

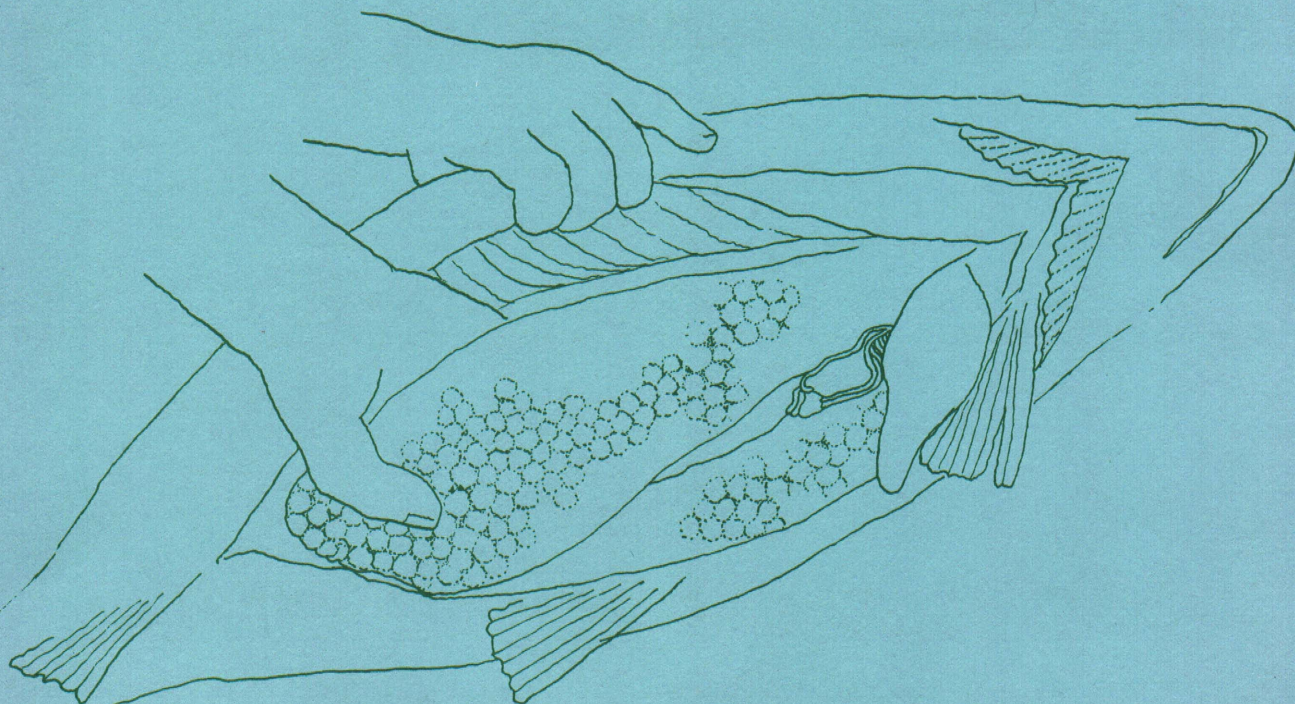
# MICHIGAN STATE UNIVERSITY

COOPERATIVE EXTENSION SERVICE • SEA GRANT ADVISORY SERVICE

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COLLEGE OF AGRICULTURE AND NATURAL RESOURCES



## SALMON EGGS: BAIT AND FOOD



*When you catch a fish filled with eggs (roe) you land a bonus. Many types of fish roe make good caviar. And salmon and steelhead eggs make excellent bait. The quality of the bait or caviar will depend on how you handle the roe prior to treatment. Remove the ovaries, the two membrane sacks filled with eggs, as soon as possible and keep them packed in ice or refrigerated.*

Based in part on: "Bait for Salmon and Steelhead -- Salmon and Steelhead Eggs." By Andy Landforce and J. B. Long. Extension Fact Sheet 152, Cooperative Extension Service Publications, Oregon State University, Corvallis, OR 97331

# CAVIAR

Most people associate caviar with black, salt-preserved sturgeon eggs, the high priced, high quality commercial caviar. In fact, the eggs of many fish species make good caviar. The roe of salmon, whitefish, alewife and any other species with the right size eggs are suitable. Use eggs 1/8 to 1/4 inch in diameter, especially the smaller eggs in this range. Many people use steelhead and coho salmon roe. Chinook eggs are too large to suit some people.

**BRINE RECIPE**

1 GALLON WATER AT 40°F  
4 CUPS CURING SALT

MIX IN NON-CORRODABLE CONTAINER.  
BRINE SHOULD TEST OUT AT 90°  
SALINOMETER.

Roe used for caviar should be in the ovarian membranes. If the ovarian membranes have ruptured and the eggs are loose in the abdominal cavity, use these eggs for bait as they will make inferior caviar.

### Preparation:

Open the fish carefully to avoid rupturing or cutting the ovaries. Keep the ovaries clean and unbroken and refrigerate until curing. The eggs should be clear, firm and free of blood. If they are hard and glassy, do not eat them.

For best results, cure the roe the same day it is taken. Split the egg sacks and rub them on a screen with 1/2 inch openings so that the eggs fall through, but the ovarian tissues remain on the screen. This should be done dry; do not add water to the eggs at any time.

Now cure the eggs in brine. Make the brine from mild cure salt, not table salt. Curing salt is available at farm supply stores, some grocery stores. Use about 4 cups (2 pounds, 7 ounces) salt for each gallon of water at 40°F. The brine should test out at 90° salinometer. A salinometer is a simple, inexpensive device that will help you mix brines to the proper degree of saltiness. Salinometers are available from Sears Roebuck Farm and Ranch Catalog. Check with your county extension agent for other sources in your area.

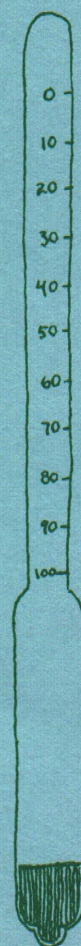
Water temperature is important. The warmer the water, the more salt needed to achieve 90° salinometer.

You will need three times as much brine as you have eggs. Use a glass, earthenware, plastic or stainless steel container. Cure the eggs in the brine for 15-30 minutes, stirring occasionally with a wooden or stainless steel spoon. Watch the process carefully. When the eggs are thoroughly salted they coagulate and are jelly-like. Break one or two shells to test this.

Drain the eggs thoroughly. Draining may require 10-12 hours. If the eggs shrivel, they have been in the brine too long. Carry out the curing process at temperatures close to 40°F to retard spoilage. Do it in a cool basement or garage or your refrigerator.

To store, pack the caviar in sterile containers and refrigerate at 30°-38°F. Caviar prepared by this method with careful attention to cleanliness will keep 6-8 months.

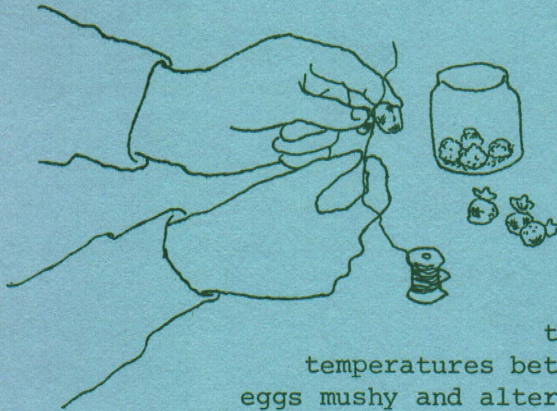
SALINOMETER



# BAIT METHODS

*Most fish eggs make good bait, but salmon and steelhead roes are the most popular. Properly prepared and stored, the bait should keep for a year.*

## FRESH EGGS



Fresh eggs are easily used in chunks. Use a sharp scissors to cut the ovary into bait size pieces. Tie the chunks in squares of fine cheesecloth or nylon stocking. Twist the cloth until it squeezes the eggs tightly and then tie.

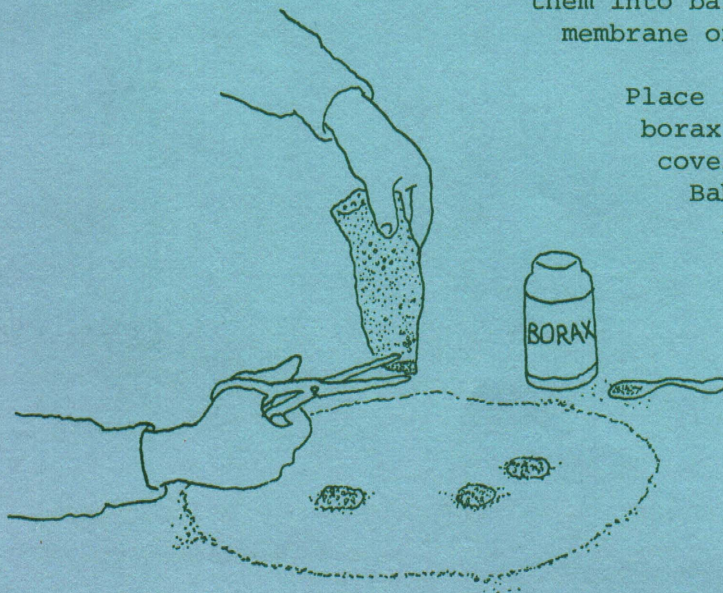
These bait sacks can be frozen for later use. Use the bait as it thaws. Pack enough sacks for one fishing trip into a large plastic bag. If you separate them with waxed paper, it will be easier to get the sacks out one at a time. Quick freeze at temperatures between  $-10^{\circ}$  and  $-30^{\circ}$ F. Slower freezing may make the eggs mushy and alter odor and color. Most home freezers can be adjusted for  $-10^{\circ}$  to  $-20^{\circ}$ F temperatures.

## BORAX PRESERVATION

Borax is available at most grocery and drug stores. It toughens the eggs, preserves their appearance, and inhibits bacterial growth. Tougher clusters stay on the hook longer than fresh ones. Borax treatment also reduces messiness while handling the bait. Use plain powdered borax, NOT Boraxo or other borax laundry aids containing bluing and chlorine.

Use eggs that are still in the ovaries. Remove the ovaries without rupturing them. Roll in paper towels and keep in refrigerator overnight.

When the ovaries are well drained and quite dry, cut them into bait size chunks. Try to leave some membrane on each piece.



Place the chunks in a bag with 1-2 cups of borax, and shake until the eggs are well covered. Pack the bait in glass containers.

Baby food jars work very well. Leave a 1-2 inch space at the top and fill it with borax. Be sure the lid is on tight. The eggs will keep about one month in the refrigerator, and one year in the freezer.

The eggs in these soft clusters crush easily and give off odors. Some people who fish believe it is easier to catch fish with soft egg baits, but drier clusters described next, will keep longer.

## FIRMER CLUSTERS

If you intend to freeze the clusters for long term storage, firmer, drier clusters may be better. Drying time is controlled to obtain the desired firmness.

Spread out a large sheet of paper or plastic where it can remain undisturbed for the time the eggs are drying. As in the other methods, use a sharp scissors to cut the ovary into bait size chunks. Spread them about the sheet.

Sprinkle borax on the separate clusters or allow them to air dry. Borax makes them easier to handle.

If you have a cat-tight garage, you can dry the clusters overnight. To complete the drying process quickly, use a fan or blower. Direct the air flow at the eggs and turn the clusters just as the first glaze forms (about 30 minutes). Continue turning and drying until the clusters reach the desired firmness. Excessive drying causes color loss.

Next, dust the clusters thoroughly with borax, using the paper bag method described earlier. Now pack the clusters in air tight containers. If you want the eggs to stay as tough and dry as when they were placed in the containers, add more borax. The additional borax will soak up juices. This is especially helpful with well developed eggs, or with eggs you intend to freeze.

The firm clusters can be stored at usual freezer temperature of 0°F, but quicker freezing is more desirable. The eggs will keep better if you remove all oxygen from the containers. Put a piece of waxed paper just under the jar lid; light it; screw the lid on tight. The flame will use up the remaining oxygen. The frozen bait should be usable for at least a year.

*Borax methods do not work well for individual eggs. Try one of the following:*

## MILKERS

Milkers are single eggs prepared so that they slowly release a milky fluid. Split the ovaries and place on paper towels to drain. Remove the eggs from the ovary and sprinkle lightly with sodium sulphate crystals. Sodium sulphate is available at most drug stores.

Use the sodium sulphate sparingly. Too heavy an application will over-dry the eggs. Test one or two to see if they are right. Prick an egg with a pin and hold it in the water. It should exude a milky fluid slowly. Place eggs on the hook singly, or use clusters made with cheesecloth or nylon stocking squares as mentioned under Fresh Eggs.

## FIRMER EGGS

Remove the eggs from the ovary or use ripe eggs that are loose in the abdominal cavity. Place the eggs in a brine made of 1 part sugar, 4-5 parts salt and enough water to test 95° salinometer. That is approximately 1 cup sugar, 4-5 cups salt for each gallon of water at 40°F. Leave the eggs in the brine until well cured. They should be firm and stay on the hook well, but not shriveled or rubbery. Store the bait in refrigerator or freezer.

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