Fish Shipments
Recommendations
What to Consider Before Shipment:

✓ Age/Size/Health of Fish to be Shipped
✓ Travel Time
✓ Location of Shipment (Across State Lines?)
✓ Fish Health Certificate/Shipment Form
✓ Appropriate Equipment
✓ Biosecurity
Important Factors for Shipment

1. Fish Health

- One of the most important considerations for fish survival during transport is health prior to shipment.
- Best time to transfer fish is when they are healthy (plump, good fin quality, no infections or abrasions).
- Do not ship sick fish! If they are infected with a disease, bacteria or parasite, their immunity is already compromised. These fish are not likely to survive transport. Treat these fish if possible before transport.
2. Discontinue Feed
If fish are feeding, discontinue feed at least several days before shipment. This will decrease stress as well as ammonia levels during shipment.
3. How to Ship

There are a few different ways fish can be shipped, which depends on both the size of the fish and number of fish to be shipped.

1. **Fish Shipment Bags**: Generally used for eggs, larval fish or small fingerlings.

2. **Fish Hauling Tanks**: Generally with high numbers of fingerlings or larger fish.
Fish Shipment Bags:

- Eggs, larval or small fish.

**Step 1.** Net out fish from tank into bucket or container with water.
Step 2. Pour fish and water into fish shipping bag. It is a good idea to double bag the fish.
Step 3. Fill the inner bag with about $\frac{1}{4}$ of both fish and water and $\frac{3}{4}$ of pure oxygen, keep low densities if possible.
Step 4. Take the oxygen hose out and quickly twist the top of the inner bag to hold oxygen in. Place bag in cooler.

Make sure inner bag has good pressure to force oxygen into water. Twist the bag down until the sides of the bag press firmly against the cooler.
Step 6. Take the twisted end of bag and fold over. To firmly close the bag, an elastration pliers and heavy duty rubber rings can be used. Slip the ring over the twisted and folded end using the pliers and release.
Step 7. Tape the twisted end several times around over the elastic band to help seal the oxygen in.
Step 8. Oxygenate the outer bag as well. Twist end, fold over and tape around end (as done in step 7). You do not have to use the elastration with the outer bag, this is simply for precaution in case the inner bag leaks.
Step 9. Each bag should have a separate cooler. Place appropriate amount of ice, ice packs or snow around bags inside cooler to help keep water temperature low depending on species being shipped. Coolers can be hauled in a vehicle to destination or shipped via airlines if needed. After fish have left, disinfect all areas and equipment used.
Step 10. Fish should not be kept over 24hrs in bags. When fish reach destination, place the whole bag in new tank, raceway or pond. Let the bag float in the water for at least 15 minutes to temper the fish to their new water temperature. After tempering, fish can slowly be added to new system.
Fish Hauling Truck

• High numbers of fingerlings or larger fish

Step 1. Make sure you contact an experienced, professional fish hauler for the shipment with appropriate oxygenation, diffusers and monitoring equipment for your species to be hauled.
Step 2. Make sure facility and staff are under strict biosecurity measures especially during transfer.

• Make sure foot baths or mats have fresh disinfectant before and after hauling.
• Use your own buckets, nets or other equipment for hauling.
• Nothing should be brought into your facility unless it is your own equipment.
Step 3. Have fish hauler park at the easiest access to the fish. Make sure hauler personnel, truck, or their equipment stays OUTSIDE of your facility for biosecurity measures. The fish should be brought TO the hauler.
Step 4. If possible, fill truck with biosecure well water at the same temperature water as your fish are being raised in. Inform driver to come with empty, disinfected tanks to fill with your facility’s safe water source.
Step 5. Add sodium chloride (salt) to hauling water, increasing salinity to around .5-.7%. Salinity helps with ease of stress, reducing osmotic pressure, inhibition of nitrite uptake, promoting the slime coat, and helping to healing wounds. The sodium chloride should be free of additives.
Step 5. Once hauling tanks are filled, monitor oxygen and temperature to insure water is ready for fish. Before fish are added to the tank, oxygen should be turned on to elevate O2 levels in tank. Temperature should be within a few degrees of the temperature the fish are currently in. Try a test batch of fish first.
Step 6.
For fingerlings: Designate one person to net fish into buckets half filled with water. Designate other staff to carry the buckets of fish and water to the hauler to distribute in the tanks.
Note: A final Total Body Weight can be taken now as fish are netted out.
Step 6.
For Larger Fish:
Using the facility’s nets, fish can be netted out of tanks and carried out to truck. Only fill nets ¼ to ½ full of fish to lessen worker and fish stress.

• Note: A final Total Body Weight can be taken now as fish are netted out.
Step 7. Once fish are evenly dispersed into hauling tanks, a final monitoring of oxygen and temperature should be noted and recorded.
Fish Health Certificate and Shipment Form
Regardless of shipment, species or numbers, a Fish Health Certificate and Facility Fish Shipment Form should be used.

**Fish Health Certificate**: Is to guarantee the fish you are shipping are certified safe for transfer. This is both insurance for you and a guarantee for your customer. This certificate is provided by your fish veterinarian and should have the species you are shipping listed. Make sure the document is current and accurate before shipping fish.
Fish Shipping Form: Is a document created by you and for your facility or hatchery to document the shipment. Things to include:

- Farm Registration Number (Yours and Farm Destination)
- Shipment Date
- Species, Number of Fish or TBW
- Location To and From of Shipment
- Signature of Fish Hauler
- Water Quality Parameters just Prior to Shipment (Oxygen, Temperature).
- Disclaimer that after fish leave, your facility is no longer responsible for the fish.

Example on next page…

✓ After the hauler signs the fish shipping form, copies should be made of both the shipping form and health certificate. One is for you to document, the other is for the hauler to give to your customer or final destination of the fish.
UWSP-NADF Fish Shipping Form Example:

FISH SHIPMENT FORM

NADF Fish Farm Registration #: 198442-AQ

DATE:_____________________________________________________

PROJECT:_________________________________________________

SPECIES/STRAIN: __________________________________________

SIZE/POUNDAGE:__________________________________________

EST. NUMBER OF FISH:_____________________________________

COST:_____________________________________________________

PICKED UP BY:____________________________________________

SHIPPED TO:  _______________________________________________

Fish Farm Registration #:____________________________________

NOTES:
Questions or Comments?

Contact UWSP-NADF