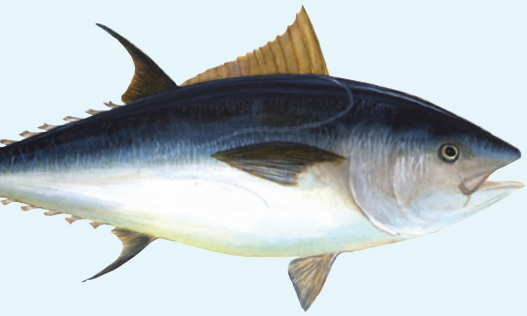
From Capture to Ice - How Handling Tuna Affects Its Price

A TUNA EXPENDS SUBSTANTIAL ENERGY when an angler brings it in, and this struggle can affect the taste and shelf life of the meat. Mishandling can result in human illness, wasted resources and lost income.



1 INITIAL HANDLING

- Keep handling to a minimum.
- Avoid dragging, bending or dropping the fish.
- Avoid gaff or harpoon punctures, especially behind the head — the meatiest section.
- Gaff the fish in the lower jaw and secure it with a tail rope.
- Swim the tuna until it regains its color (anywhere from 30 to 60 minutes) — this decreases the amount of lactic acid in the fish, thus increasing its total value at market.

2 BLEEDING

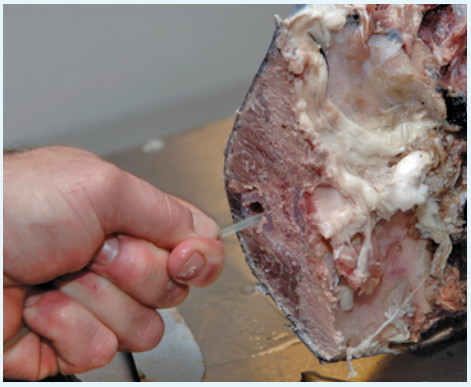
Once revived, bleed the tuna while it is in the water. This increases the color contrast of fish layers, contributes to cooling and removes blood toxins.

- Lift the pectoral fin at a right angle. Make a 1-inch long by 3/4-inch deep incision 2 inches behind the pectoral fin along the ridgeline. Sever the major artery.
- Make a 3/4-inch deep cut in front of the tail fin.
- If needed, rake the gills and cut the throatlatch.
- When the tuna is dead, lift it from the water onto a soft surface.
- Cover and protect the tuna from direct sunlight.

3 GUTTING

Bacteria from a tuna's organs can contaminate its valuable belly meat. Removing the organs accelerates cooling and increases the shelf life of the meat. Always gut within the first 30 minutes after landing.

- Make a shallow 3-inch cut in front of the anus; do not puncture the entrails, which will release stomach acids and bile.
- Using two to four fingers, find where the lower intestine and gonads connect above the anus.
- Sever the lower intestine and gonads here.
- Remove the gills using a small handsaw.
- Empty entrails from the gut cavity.
- Use a wash down hose to remove remaining fluids.



4 DESTROYING THE SPINAL NERVES (TANIGUCHI METHOD)

After the tuna dies, nerve endings along the spinal cord may still remain active. The Taniguchi Method destroys these nerves to prevent further flesh decay.

- If the tuna's head is still attached, locate the soft spot above the eyes. Cut a V-notch to locate the brain and spinal cord.
- Run a heavy monofilament (600- to 800-lb) down the length of the spine to destroy the nerves.

5 CHILLING

- Lower the temperature of the tuna to delay rigor mortis and enhance the quality of the meat.
- After bleeding, cutting and gilling, submerge the tuna in a mixture of two parts ice to one part seawater.
- Stir to prevent pockets of warm water.
- If ice-and-seawater slurry is not available, pack gut cavity with ice.
- Cover the tuna with a thin sheet of plastic, and bury with ice.

(over)

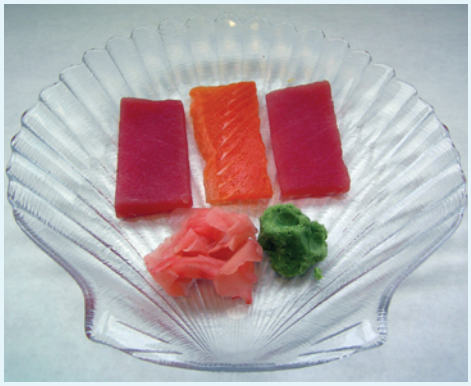
MAIN POINTS

1 Keep handling to a minimum.
2 Bleed the tuna while it is in the water.
3 Always gut within the first 30 minutes after landing.
4 Destroy the nerve endings using the Taniguchi Method.
5 Lower the temperature of the tuna to delay rigor mortis and enhance the quality of the meat.
6 Buyers judge meat quality by color, fat/oil content, freshness, texture, shape and size.
7 Poorly handled tuna can cause histamine poisoning when consumed.

6 JUDGING THE QUALITY OF TUNA MEAT

Buyers judge meat quality by color, fat/oil content, freshness, texture, shape and size. Buyers will look for bright, translucent red meat with a glistening, wet appearance. Fat in tuna meat is more flavorful and thus desirable.

The belly flaps of sashimi-grade tuna have the highest fat concentrations and bring premium prices at market.



7 HEALTH AND SAFETY CONSIDERATIONS

Poorly handled tuna can cause histamine poisoning when consumed. Histamine is an organic compound released from the tissues of improperly cooled fish. Histamine produces food poisoning symptoms, such as nausea, headaches and dizziness. Often there are respiratory effects (swelling of the lips, burning in the throat). In rare circumstances, this can cause death. To avoid histamine poisoning, take special care when handling and chilling fresh-caught tuna.

For more instructional products, including a DVD and an online slide show, visit **www.ncseagrant.org/tuna.**

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Photography by Scott Taylor.

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