

Tribal Fisher's Handbook



*Improving the quality and safety of
tribally harvested salmon through
sanitation and proper handling*



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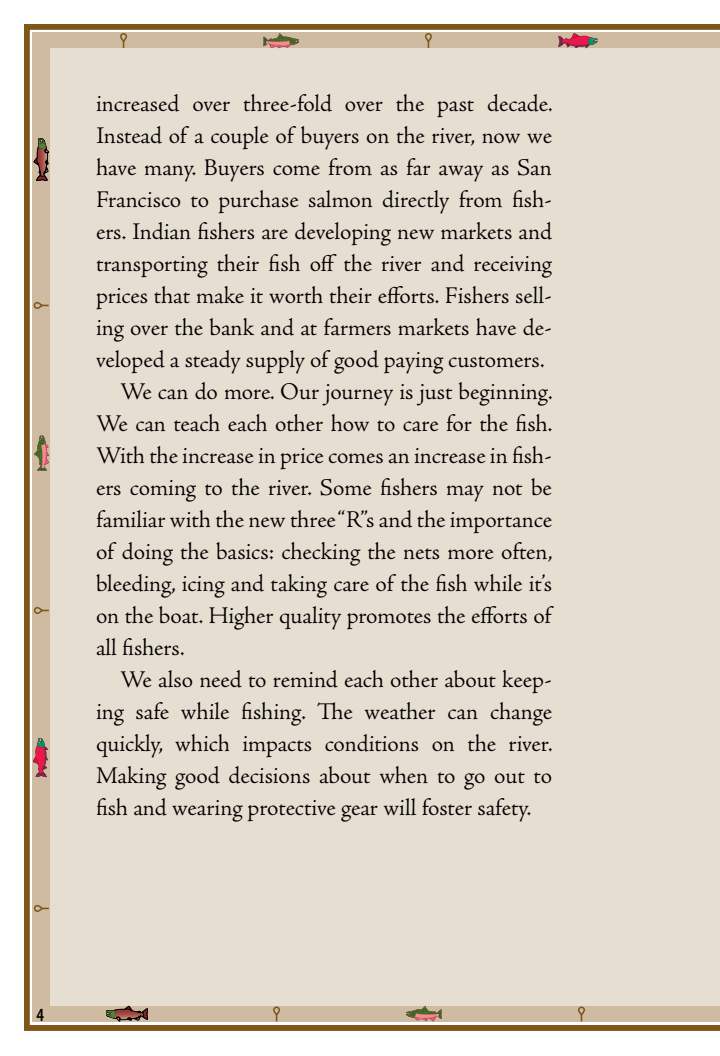
introduction



For thousands of years, tribal fishers have been harvesting salmon for cultural and ceremonial purposes, as well as bartering, trading and selling fish when there was enough to share. In recent years, the marketplace has increased the emphasis on purchasing high quality fish of known origin. Many of you have responded by developing a harvest system that incorporates the three “R”s: harvesting a cold wholesome resource, creating a reliable delivery system and developing good business relationships.

The results have been significant. The price fishers receive for their salmon has





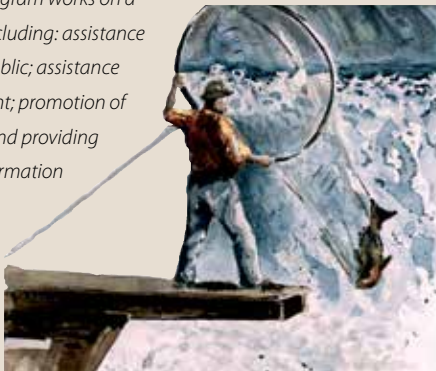
increased over three-fold over the past decade. Instead of a couple of buyers on the river, now we have many. Buyers come from as far away as San Francisco to purchase salmon directly from fishers. Indian fishers are developing new markets and transporting their fish off the river and receiving prices that make it worth their efforts. Fishers selling over the bank and at farmers markets have developed a steady supply of good paying customers.

We can do more. Our journey is just beginning. We can teach each other how to care for the fish. With the increase in price comes an increase in fishers coming to the river. Some fishers may not be familiar with the new three “R”s and the importance of doing the basics: checking the nets more often, bleeding, icing and taking care of the fish while it’s on the boat. Higher quality promotes the efforts of all fishers.

We also need to remind each other about keeping safe while fishing. The weather can change quickly, which impacts conditions on the river. Making good decisions about when to go out to fish and wearing protective gear will foster safety.



Guided by the four member tribes and tribal fishers, the CRITFC Salmon Marketing program promotes ways to increase the economic value of treaty fisheries. The program works on a variety of objectives including: assistance in direct sales to the public; assistance in product development; promotion of traditional products; and providing business planning information and an understanding of the importance of food safety and quality handling to tribal fishers.



To add the most value to your harvest, follow the **Three R's Checklist**



There are three fundamental components to a successful salmon marketing program:

1. Harvest a wholesome **resource**.
2. Master a **reliable** delivery system.
3. Develop strong business **relationships**.

A top Alaskan salmon marketing firm called this approach of focusing on these three principles “The perfect marketing program.”

A summary of elements included in the “three R’s” are included on this checklist. The more items you can check, the greater the quality of your product and positive impact on sales.

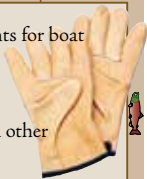
1 Harvest a whole-some Resource

Pre-harvest plan

- ☐ Take a FSMA-based food safety class. Include your crew.
- ☐ Review food safety plan
- ☐ Consider shallow totes to preserve fish quality (*increased weight upon bottom layers in deep totes lowers fish grade and increases spoilage*)
- ☐ Set aside money each season to cover the upcoming year's costs:
 - ☐ Nets new/repair
 - ☐ Totes
 - ☐ Fuel (*boat and equipment*)
 - ☐ Life jackets and other safety gear
 - ☐ Repairs
 - ☐ Labor
 - ☐ Supplies
 - ☐ Packaging and labels



- ☐ Cleaning agents for boat and totes
- ☐ Gloves
- ☐ Rain gear and other clothes
- ☐ Cost of ice/locate resource



During the harvest

- ☐ Use sanitation log (*blank logs at end of handbook*)
- ☐ Keep updated and follow COVID/pandemic safety protocols
- ☐ Clean boat and totes daily
- ☐ Slush ice in totes on the boat
- ☐ Plan for an over abundance of fish that may come from the nets
- ☐ **Avoid fish coming in contact with boat fuel**-it can cause an entire tote to be discarded by buyer or at the plant



- ☐ Check nets often; fish should have:
 - ☐ Shiny eyes and red gills (*not white*)
- ☐ Show no or little net damage or scale loss
- ☐ Keep fish out of wind and sun
- ☐ Avoid crowding, overpacking, or stepping on fish
- ☐ Bleed and cut gills of fish right away
- ☐ Fish handled gently from boat at the dock to the truck (Bruising shows up when the fish is processed)
- ☐ Determine a fish-buyer before fishing to ensure moving product quickly
- ☐ Fish should be off-loaded gently. Buyer should handle fish in a good way. Remind them if necessary-bad fish hurt everyone, including next week's price.

2 Master a **Reliable** delivery system

- ☐ Practice food safety to make a good impression
- ☐ Handle fish carefully with food safety standards in mind
- ☐ Fish delivered in a clean truck, in clean totes, holding cold, fresh, firm wholesome fish
- ☐ Self-grade your fish so the product will always meet customer standards. See page 18-19.
- ☐ Wear rubber gloves, hair coverings and clean clothes



Dependability and Consistency

- ☐ Always be on time
- ☐ If you are going to be late, call as soon as possible
- ☐ Call buyer as soon as possible if fishing is poor and you do not have the fish they are expecting.



3 Develop Strong Relationships

- ☐ Always be trusted
- ☐ You don't have to be perfect, just honest
- ☐ Help buyers look good to their customers by always delivering cold, fresh, firm wholesome fish
- ☐ Help your buyer adapt to the marketplace's demand for known-origin product
- ☐ Give a heads up on changes to the marketplace which may affect the buyer, i.e., more fish, fewer fish, bright fish, darker fish, etc.
- ☐ Be your buyer's "go to guy" and always come through even if it takes extra work to keep a commitment



proper handling

Clean fish and handling areas promote **quality** and **consumer perception**.



CLEANING AND SANITATION

To help promote safety and quality, clean and sanitize all fish contact surfaces including the tote or hold, before delivery.

To begin, surfaces should be cleaned with a weak biodegradable soap/water mix to remove dirt, fish skin, blood, and slime. Next, sanitize with a 10:1 bleach mixture (10 parts clean water to one part *plain* bleach [no color or scent]—or

one quart of bleach for every 2½ gallons clean water), in a five-gallon bucket to make a solution for sanitizing surfaces.

Also have on-hand disposable rubber gloves, paper towels, and no-water hand cleaner (Purell). Your customers may also want to use these items for clean-up as well. Your area should have a fresh smell, no overpowering smell of cleaners or fishy smell.

Have enough water to wash down the fish as they are brought up from totes, held, and sold.

Take care not to contaminate the fish with bleach water.

Clean and sanitize all knives, cutting surfaces, and totes right after delivery to avoid build up of scales, dirt, crud, germs etc., which will be much more difficult to remove after it has hardened.

FISH HANDLING

There are many activities, from the timely checking of

nets, to the careful handling of fish, that impact the quality of the product.


Net marks on the fish indicate tissue damage beneath the skin and muscle bruising.

To increase the quality of gillnet salmon, nets should be picked often so the fish do not struggle in the mesh for a long time.


Gillnet fish should be handled carefully. When picking them from the nets, use both hands. Do not pick them up by the tail and throw them!



Keeping things sanitary is the key to quality.



Throwing fish causes damage to the spine, hemorrhaging, blood staining and bruising. Dropping the fish when retrieving it from the net, from unloading vessels, or placing into totes leaves significant bruising on the inside of the fish. Take precautionary steps to avoid wind- and sunburn by shielding fish from the weather.




Whenever possible, bleed the fish (cut gills) as soon as fish come on board to improve quality. When harvested live, bleed the fish upon landing.

STUNNING FISH: Stun fish while they are still in the water if possible. It is easier to connect with the head while the fish is in the water than on the boat. There will be fewer neck and side bruises from 'misses' and less scale loss.

Strike the fish on the top of the head, between the eyes. Any gaff marks in the neck or body will downgrade a fish.

BLEEDING FISH: Decompo-



sition begins immediately after fish are landed. Blood carries both nutrients and waste materials in fish tissue and following death, all of these nutrients provide an excellent source for bacterial growth, so getting rid of blood is important to maintain quality. A quick jab with a sharp pointed knife just ahead of the heart in the throatlatch works well. Cutting gill arches on each side of the fish after stunning works well too.

Avoid making unsightly cuts or jabs that damage the heart so that it will not pump.

Make sure to keep the fish cool and out of the sun while you bleed it.

Ice immediately.

CLEANING FISH: Keep pace with cleaning as the fish are landed. Clean the older fish first. If you are bleeding fish, this will allow the newer fish a chance to bleed out.

Carefully slit the vent to a point just between the pectoral



(or side) fins. This cut leaves a place to grip for later head-off handling. A cut through the chinstrap can downgrade the fish. Trim gullet attachment and scrape to remove kidney blood. Milk the blood out of the large belly wall veins (a small rubber spatula is recommended). This will help reduce

meat discoloration, particularly on lighter fish.

Scan this code for a bleeding and flushing guide developed by Washington Sea Grant, the Makah Tribe, Pacific Marine Conservation Council and the Washington Trollers Association:



Improperly handled fish are easy to spot. The washed out gills on this salmon result from the fish not being chilled properly, or from being left in the water too long after harvest.

Well-treated salmon are not only more valuable, they are better looking and visually appealing which helps promote sales. This salmon's gills are bright red and well separated, resulting in a higher grade fish.



Ice preserves fish quality and ensures a safe product for your consumers.



Fish that have been properly slush iced can stay fresh for ten or more days.

Use easy-to-clean containers with smooth surfaces and no sharp edges to hold fish.

Use at least one pound of ice for each pound of fish—more is better. Crush or flake ice is better than cubed, as it does not leave dimple marks. If cubed ice is all that's available, use it—it's always better than no ice.

Slush Ice

NOTE: Some buyers will **not** want fish that has been in salted slush ice. Confirm with your buyers if they accept salt slush iced fish and if there are restrictions of salt slush ice wastewater at their facilities. If you have questions, please contact Salmon Marketing.

Slush Ice Recipe

- ♦ up to 5 lbs. **food grade** salt (*ice cream salt, not road salt or water softening salt as these are not food grade*)
- ♦ $\frac{1}{3}$ tote flake ice
- ♦ Fresh water

Instructions: Fill a clean, non-leaking tote $\frac{1}{4}$ full with **fresh water**. Add **salt** and stir until completely dissolved. Stirring continuously, add **ice** until the mixture is the consistency of a Slurpee.

Adding fish to slush ice: Grasp fish by the tail and gently force into the slush solution head first until completely submerged. When the tote is nearly full, add a layer of ice on top of the slush to ensure that all of the fish are properly chilled.

Slush solution should be discarded after each use and the tote cleaned before making the next batch of slush ice using fresh ingredients.

The temperature of fresh water and ice is 32°F. By adding salt, the temperature drops to about 28°F yet stays liquid. Salt, a natural preservative, also slows the rate of bacterial growth. This combination of water, ice, and salt is called “slush ice.”





Bulk Stowage

The proper method for icing fish is to place 8-12 inches of ice at the bottom of the tote. Place the fish on ice facing the same direction, belly up, head sloping slightly down, leaving space between fish for ice. Shovel ice over fish. If the fish are gutted and gilled, pack the belly and head cavity loosely with ice, covering fish so they are barely visible; level ice and repeat with next layer of fish. Never stack more than three levels of fish in a small tote.

Fish should never touch the sides of the tote or each other. Each one should be completely surrounded by ice.

Place a scoop of ice in the gut and gill cavity of each dressed fish.

Bank up each layer of ice on all sides of the tote. This insulates the fish better. Banking up ice will keep the tote colder.

Completely cover the top layer of fish with ice and replace the top ice as it melts.

Drain off the melted ice to maintain good fish quality.

Cover totes with light-colored tarps as they absorb less heat than darker ones.

Once fish is iced, the container temperature should be monitored with a stem-type thermometer to ensure the fish core remains 38°F or lower.

◀ Cube ice can be used to make slush ice if flake ice is not available.



A properly iced fish ready for sale.

Self-grading Fish Top Ways That Fish Lose Value



1. Fish left in nets too long or infrequently checked nets
2. Not understanding the value of quality handling or using proper handling processes
3. Slow cooling—little or no ice used
4. Fish and site are not clean
5. Bruising
6. Sunburn or wind burn—fish are not iced or shielded from the weather
7. Meat separation
8. Belly burn
9. Fish turns blush, or pale
10. Broken backbone
11. Hemorrhaging along bloodline
12. As mesh size regulations allow choose a net that matches the target fish's size to avoid catching fish by the belly
13. **Dropping fish and rough handling**

Issue	Poor Handling	Little/No Ice
Bruising	✓	
Sunburn/windburn	✓	✓
Meat separation	✓	✓
Belly burn		✓
Blushing		✓
Broken backbone	✓	
Hemorrhaging	✓	
Bloodline	✓	



Quality Checklists

To meet federal food safety regulations and buyer requirements, each fisher should have a sanitation program.

The checklists on the following pages will meet those requirements. After you have completed the checklist each week of the season, have a HACCP- or FSMA-trained fisher

review it and sign off. It is a good idea to save these records (or copies of them) for one year.

New federal food safety laws require that all foods be tracked from the supplier to the customer. For packaged fish including fresh fillets, you should give your buyers fish labeled with a date or lot code on it. For over-the-bank sales, give your customers a dated receipt.



Honoring the tradition of over-the-bank sales



Ways to maximize your sales in today's market place.

The following suggestions based on the FDA's Food Code will add value to your product and promote repeat customers.

1. Wear clean clothing and have a clean vehicle and coolers. If selling from a tailgate, be sure it is sanitized; a covered canopy is desirable and in some public markets, required.
2. Don't smoke or eat around the fish or in front of customers.
3. Don't work if feeling sick or with open wounds. Stop the spread of food borne illnesses. Keep hands and surfaces clean with towels, bleach solutions, water, hand sanitizer.

4. Wear disposable gloves when handling fish and change gloves after doing things like handling money or equipment.
5. Leave your dog at home.
6. Display fish in a thick bed of fresh ice or in fresh, clean slush and keep under some type of cover. Dressed fish should be kept belly down when displayed on ice. Keep a thermometer in the ice. Monitor and record temperature.
7. Know the different types of fish for sale, when they were caught, and where and how they were caught. Be able to explain how the fish are handled and what is done to keep them fresh.
8. **Sell fresh fish either whole or cleaned with the head on.** *If you sell* fillets, steaks, or smoked products, they should be vacuum-packed at a HACCP-approved facility and labeled to include fish species, date of pack, and temperature holding requirements, including the mandatory label “keep refrigerated at 38°F or less.”
9. When weighing fish, use scales approved for trade by the state you are in.
10. Respect other fishers’ selling spaces. We are all in this together.
11. Have a business license and/or health permit if your selling location requires them.
12. Scan this code to watch a video produced by Oregon SeaGrant and CRITFC about safe over-the-bank sales



FSMA principles

The seven FSMA-based safety principles



Many consumers seek out fishers with food safety training when making their fish purchases. By following these guidelines, you are telling the public that you care about your product and your customers' safety.





1. Conduct a hazard analysis.

Determine potential food safety hazards and identify the controls for each.

2. Identify preventive controls and sanitation controls for food safety hazards you identify.

A preventive control provides assurances that hazards will significantly minimize or prevent a hazard from occurring, such as temperature control. A sanitation control is a procedure or practice to make sure your facility or site





is clean and sanitary, reducing the risk of dangerous microbes or harmful materials from becoming part of the food.

3. Establish parameters for these controls.

Determine how you are going to establish temperature control, proper labeling, lot or product codes, along with how to run your sanitation program.

4. Monitor your food safety activities.

Monitor activities that are part of your food safety program.

5. Identify how to correct problems if you lose control of a food safety hazard.

Take action when a critical limit has been exceeded. A food safety plan identifies the corrective actions to be taken if a critical limit is not met.

Corrective actions ensure that no unsafe product is marketed.

6. Have records for preventive controls and sanitation.


A simple record system is best. Start with the sanitation checklist included at end of this booklet.

7. Make sure your food safety plan is working to control hazards.

Check your plan each season to make sure it still reflects what you do and still works to control hazards.

CRITFC Salmon Marketing is always available to assist fishers with any questions about selling fish directly to the public: (503-238-0667)





Canning resources



Fishers at a food safety canning class. The workshop focused on both subsistence and commercial requirements and was sponsored by the First National Development Institute's food safety grant.

Here are several regional canneries that can process your harvest.



Oregon Seafoods

Coos Bay, Oregon

(541) 266-8862

Tony's Smokehouse

Oregon City

(503) 655-2488

Dungeness Development

South Bend, Washington

(360) 875-5507

Safe Coast Seafoods

Ilwaco, Washington

(360) 642-3773

Chuck's Seafood

Charleston, Oregon

(541) 888-5525



Home Canning Guidelines for Salmon

(Home-style canning jars, lids, and rings)

Recommended process time for fish in pint jars in a
DIAL-GAUGE pressure canner

Canner Pressure (PSA) at Altitudes of

Style of Pack	Jar Size	Process Time	0-2,000 ft	2,001-4,000 ft	4,001-6,000 ft	6,001-8,000 ft
Raw	Pints	100 min	11 lb	12 lb	13 lb	14 lb
Smoked	"	110	"	"	"	"

Recommended process time for fish in pint jars in a
WEIGHTED-GAUGE pressure canner

Canner Pressure (PSA) at Altitudes of

Style of Pack	Jar Size	Process Time	0-1,000 ft	Above 1,000 ft
Raw	Pints	100 min	10 lb	15 lb
Smoked	"	110	"	"

***Note:** Several additional steps and procedures are required for sale of canned salmon products to the general public.

—USDA Complete Guide to Home Canning, Bulletin No. 539

Use this code for the USDA Guide to Home Canning guide



<https://bit.ly/usda-canning-guide>

Farmers Markets

Bringing your harvest
directly to customers



Farmers markets in the Northwest are popular and located in a growing number of communities. Many of today's consumers appreciate local and seasonal products and will pay premium prices for premium products. Over 30 farmers markets operate within a 100-mile radius of

Columbia River Indian fishing sites. Currently the closest large markets are in Portland, Gresham, Beaverton, Lake Oswego, and Hillsboro. Other cities in Oregon, including Hood River, The Dalles, Troutdale, have smaller markets. In Washington, Goldendale, Prosser, the

Tri-Cities, Camas, Vancouver and others have small markets within reach of tribal fishers.

While you can sell directly to consumers at farmers markets and avoid intermediaries, you must compare the cost of transportation, the selling station and vendor application fees (usually small) with potentially higher prices. There may also be requirements for having potable water on-site, keeping totes covered during non-sale periods, and using state-certified scales for sales. Page 31 offers information on how much to increase price per pound for your fish to recover mileage costs.

Each market requires a separate application.

Visit these state farmers market association websites for the latest information on market locations and guidelines:

OREGON

Oregon Farmers Markets Association



[www.oregonfarmersmarkets.org/
find-a-market](http://www.oregonfarmersmarkets.org/find-a-market)

WASHINGTON

Washington State Farmers Market Association



wafarmersmarkets.org

IDAHO

Idaho Farmers Market Association



www.idahofma.org





Consider the American Indian brand



“Made by American Indians” is a registered trademark approved by the United States Patent and Trademark Office in 1995. The Intertribal Agricultural Council developed the trademark to increase the market share of authentic American Indian-made products. More than 500 tribes or tribal members are currently displaying the

licensed trademark “Made/Produced by American Indians.”

Fish, meat, game, fruits, and vegetables are among the approved products eligible for the “Made by American Indians” trademark. Eligible value-added products such as smoked or canned salmon, may be labeled with the “Made/Produced by American Indians,” if the prod-



uct was processed in a plant at least 51% owned by American Indians.

Note that compliance with the trademark rules does not exempt a producer or user from complying with other federal or tribal laws and rules relating to labeling, interstate transport, and international trade agreements.

Authorization to use the trademark is based on approval of an application. Use of the trademark is free, but as demand increases, this may change. The trademark license must be renewed each year.

Visit the Intertribal Agriculture Council's website for more information and to download an application.

<http://indianaglink.com/madeby.html>

Fishing Industry Resources

Ecotrust.org, a non-profit organization located in Portland, has extensive experience working with fishers, farmers, and ranchers both individually and in group settings.

With individual fishers, Ecotrust offers business development services such as creating business and marketing plans, conducting feasibility studies, and writing grant applications. In group settings they have provided instruction from experts in business structure, finance, taxation, accounting, credit, market development, food justice and more. Learn more at www.ecotrust.org; Contact at (503) 227-6225 or email to foodsystems@ecotrust.org



MARKETING RESOURCES



Consider the American Indian brand

Approved in 1993, the “Made/Produced by American Indians” trademark successfully and clearly identifies authentic American Indian made products from federally recognized Tribes and Alaskan Native Villages. The trademark was created to protect Indian producers and consumers from fake and falsely advertised Indian-made products. Heavily promoted and marketed by the Intertribal Agriculture Council,

the “Made/Produced by American Indians” assists American Indian producers in improving their market success, thereby increasing the economic base of the Indian producer and their community. Over 500 licensed trademark users have participated in this program and users are continuously added. Producer as well as consumer interest continues to grow and offers improved marketing potential for all Indian producers through national and international exposure. The IAC’s American Indian Foods program manages certification and authorizes use of the trademark. To qualify: The user or participant must be a federally recognized Tribal member, tribal entity, or an Alaskan Village as defined by law. Or at least have a controlling 51% share interest. The trademark

Learn more about IAC at www.indianag.org.

license must be renewed each year. Use of the trademark is free, but as demand increases, this may change.

Visit the Intertribal Agriculture Council's website to submit an online trademark application and learn about other resources IAC offers - www.indianag.org.

Promoting and Marketing American Indian Producers

The IAC's American Indian Foods offers services to support Native American and Alaskan Native agriculture producers and food businesses.

Export Program - Marketing products and culture on a global platform. Emphasize export readiness and exposure to International markets.

Native Food Connection - Domestic market opportunities through Native-led organizations, conferences, and retailers.

"Made/Produced by American Indian" (MBAI) Certifying Trademark

- Established in 1993, the trademark certifies a product is 100% made or produced by a federally recognized Tribal entity or individual.



View the AIF Trademark Directory at www.indianagfoods.org/producers

Production costs



The price you charge for your product should cover all your costs. The production costs fall into five categories.

Harvest costs: gas, oil, ice, boat maintenance.

Transportation costs: gas, ice, possibly lodging and food if the distance is too far to make the trip in a single day.

Production costs: processing the product, including

cleaning, gutting, icing, packaging, and cleaning supplies. See detailed information on the next page.

Distribution costs: shipping, and delivery.

Marketing costs: product labeling and advertising. If selling over-the-bank, the costs of purchasing state-certified scales may also be a consideration.

Increase price per pound by listed amount to recover mileage.*

*mileage amount is the 1/2016 federal reimbursement rate of 56¢/mile

lbs. of fish in delivery	84 miles R/T (Cascade Locks to Portland)	200 miles R/T (The Dalles to Portland)	300 miles R/T (Boardman to Portland)	600 miles R/T (The Dalles to Seattle)
100	\$0.47	\$1.12	\$1.68	\$3.36
200	\$0.24	\$0.56	\$0.84	\$1.68
300	\$0.16	\$0.37	\$0.56	\$1.12
400	\$0.12	\$0.28	\$0.42	\$0.84
500	\$0.09	\$0.22	\$0.34	\$0.67

Round vs. cleaned price converter

Price/lb. in the round	Equivalent price/lb. for cleaned*	Price/lb. in the round	Equivalent price/lb. for cleaned*
\$2.00	\$2.48	\$4.25	\$5.16
\$2.25	\$2.78	\$4.50	\$5.46
\$2.50	\$3.08	\$4.75	\$5.75
\$2.75	\$3.37	\$5.00	\$6.05
\$3.00	\$3.67	\$5.25	\$6.35
\$3.25	\$3.97	\$5.50	\$6.65
\$3.50	\$4.27	\$5.75	\$6.95
\$3.75	\$4.56	\$6.00	\$7.24
\$4.00	\$4.86	\$6.25	\$7.54

*factors in 16% weight reduction and a 10¢/lb. cleaning fee

Value-added production costs



Value-added products generate higher prices, but they also cost more to make. The following information can be used as a guide, as prices vary from year to year. The costs are based on processing expenses typical of custom processors that provide services to clients bringing in less than 500 lbs. of fish. They also reflect a profit for the processor. These estimates are not to be used for actual process-

ing costs that a tribal-owned facility would incur, which in some cases may be substantially different.

Also note that recovery from whole salmon to fillets is 55%.

To determine a price for your product, account for **all** your costs, including the harvest, transportation, production, distribution, and marketing costs.

—information provided by Oregon SeaGrant



Frozen Vacuum-packed Fillets

- 25¢/lb. to fillet whole fish into fillets
- \$1.25 per bag (1-2 lb. vacuum-pack bags) plus label



Individual Quick Frozen Fillets (Shatterpack)

- 25¢/lb. to fillet whole fish into fillets
- 10¢/lb. glazing cost
- 10¢/lb. packaging cost (box and label)
- 45¢/lb. for a 20 lb. IQF box (bulk storage)



Hot Smoked Fish (vacuum pack)

- Figure \$4.75/lb. of finished smoked fish to brine, smoke, vacuum package and label fish starting with incoming fillets
- Figure 75-80% yield from fillet to final product, actual cost then is near \$6.00/lb. for finished product ($\$4.75 \div 0.75 = \6.33)



Canned Salmon

(Starting from incoming head off dressed fish or fillets)

- \$2 per can (6-8 oz. can) fresh pack, includes box, not label
- \$3 per can (6-8 oz.) smoked and packed, includes box, not label



Retort Pouch

(Starting from incoming fresh or smoked fillets)

- \$1.20 per 6-8 oz. pouch, no label
- \$4.50 per 2-3# food service pouch, w/ label
- Add \$1 per pouch for 2-hour cold smoke

Direct-to-the-public fish sales



By improving quality, tribal fishers have created new market opportunities for their fresh fish/salmon products. Direct sales to the public at roadside stands and farmers markets can help you sell fish at a better price.

What you need for your fresh fish stand or selling station are the following items:

- ☐ Pop-up tent cover
- ☐ Certificate to purchase “fish for sale” signs
- ☐ 168-quart cooler to meet food safety temperature requirements
- ☐ Certifiable market scale to determine the correct weight
- ☐ Cleaning supplies
- ☐ Packaging and labels




CRITFC's salmon marketing program distributes these fish sales receipts, but any kind of receipt will be acceptable as long as these items are included:

- Fishers' information including tribal affiliation and ID number
- Buyers name
- Number and kind of fish sold
- Date

This receipt protects your buyers and provides you a record of your sales.

FISH SALES RECEIPT



Columbia River Indian Salmon Harvest
 Yakama · Warm Springs · Umatilla · Nez Perce
 (888) 289-1855 · www.critfc.org/harvest

FISHER	Name _____		Tribal ID _____	
	Phone () - -		Tribe _____	
BUYER	Name _____			
	Phone () - -		Email address _____	

	# of fish	total lbs	price/lb	total
FISH PURCHASED	Chinook			
	Steelhead			
	Coho			
	Sockeye			
	Other			
	Other			

Pool ☐ BONN ☐ DALLES ☐ JDAY ☐ _____

Date / /

Total

Thank you

- ☐ Stem thermometer, food grade gloves, hat, apron
- ☐ Receipt book
- ☐ Advertising materials

- ☐ A FSMA training class and a food handler's card may be required for some selling locations, such as a farmers market.



Staying safe for yourself, your family, and your tribal community



Fishers come into contact with a variety of people, so it is important to take precautions.

Fisher Safety

- ☐ Get vaccinated
- ☐ Regularly wash your hands with soap and water or hand sanitizer.
- ☐ Don't touch your face. Cover sneezes and coughs with your arm or a cloth, not your hand.
- ☐ Wear a mask when around others who are not in your immediate household.
- ☐ Stay home if you are sick or have been exposed to COVID-19.
- ☐ Only one group at fish cleaning stations at a time, even if one side is not being used.

Selling Wholesale

Wholesale dealers and processors may change from their normal practices to address COVID risks. Keep in contact with your buyers for any updates on their plans and procedures. Expect to see modified procedures such as limits on the number of people in the buying area, an emphasis on sanitizing totes, and a touchless transaction process.

Selling to the Public

- ☐ Keep masked when dealing with customers
- ☐ Use hand sanitizer regularly and between customers. Offer hand sanitizer for customers
- ☐ Maintain a six-foot distance when talking to customers. Encourage customers to maintain 6-foot distance from each other if a line develops.

- ☐ Create a touchless protocol to get fish to your customer. For example, placing the fish on a table or tailgate and stepping away for the customer to get it.
- ☐ If you have a smart phone, consider using a mobile payment system like Venmo, Cash App, PayPal, or Square to create a touchless transaction system.
- ☐ Cash is a potential spread vector. If you do accept cash, use hand sanitizer after handling the money.

Scan this code to watch a video produced by Oregon SeaGrant and CRITFC about safe over-the-bank sales:



Operation Stay Afloat







In 2011, CRITFC Enforcement launched a 5-year boat safety program for Columbia River tribal fishers. Operation Stay Afloat, which offers classes and other services, provides officers the opportunity to give fishing boats a safety inspection. The inspection helps you identify problems and fix them. You'll receive a sticker once your boat passes the safety inspection.

- Umatilla tribal members are required to have proof of a safety inspection by CRITFC or CTUIR enforcement officers.

Here are some facts and additional safety tips from Operation Stay Afloat.

- Be aware of the risks involved in fishing
- About 30% of all deaths are attributed to fishing ac-



cidents, according the U.S. Coast Guard. Of those:

- ✦ About 90% are related to not wearing a personal flotation device
- ✦ About 85% are related to a person going overboard or the boat capsizing
- ✦ About 50% are also related to alcohol and prescription drug use. The impact of alcohol when you are out on the water is twice what it would be if you were on land. This is because of noise, vibration, heat, and fatigue when you are operating a boat.

- ✦ Beware of issues like weather, condition of your vessel, and overloading
- ✦ To report difficulties or for more information about boat safety inspection and other safety concerns, call (541) 386-6363.

If you're new to Columbia River fishing, you need to learn boating and personal safety. CRITFC offers classes on cold water survival, boat engine maintenance, and safe boating practices.

safety

Safety first



US Coast Guard life vest training session, Swan Island, Portland.

Be safe so you can bring your catch ashore and return home to your families. Know what safety equipment you need and what you should do to avoid dangers. Be prepared. If someone goes overboard, your boat gets swamped or you have other emergencies, be ready and know how to survive.

Life saving equipment and practices include personal and

boat flotation devices, boat engine maintenance and repair, knowing how much weight your boat will hold and not overloading it, personal locator beacons, and not using drugs and alcohol while fishing. As the operator or captain of a boat, you are responsible for the safety of yourself, your crew, and damage to property.

Personal Flotation Devices

All boats must have a personal flotation device (PFD) of proper size, in serviceable condition, and accessible for every occupant. There are many PFD styles to choose from. Select one that fits properly, is highly visible, and is suitable for wearing while working with fishing gear. Read the owner's manual to make sure you know how to properly use and maintain your inflatable PFD.

Here are some tips—also described in the owner's manual—to keep your inflatable PFD in top condition:

- ♦ Before each outing, check the status of the inflator and that the CO₂ cylinder has not been used (punctured), and is screwed in tightly. (A cylinder is either used or not; empty or full.)

- ♦ Occasionally check that the PFD itself has no leaks by

removing the CO₂ cylinder and inflate the PFD with the mouthpiece. The PFD should still be firm after several hours.

- ♦ After an inflatable PFD has been inflated using a cylinder, replace the spent cylinder and re-arm it.

Railroad Crossing

For safety sake, always yield to a train and cross railroad tracks with care. Need convincing? Look at these facts:

- ☐ Trains take a mile or more to stop. They CANNOT stop quickly
- ☐ The average locomotive weighs 400,000 pounds
- ☐ Trains are wider than the tracks
- ☐ Freight trains do not travel on a fixed schedule
- ☐ Expect a train from either direction, on any track, at any time



Coldwater survival



If you accidentally fall into the river without a PFD or life jacket on—you have a chance of drowning.

The good news is you can survive a fall into the river.

The Columbia River is known for its winds, heavy waves and currents. Cold water temperatures can also make it dangerous. From February

through April, the water temperature on the river is around 50°F. From May until the latter part of August, temperatures usually range between mid 50°F to 68°F. (Data from Fish Passage Center.)

Noting the chart on Coldwater Accidents, falling into the water at these temperatures can be fatal.



Coldwater Accidents

In water under 50°F = 60% drowned

In water between 50-68°F = 34% drowned

Of those who drowned = 43% were less than 6 feet from safety

Of those who drowned = 90% were not wearing life jackets

—National statistics from the U.S. Coast Guard Drowning Report (2007) and Lifesaving Society Study (2007) that are consistent with Columbia River accidental drowning.



Your odds of surviving a fall into the river are **much** better with the PFD. Here is how a PFD can help you survive:

- ☐ The very first thing to remember is just survive the first minute. Don't panic and get your breathing under control.
- ☐ Keep your head above water. The gasp reflex is automatic, and if your head is underwater, you could take in enough water to drown.
- ☐ Control your breathing. Gasp and hyperventilation is a natural reaction to the cold. If

you can't control your breathing, not only could you have difficulty swimming, you could breathe water in and drown. Concentrate on breathing slowly and evenly.

- ☐ After getting your breathing under control that first minute, there are 10 minutes of meaningful movement in your arms and legs to complete escape or survival activities. Use that time to re-board your boat and summon help via an emergency distress call or signal. As



the body cools, muscles and nerves will not work well and even if you are a good swimmer, swimming failure looms. Without some kind of flotation aid, a person will drown.

□ Depending on water temperature and other factors, it will be at least one hour before you risk becoming unconscious due to hypothermia. A PFD will keep your airway above water even if you are unconscious,

Safety Positions

Swimming may not be the best option. The rushing of the cold water across high heat loss areas (head, neck, arm pits, body sides and groin) causes a victim to lose heat much more rapidly. The best solution is to get as much of the body out of the water or to assume a fetal position or HELP (Heat Escape Lessening Position) to reduce heat loss. For a group, use the Huddle position.







The HELP position



The Huddle position

illustrations from Maritime New Zealand



and even an unconscious person may still be successfully rescued and revived.

from "Beyond Cold Water Bootcamp"

Distances on the water are very deceptive. Generally individuals should not consider swimming unless they are very close to shore or a floating object, or they have little chance of rescue. Columbia River fishers have been successfully rescued after waiting six hours with their floating boat. Try to get into the boat or as far out of the water as possible. Boats with their flotation removed or without places to cling to in rough water may not offer this option. Fishers wearing a PFD can be more liberal in deciding to swim because flotation allows them to gradually make their way to safety and they can still float if they become incapacitated by the cold.

"Hypothermia Frostbite
and Other Cold Injuries"

Giesbrecht and Wilkerson, 2006

Clothing is invaluable; if you wind up in the river, it will help insulate you, and nearly all of it is neutrally buoyant. An average-size person wearing light clothing and a PFD may survive three to six hours in 50°F water by remaining still.

Hypothermia

TREAT HYPOTHERMIA
VICTIMS GENTLY!

1. Call EMS/911.
2. Check vital signs and begin CPR if necessary.
3. Remove wet clothing if possible. If that is not possible, wrap the victim, wet clothing and all, in a vapor barrier (plastic sheeting or a tarp), and then place in as much insulation as possible (i.e., one or even two sleeping bags). The tarp will keep the insulating material from getting wet and losing its effectiveness.
4. Insulate from further heat loss by dressing the victim in dry

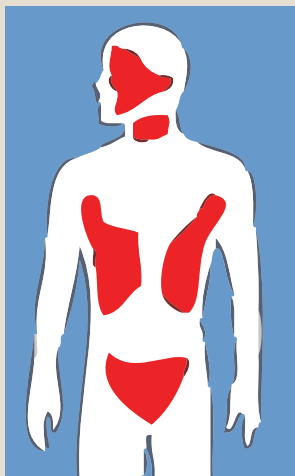


clothes and/or wrapping in a blanket.

5. Slowly re-warm the victim through body-to-body contact, warm towels, or a heating pad on the high heat loss areas.

Remember, the ultimate goal during a rescue and treatment is to be gentle and keep the victim horizontal.

from "Beyond Cold Water Bootcamp"



Once someone is rescued, insulate them to prevent further heat loss and apply heat to the neck, head, and other high heat-loss areas of the body. Perform CPR on the rescued person and if needed, first aid.

Signalling your distress is most important, and multiple methods will improve your odds of getting help. A personal locator beacon, flares, waterproofed cell phone, or a VHF radio used along with or in combination, are going to improve your odds of getting help.

High heat-loss areas.

Personal Locator Beacons

Consider a personal locator beacon. It is a small, handheld device that quickly gives search and rescue authorities your location during an emergency. While you should also have other types of signaling devices, the personal locator beacon gives search and rescue your exact coordinates, speeding their effort to find you on the Columbia River. Such coordinates will especially be helpful at night when it's harder to see you. Bright colors, reflective tape, and strobe lights will help, too.

The locator beacon uses standard GPS (Global Positioning System) technology; the same as might be used in a car. Unlike the GPS in your car, once

you manually activate this signaling device, it's like a 911 call and is treated very seriously.



safety

Boat safety







Tribal Gillnetters on the Columbia and Snake Rivers and their tributaries pose unique challenges when it comes to load management and minimizing the dangers of swamping when the going gets rough. Stay out of the DANGER ZONE by following these 3 fundamental principles:

- ☐ Keep the weight LOW in

your boat

- ☐ Maintain adequate FREE-BOARD
- ☐ Be aware of SWAMP-ING dangers

Fish totes are a nice way to store your fish and preserve their quality but can add lots of weight at a tall height that








can diminish your stability. A half-size fish tote can weigh 600 pounds with just a load of slush ice—NO FISH! If you do use a fish tote, use only on a boat with a LOW deck and a high freeboard.

FREEBOARD is your Reserve Buoyancy. Think of it as your SAFETY ZONE. Allowing your vessel to become overloaded (thereby reducing your freeboard) you are shrinking your safety zone and it won't take much to put you into the danger zone!

SWAMPING or having waves and water come up over the side and swamping the inside of your boat is a very real danger, especially on windy days. Wind waves can build and peak as much as 6 feet with a short distance between each crest. A small vessel will experience a very rough ride and can pitch into the steep

waves. Monitor the conditions, anticipate precautions on windy days. Find a safe shelter and wait for the winds to abate before putting your vessel and crew at risk!



Fiberglass repair







Fiberglass boats are great. They resist corrosion and rot, are easy to modify and repair, and when maintained properly will last for decades. Below are some tips on getting the most life out of your boat.

Prevention, of course, is the best measure and less costly than repair work. If you have areas that receive lots of abuse,

consider reinforcing those areas ahead of time. For example, if you are constantly banging up the hull while hauling gear, place strike plates of plastic or metal over those areas of the hull.

If you are not able to prevent damage, you should perform timely and proper repair. Fixing issues quickly prevents the



damage from spreading and shows your crew that you care about the boat and their safety, which in turn lets them know they should respect the boat as well. A boat that is not repaired in a timely manner may become unsafe through structural failure or water ingress.

Proper repair is key to any repair job. Some key points to a proper repair are: structural soundness, good bonding, appropriate materials. A good repair will return the boat to the same or better structural strength than it was before the damage occurred. A major key to this and perhaps one of the most common reasons repairs fail is due to poor bonding. When rebuilding laminate or patching holes of significant size the key is to bevel the repair area and increase the surface bonding area. A good rule of thumb is that for every inch of laminate thickness,

there is at least 12 inches of surface bonding area when using epoxy and 1:20 when using polyester resin (i.e., if the laminate is $\frac{1}{8}$ " thick then the bevel face should be $1\frac{1}{2}$ " with epoxy and $2\frac{1}{2}$ " with polyester resin). The other key to a good bond is keeping the repair area clean. Remove contaminants such as oil, grease, or dirt from the repair area as they will negatively affect the bond. Use the appropriate materials. Fixing a large crack with Marinetex may be a quick fix but it will ultimately fail. The right materials must be used for a repair to be structurally sound and long lasting.

—Content provided by Matthew Weaver,
Fiberglass Supply Co.

Engine care







With annual maintenance, end-of-season weatherization and the right fuel, you can prevent most engine problems.

Yearly maintenance

Be ready for the next fishing season. Replace your lower unit grease at least once a year. Replace your water pump propeller at least once a year. Check your zinc fittings and lubricate at least once a year.

Zincs are sacrificial anodes that the process of electrolysis will attack before it attacks something more valuable like the metal in your lower unit or thru-hull fittings.

Check the propeller more often than that to see if water is present. Inspect the propeller and shaft to make sure they are not bent. To find out, spin the blades to see if the propeller shaft wobbles. If it does and



you're getting water in the lower unit, you may need more work on the lower unit.

End-of-season weatherization

Check the lower unit to see that no water is in the unit. Drain it. Put fresh lower unit gear oil (refer to the manufacturer's recommendations). Run the engine on a garden hose. Run all the fuel out of the carburetor to empty and dry the engine. Do this whether you have a two cycle or four cycle stroke, outboard engine.

Any gas left inside creates a varnish that can be a problem when trying to start the engine. Fuel—gas with ethanol—can't be left sitting in the engine.

Don't use old fuel

Fuel older than 15 days can be damage your engine.

Adding stabilizer may give you another month of fuel use, but after that, fuel with a stabilizer will also damage your engine.

You don't want to have problems with old fuel once you are out on the river. Marine fuel contains ethanol, which is alcohol-laden gas. This fuel absorbs water from the air and sinks to the bottom of the fuel tank. When you are running on water-laden fuel, your engine doesn't run well. With older gasoline as it separates, the engine runs through the high octane gas, then goes to the low octane, which can burn up your engine. Never use gas left over from the previous season.

Minimize engine problems by keeping moisture out of the lower unit, preventing rust, and weatherizing it for the off-season.

—Content provided by Larry D. Blais, boat engine expert..



Sanitation Checklist (Meets HACCP Requirements)

Sign or initial each box after task has been completed each day. Make copies of this page to last through the whole season.

Boat or Harvest Pool

Fish Harvesting Date

Boat

Fish contact surfaces are clean and sanitized.

Cooler/Fish box

Clean and sanitized.

Water

Water is potable.

Ice

Ice is clean, made from potable water, and enough to keep fish cold.

Knives, Cutting Boards,

Equipment

Clean and sanitized.



Truck Box

Clean and sanitized.

Clothes

Clothes are clean and hair is covered.

Gloves

Clean and sanitized.

Packaging

Clean and protected.

Fishing Gear

Clean and protected.

Reviewer Initials

(This checklist is a basic sanitation plan. Your specific fishing and sales operation may warrant more specific sanitation subtopics.)

COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION SALMON MARKETING PROGRAM

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COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION SALMON MARKETING PROGRAM



Columbia River Indian Salmon Harvest
A project of the Salmon Marketing Program of the

Columbia River Inter-Tribal Fish Commission

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