

**APPLICATION FOR THE IMPORTATION,
POSSESSION, SALE, PURCHASE, EXCHANGE
OR INTRASTATE TRANSPORT OF
PROHIBITED SPECIES**

This application will be used to determine whether a permit to import, possess, sell, purchase, trade, and/or transport prohibited species will be approved and issued. Please be as complete and as accurate as possible.

Name: Ron Barnes (Owner, Gone Fishing)

Affiliation: None

Address: 3875 Lower Klamath Lake Rd.

City: Klamath Falls State: Oregon Zip: 97603

Daytime Telephone: Home (541) 798-5202 Cell (541) 891-9558

Email Address: Gotfish@aol.com

Prohibited Species for which permit is requested:

<u>Common Name</u>	<u>Scientific Name</u>	<u>Number</u>	<u>Sex</u>	<u>Activity*</u>
Freshwater Prawn	<u>Macrobrachium rosenbergii</u>	20,000	Both	S, P, B
Pacific White Shrimp	<u>Penaeus vannamei</u>	100,000	Both	S, P, B
Tilapia	<u>Oreochromis mossambicus and O. mossambicus x O. niloticus (Red form)</u>	20,000	Both	S, P, B

Signed Ron Barnes Date 2/6/08

Position Owner, Gone Fishing

* Activity Codes: I = Import P = Posses E = Exchange

S = Sale B = Purchase T = Transport

Prohibited Species Questionnaire

This questionnaire will be used to determine whether a permit to import, possess, sell, purchase, trade and transport Prohibited species will be approved and issued. Please be as complete and as accurate as possible.

Date of Application: February 6, 2008

Applicant's Name: Ron Barnes

Institution Name: None

Address: 3875 Lower Klamath Lake Rd.

City: Klamath Falls

State: OR

Zip Code: 97603

Daytime Telephone Number: Home (541) 798-5202, Cell (541) 891-9558

Prohibited Species You Are Requesting Authorization to Hold at Your Facility:

Common Name	Scientific Name	Number	Sex	Activity*
Freshwater Prawn	<u>Macrobrachium rosenbergii</u>	20,000	Both	S, P, B
Pacific White Shrimp	<u>Penaeus vannamei</u>	100,000	Both	S, P, B
Tilapia	<u>Oreochromis mossambicus</u> and <u>O. mossambicus</u> x <u>O. niloticus</u> (Red form)	20,000	Both	S, P, B

Physical Facilities (SEE ATTACHMENTS)

1. Does your institution own or operate animal holding or breeding facilities other than listed in this questionnaire? (If yes, please attach name, address, and phone number of off-site facility along with species' common and scientific names, number and sex of each.) YES
2. Please attach a copy of descriptions and drawings, including all relevant specifications or blueprints of your institution's perimeter fence or barrier which reduces the risk of escaped animals.
3. Which of the following are located within your institution? (Please mark all that apply and attach physical description of each.)

-----X----- Holding Facilities

----- Laboratory

----- Animal Hospital

----- Quarantine facilities

Safety and Security

1. Please attach the recapture plan which you and your staff and/or volunteers follow in the event of an escape.
2. Please attach a written security plan detailing how your facilities are protected from theft, vandalism and fire.
3. What hours are personnel on the premises?
4. Does your institution employ security officers? YES or NO
If yes, what hours?
5. Are security personnel (employed or contracted) required to make regular checks of the grounds/buildings? (Including those persons who live on the grounds and serve as security officers during hours when the institution is not open to the public.) YES or NO
6. Please attach written documentation of the natural hazards in the area which may compromise the animal enclosures at your facility allowing the animals to escape to the wild.
7. Please attach a written list of capture equipment (animal restraint) kept of the premises.
8. Please specify the number of staff members or volunteers with professional training in animal capture and restraint and attach a description of that training and experience staff and volunteers have in animal capture and restraint.
9. Is chemical animal capture equipment kept on the premises? YES or NO
 - a) If yes, where is the equipment stored?
 - b) If yes, what is the number of professionally trained staff or volunteers?
10. Is capture equipment, including chemical, available to authorized personnel at all times? (If no, please attach written explanation.) YES or NO

11. Have animals escaped from your institution? YES or NO
(If yes, please attach details of escapes and the steps taken to recover the animals. What were the results of actions taken?)

Animal Collection

1. Please attach a current animal inventory, including scientific name, number and sex of all Prohibited animals.
2. Does your institution own specimens which are on loan to other institutions? YES or NO
(If yes, please attach name, address, and phone number of institution(s) along with species' common and scientific names, number and sex of each.)
3. Does your institution maintain animals loaned by another institution? YES or NO
(If yes, please attach name, address, and phone number of institution(s) along with species' common and scientific names, number and sex of each.)
4. Please attach a written explanation of your institution's animal marking system and how record keeping is facilitated.
5. Does your facility use the International Species Inventory System (ISIS) to register animals?
YES or NO
6. Other than those specimens registered with the ISIS, animal records shall be duplicated and stored in a fireproof container at a separate location. Please attach name, address and phone number of the alternative location.
7. Does your institution use animals in off-premises situations? YES or NO
(i.e., shopping malls, sporting events, school programs, theatrical productions, etc.) (If yes, please attach written explanation of how escapes will be prevented.)
If yes, how often?
8. Please attach a copy of your institution's written policy regarding transport, restraining devices, caging, etc. of animals off premises.
9. Does your institution have a current USDA Exhibitor's License? YES or NO
(If yes, please attach a copy.)
10. Does your institution have a current USDA Breeders License? YES or NO
(If yes, please attach a copy.)
11. Does your institution have a current USDA Breeders/Brokers License? YES or NO
(If yes, please attach a copy.)
12. Has your institution been inspected by USDA in the last 2 years? YES or NO
(If yes, please attach a copy.)
13. Please attach a written report detailing how any deficiencies identified in a USDA inspection are being/ have been addressed.

Veterinary Care

1. Does your institution have a veterinarian record? YES or NO

Name:

Clinic or Veterinary Institution:

Address:

City: State: Zip code:

Telephone:

2. If your institution does not employ a full-time veterinarian, do you have a contract with a veterinarian which includes on site visitations? YES or NO
(If yes, please attach a copy.)

3. Does your institution have a program for regular disposal (or removal and separate storage of outdated animal drugs)? YES or NO
(If yes, please attach a copy)

4. Does your institution have an Animal Care and Use Committee? YES or NO

Completed by _____
(Signature of person completing this questionnaire)

Position _____

Daytime Phone:

Subscribed and sworn to before me this _____ day of _____

Signature _____
(Notary public)

My commission expires: _____

Physical Facilities

1. Gone Fishing operates a geothermal tropical fish farm on the same land as the proposed facility. The tropical fish are the only other species raised.
2. The following is a description of the rearing facilities for each of the proposed species (a drawing and photograph are included): Tilapia: Tilapia broodstock will be kept in a 100' x 24' greenhouse adjacent to the 6 rearing ponds. The broodstock greenhouse will contain breeding pairs of fish and larval fish before stocking into ponds. The broodstock greenhouse will be zero discharge - all outflow from the greenhouse will be consumed on landscaping. No water from the broodstock greenhouse enters other farm waters. Once larval fish are 0.5 g (about 1 inch), the juvenile fish will be stocked into 6 ponds for grow out. Each of the 6 grow out ponds is 100' x 20' and each will be covered with a greenhouse cover. Outflow from each of the grow out ponds will be to a sump. Sump water will be pumped to a head pond and recirculated through the grow out ponds. Excess water will flow into constructed wetlands (see drawing) for cleaning and then re-use. Again, all water used for Tilapia production will be zero discharge from the property. Each of the grow out ponds and the ditch leading to the constructed wetlands will be screened with 1/4" steel mesh screen. All harvested Tilapia will be killed on site before going to market. Penaeus vannamei: Pacific White Shrimp require highly mineralized water if they are to survive in fresh water. Consequently, all culture water for White Shrimp will be recirculated to maintain mineral concentrations. White Shrimp will be cultured in 100' x 20' ponds. The shrimp culture ponds will be fenced with 2' high wire fence around the ponds and covered with netting to prevent bird predation. During the winter these ponds will be completely covered with pool covers to prevent heat loss. All drains will be screened with minimum 1/4" steel mesh screen (screen will be finer mesh at times) even though all water is recirculated. All harvested shrimp will be killed on site before going to market. Macrobrachium rosenbergii: Fresh water prawns will be cultured in 100' x 20' ponds. As these prawns don't require special water conditions, culture ponds will be flow through, with used water entering constructed wetlands before re-use. Prawn ponds will be fenced and netted and drains screened as with White Shrimp ponds. Again, all harvested prawns will be killed on site before going to market.
3. Each of these animals (tilapia, white shrimp, prawns) will be hatched or nursed for a time in the hatchery greenhouse and then moved to production ponds.

Safety and Security

1. Escape from any of the screened ponds would be into the ditch leading to the constructed wetlands (also screened). If ODFW desires, this ditch could be sterilized weekly by addition of 200 degree F. geothermal water. Any escaped animal would be killed by heat. This process has proven extremely effective in our 20 years of producing tropical fish.

2. Access to the fish culture area is through a locked gate. All tilapia ponds and the hatchery building area covered with greenhouses where the only access is through locked doors.
3. Fish culture personnel are on site during daylight hours. The fish culture site is 500 feet from my personal residence.
4. There are no security officers.
5. I am constantly on the property as I derive my entire living from the farm.
6. Each of the ponds in the proposed fish culture area are in the ground, therefore no risk of tank failure or structural failure exists. The hatchery greenhouses are isolated so that any failure or overflow would be contained within the structures.
7. Hand nets, seine and hot water are all on the property.
8. These animals are not physically dangerous and don't require special training.
9. Hot water would be used to kill any escaped animals.
10. Yes.
11. In 18 years of commercial tropical fish production, no animal has ever been demonstrated to have escaped from our facility. The physical environment simply does not allow for survival of any of the proposed species.

Animal Collection

It doesn't appear that this section applies to a fish culture operation.

Veterinary Care

All of our animals would come from certified disease free hatcheries. In this instance (fish/shrimp culture) any diseased organism would be destroyed by sterilization in 200 degree F. water. By definition, sterilization is 185 degrees F.

Gone Fishing
3875 Lower Klamath Lake Rd.
Klamath Falls, OR 97603
Phone/FAX (541) 798-5202
Email: GOTFISH@AOL.COM

1/30/08

Oregon Dept. Fish and Wildlife
Re: Aquaculture Project

Gentlemen:

Gone Fishing has operated a geothermal tropical fish production facility in the Lower Klamath Lake area since 1990. Though we have discussed food fish production at this site for a number of years, production of fish for human consumption has never begun. Continued increases in consumer demand for seafood, coupled with decreased seafood supply from ocean catches have made this an ideal time for Gone Fishing to begin food fish production. Our discussions with ODFW in the past have given us an understanding of your concerns and we believe our system design will address your concerns adequately.

Classification Request for Macrobrachium rosenbergii (Malaysian Prawn)

Macrobrachium rosenbergii, the Malaysian Prawn or the Giant Freshwater Prawn is a tropical freshwater prawn native to all of Southeast Asia. Freshwater prawns live in freshwater rivers and estuaries in tropical Asia. Reproduction occurs in fresh water, but larval prawns must dwell in salt water. After metamorphosis into post-larvae, juvenile prawns then migrate to freshwater. A complete discussion and life history is available at: <http://www.fao.org/docrep/005/y4100e/y4100e00.htm>.

M. rosenbergii are commercially cultured throughout the world and throughout the United States. These prawns have been cultured at least twice in Oregon using geothermal waters. The Oregon Institute of Technology grew freshwater prawns outdoors during the 1970s and early 1980s (<http://geoheat.oit.edu/pdf/tp63.pdf>). Also, a company called Sun and Earth Growers grew freshwater prawns outdoors in the Lower Klamath Lake area during the early 1980s (personal communication, Rocky Liskey). Gone Fishing had also been given verbal permission from ODFW to culture freshwater prawns in the past 5 years. I'm pursuing this classification request to receive written permission from ODFW to culture this organism.

As previously stated, M. rosenbergii requires salt water to complete larval life stages. Also, previous unrestricted culture in the Klamath Basin has demonstrated the inability of the animal to survive in the wild. M. rosenbergii is a tropical organism and requires water temperatures above 14 degrees C. to survive (<http://www.fao.org/docrep/005/y4100e/y4100e00.htm>).

To review:

1. *M. rosenbergii*, the freshwater prawn, lives in freshwater, but larvae must live in sea water to complete larval life stages. No reproduction of escaped animals is possible.
2. *P. vannamei* is a tropical shrimp requiring water temperatures above 14 degrees C to survive. Natural, unheated surface water temperatures at our Lower Klamath Lake facility are below lethal levels for Freshwater Prawns for more than 6 months per year (surface water temps have been below 2 degrees C since the end of September, 2007). No survival of escaped animals could occur.
3. There are no known pathogens that affect wild populations of Freshwater Prawns. To date, no disease certification is done on commercial prawn hatcheries because no pathogens have been demonstrated to affect these animals.
4. Commercial production of *M. rosenbergii* at our Lower Klamath Lake facility would occur in ponds that are fenced to preclude walking predators (herons, skunks, etc.) and covered to preclude flying predators. All drains are screened.

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Classification Request for Penaeus vannamei (Pacific White Shrimp)

The Pacific White Shrimp (*P. vannamei*) is a tropical marine shrimp endemic to the western coast of Central America. Culture of White Shrimp occurs throughout the world, primarily in coastal marine environments. Research conducted during the last 20 years has demonstrated the ability to culture White Shrimp in low-salinity ground waters. Gone Fishing is requesting that the Oregon Department of Fish and Wildlife permit controlled culture of the animal at its Lower Klamath Lake facility based on the following facts:

1. *P. vannamei* is a marine shrimp that may be acclimated to low salinity waters (1 ppt salinity), however, full strength sea water is required for reproduction and all larval life stages. No reproduction of escaped animals is possible.
2. Though *P. vannamei* can be induced to survive in low salinity geothermal waters, no survival of escaped animals could occur in the dilute freshwater of the Klamath Basin.
3. *P. vannamei* is a tropical shrimp requiring water temperatures above 13 degrees C to survive. Natural, unheated surface water temperatures at our Lower Klamath Lake facility are below lethal levels for White Shrimp for more than 6 months per year (surface water temps have been below 2 degrees C since the end of September, 2007). No survival of escaped animals could occur.
4. There are pathogens that affect wild populations of Pacific White Shrimp, however, only certified disease free animals would be purchased for our site.

5. Production of White Shrimp at our facility would occur in ponds that are fenced to prevent predation by walking predators (skunks, raccoons, herons) and covered to prevent predation by flying predators.
6. All shrimp harvested from our site would be killed on site. No live White Shrimp would be transported off site without ODFW permission.

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Classification Request for Oreochromis mossambicus (Mozambique Tilapia)

Tilapia sp. have now become the largest cultured fish species in the United States. Tilapia are from the family Cichlidae, close relatives to the Cichlids currently raised on our farm. Tilapia are primarily cultured in tropical and sub-tropical regions around the world. Ideal culture temperatures for Tilapia are 26 – 30 degrees C. Tilapia species, in general, are very temperature sensitive, with *O. mossambicus* and the Red Tilapia (cross between *O. mossambicus* and *O. niloticus*) considered most sensitive (see below). Gone Fishing is requesting that the Oregon Department of Fish and Wildlife permit controlled culture of this animal at its Lower Klamath Lake facility based on the following facts:

1. Tilapia are a tropical species, displaying low tolerance to cold temperatures. *O. mossambicus* and the Red Tilapia hybrid are known to be the most cold sensitive, with death occurring at temperatures below 12 degrees C. (Avault, 1996; Paz, 2004). Much research has been done on Tilapia regarding low temperature tolerance – mostly trying to improve Tilapia's ability to survive low temperatures. However, the vast body of research clearly indicates that Tilapia simply cannot survive temperatures below 10 degrees C. (Avault, 1996; Paz, 2004; Yadev, 2006; Charo-karisa, 2005; Sifa, 2002). Natural, unheated surface water temperatures at our Lower Klamath Lake facility are below lethal levels for Tilapia for more than 6 months per year (surface water temps have been below 2 degrees C since the end of September, 2007).
2. Production of Tilapia at our facility would occur in ponds covered with greenhouses. Access to greenhouses would be through locked doors.

3. Tilapia will be produced in a high density production system with zero water discharged from our site.
4. All tanks and drains on the system will be screened.
5. Access to the Tilapia culture area will be through locked gate.
6. Only certified disease free animals would be purchased for our site.
7. All Tilapia harvested from our site would be killed on site. No live Tilapia would be transported off site without ODFW permission.

These culture methods have been developed in consultation with ODFW personnel (Roger Smith) and are designed to eliminate any possible escape of live Tilapia.

Literature Cited

- Li Sifa, Li Chenhong, Madan Dey, Florabelle Gaglac and Rex Dunham. 2002. Aquaculture. Cold tolerance of three strains of Nile tilapia, *Oreochromis niloticus*, in China
Vol. 213 Issues 1-4. pages 123-129
- Yadav, C.N.R. 2006. Tilapia – An introduction and prospects of its culture in Nepal
Our Nature. Vol. 4: 107-110.
- Charo-karisa, Harrison; Rezk, Mahmoud A.; Bovenhuis, Henk; Komen, Hans. 2005. Heritability of Cold Tolerance in Nile Tilapia, *Oreochromis niloticus*, juveniles
Aquaculture. Vol. 249. pages 115-123.
- Avault, J.W. Jr. 1996. Fundamentals of Aquaculture. AVA Publishing Company Inc.
899 pages.
- Paz, Patricio E. 2004. Evaluation of Growth, Production, and Cold Tolerance of Four Varieties of Tilapia. Masters Thesis. Louisiana State University.