter W-10, #1000.A.6 of these regulations.
 - d. Any amphibian designated as unregulated wildlife under Chapter W-11, #1103.B of these regulations.
 - 2. Crustaceans
 - a. The following crustaceans may be possessed east of the Continental Divide:
 - i. Virile Crayfish
 - ii. Waternymph Crayfish
 - iii. Calico Crayfish
 - iv. Ringed Crayfish
 - v. Southern Plains Crayfish
 - b. The following crustaceans may be possessed on either side of the Continental Divide:
 - i. Freshwater shrimp
 - ii. Commercially available brine shrimp
 - iii. Commercially available krill

- iv. Subject to the requirements of #010 and #011, Red Swamp Crayfish (*Procambarus clarkii*) for purposes of importing, transporting, or possessing the species for human consumption, provided the following criteria are satisfied:
 - a. no person may possess an individual of the species alive for more than 72 hours; and
 - b. any person who possesses the species alive must have:
 - i. a copy of an importation license issued under #011 that authorizes the importation of the crayfish in the person's possession; and
 - ii. a receipt or delivery confirmation reflecting the date the person took possession of the crayfish.

- 3. Fish. Possession of these species is subject to the restrictions set forth in Chapter W-1 of these regulations.
 - a. Brown, brook, cutthroat, golden, lake and rainbow trout, and their hybrids
 - b. Arctic char
 - c. Grayling
 - d. Kokanee salmon
 - e. Whitefish
 - f. Sculpin
 - g. Smallmouth, largemouth, spotted, striped, and white bass
 - h. Wipers
 - i. Common Carp
 - j. Triploid grass carp
 - k. Bullhead, blue, channel, and flathead catfish
 - l. Black and white crappie
 - m. Drum
 - n. Northern pike
 - o. Tiger muskie
 - p. Sacramento and yellow perch, and their hybrids
 - q. Sauger and saugeye
 - r. Speckled dace
 - s. Rainbow smelt.
 - t. Tench
 - u. Walleye
 - v. Bluegill and bluegill hybrids
 - w. Green, redear and pumpkin-seed sunfish
 - x. Gizzard shad
 - y. Longnose and white suckers
 - z. Fathead minnow
 - aa. Families of fish classified Cyprinidae except for bighead carp, black carp, and silver carp.
 - bb. Any fish designated as unregulated wildlife under Chapter W-11, #1103.B of these regulations.
- D. In addition to those species identified in Chapter W-0, #012.C, any Food Production Facility may possess the following aquatic wildlife in the State of Colorado:
 - 1. Fish
 - a. Blue tilapia and their hybrids
 - b. Mozambique tilapia and their hybrids
 - c. Nile tilapia and their hybrids
 - d. Barramundi
 - e. Any other fish that the Division, after consultation with the Colorado Fish Health Board determines can securely be kept within a Food Production Facility and which does not present a risk to native species, their habitat, the aquatic environment, or other Food Production Facilities.
 - 2. Crustacea

a. Redclaw crayfish

- E. The possession of any aquatic wildlife in the State of Colorado not listed in this section #012 is unlawful unless otherwise authorized by the provisions of Chapter W-11 of these regulations pertaining to unregulated wildlife, or Chapter W-13 of these regulations (“Possession of Wildlife, Scientific Collecting and Special Licenses”). Any person who takes any fish species from the wild in Colorado not listed in this section may take and possess them year round and in any quantity for personal use, provided that the fish are not listed as nongame, threatened, or endangered under Chapter W-10 and provided that the fish are killed prior to transportation from the point of take.
- F. No person shall import, transport, possess, or release any aquatic nuisance species (ANS) except as authorized by the Division or permit issued under Title 35 C.R.S.

2. Status Quo

Issue Raised by:	Multiple user groups and CPW staff	
Author of the issue paper (if different than the person raising the issue):	Ty Petersburg- Field Services Josh Nehring, Matt Nicholl- Aquatics Erik Slater- Special Licensing Katie Lanter- Policy and Planning	
CC:	Wayne East- Colorado Dept of Agriculture	
APPROVED FOR FURTHER CONSIDERATION BY:	Heather Dugan	
REQUIRES NEW SPACE IN THE BROCHURE?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
ARE ADEQUATE STAFF AND FUNDING RESOURCES AVAILABLE TO IMPLEMENT?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
REGION, BRANCH, OR SECTION LEADING IMPLEMENTATION	Field Services/I&E	
RECOMMENDED FOR CONSENT AGENDA?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	