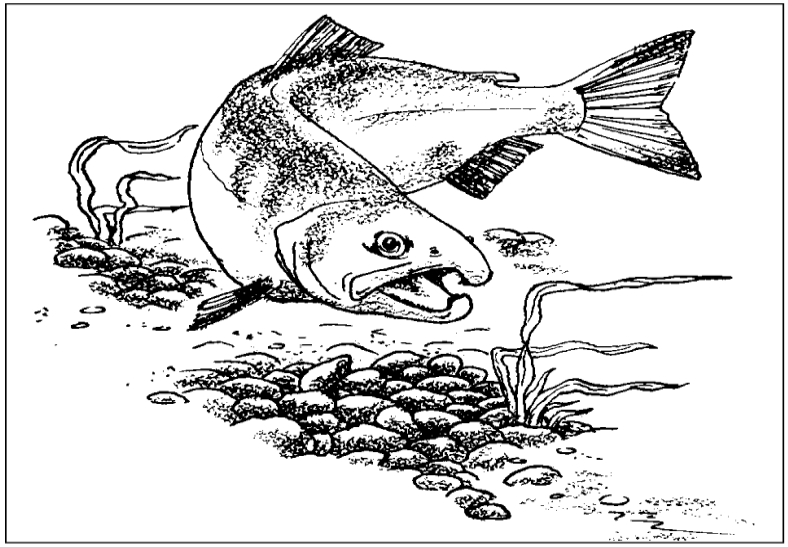


Other contacts:

Nampa Fisheries Research	(208) 465-8404
Lewiston Regional Office	(208) 799-5010
McCall Subregion Office	(208) 634-8137
Salmon Regional Office	(208) 756-2271

Idaho Department of Fish and Game

Carcass Instruction Book

This book belongs to: _____

Address: _____

Work Phone: _____

6/25/2009

Redd Counts & Carcass Collection:

Adult return information is the single-most important piece of information to determine the status of Idaho's threatened chinook salmon. Take the time to read the following instructions and be sure you understand the proper procedures.

Redd Counting Essentials:

- **Always wear polarized sunglasses.**
- Try to keep the sun at your back.
- **Always check side channels.**
- Always flag the redd when it is first observed.
- Write your initials and the date on flagging.
- When multiple redds occur, write the number of redds you feel are present on the flagging.
- Always enter redd locations into your GPS, unless told not to
- Walk upstream when possible.
- **Never walk on a redd.**
- Avoid counting redds on rainy, windy, or extremely overcast days.
- Avoid counting before 0900 hours or after 1700 hours.
- When live fish are observed in wild/natural production areas, look for fin clips.
- Do not hurry a survey. **Respect the fish; do not disturb them & walk on the bank as much as possible!**

Equipment Checklist:

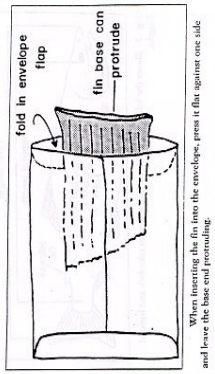
- Polarized sunglasses
- Measuring tape in Centimeters
- Sharp Knife
- Tweezers/ forceps
- Sampling scissors
- GPS
- Tag scanners
- Extra batteries
- Data book
- Sunscreen
- Biological Samples Zip-lock bags containing sampling envelopes for fins/otoliths, vials for DNA
- Bags for Coded Wire Tags for current year (if instructed to take CWT fish)
- Flagging
- Sharpie marker / Pencil

Biological Samples Collection Instructions

Biological samples will be needed from carcasses in some streams, but not in others. The one exception is that the snout from carcasses missing the adipose fin should always be collected & Scanned for Coded Wire. Obtain CWT bags from Nampa Research.

✓ Quick Reminders…

- ✓ Make sure every blank on the envelopes are filled out.
- ✓ Carcass condition should be excellent, good, fair, poor or dry. Put any other description in the comments.
- ✓ Put down your **FULL FIRST and LAST NAME!!!!!!!!!!**
- ✓ Write down the WGS 84 Digital Degrees under GPS waypoint, then save the waypoint as the sample packet number.
- ✓ Aim for the size of a hole punch when taking the DNA sample.
- ✓ Straighten out the fin ray sample when putting it in the envelope. It should look like the diagram.
- ✓ Place the fin ray envelope in its own zip-lock inside the zip-lock with the data envelope and DNA sample
- ✓ Record any ad clipped Chinook carcasses you encounter in the stream & report to June/Tim



➢ **May the wind always be at your back and the carcasses fresh!** ☺

Please make sure you read and understand all instructions. We'll be happy to help you if you have any questions. Call June or Tim at (208) 465-8404 or E-mail June.johnson@idfg.idaho.gov or Tim.copeland@idfg.idaho.gov It is imperative that samples be collected in the manner described.

Please note: This is a length at age study on WILD chinook. All info is necessary and we expect the baggies to come back as they were given with the fin ray in its own sealed baggie. If envelopes are frozen together without the separate baggie, data will be lost and your sample will be tossed. If data is not filled out completely, your sample may be tossed. Please don't let your hard work go to waste. Take the extra 2 minutes to make sure envelopes are filled out completely and accurately.

Thank You for your assistance.

- **ONLY COLLECT Samples from WILD FISH (With ADIPOSE FIN INTACT) UNLESS SPECIFICALLY INSTRUCTED OTHERWISE, Only take samples from a fish with a valid fork length (if it's ½ eaten, don't sample).**
- **No abbreviations for anything**
- You should have in your possession, uniquely-numbered sample envelopes which contain sample tubes with the same unique number for the various samples which might be taken. Also double-check that the envelope and tubes all have the same number. SAMPLES DO NOT HAVE TO BE TAKEN IN NUMERICAL ORDER.

How to Fill Out Envelopes

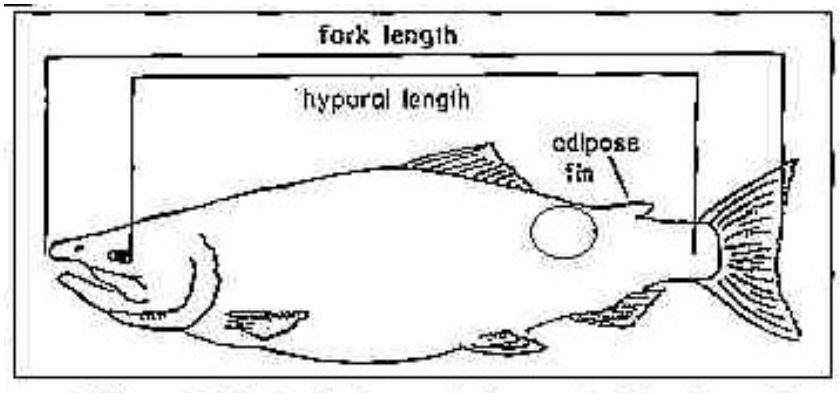
- **Section** needs to be an actual beginning and ending point on a map, not section 1 or top of 1 to weir. Bridges, roads, tributary creeks, are best! Keep in mind that someone who does not know the sections should be able to go to map and find it.
- **Carcass Conditions** for DNA purposes
  - **Excellent:** Freshly dead, gills are still dark red or nearly so. Flesh is firm, colors externally are bright/ dark (not faded)
  - **Good:** Dead for a 2-5 days, gills still have some blood in them and are typically not yet white. Flesh is still moderately firm.
  - **Fair:** Dead for 6-7 days, gills are white, flesh is slightly firm
  - **Poor:** Flesh is probably very soft, it may be a bag of liquid, Cannot determine sex from internal organs because they are mush, fish elongates when you pick it up (if you can pick it up), stinks to high heaven, mostly covered by fungus
  - **Dry:** Fin is dried out because it has been exposed to the air

- **Sex:** Make sure to Clearly mark whether the fish is male or female (do an internal check to verify).
    - Females tend to have a shorter, more rounded snout, those that have begun digging a redd often have a white tail since the skin has been beaten off in the rocks. If this is a carcass, slice open the fish to check for presence of eggs and note % spawned. Several eggs left is considered 100% spawned.

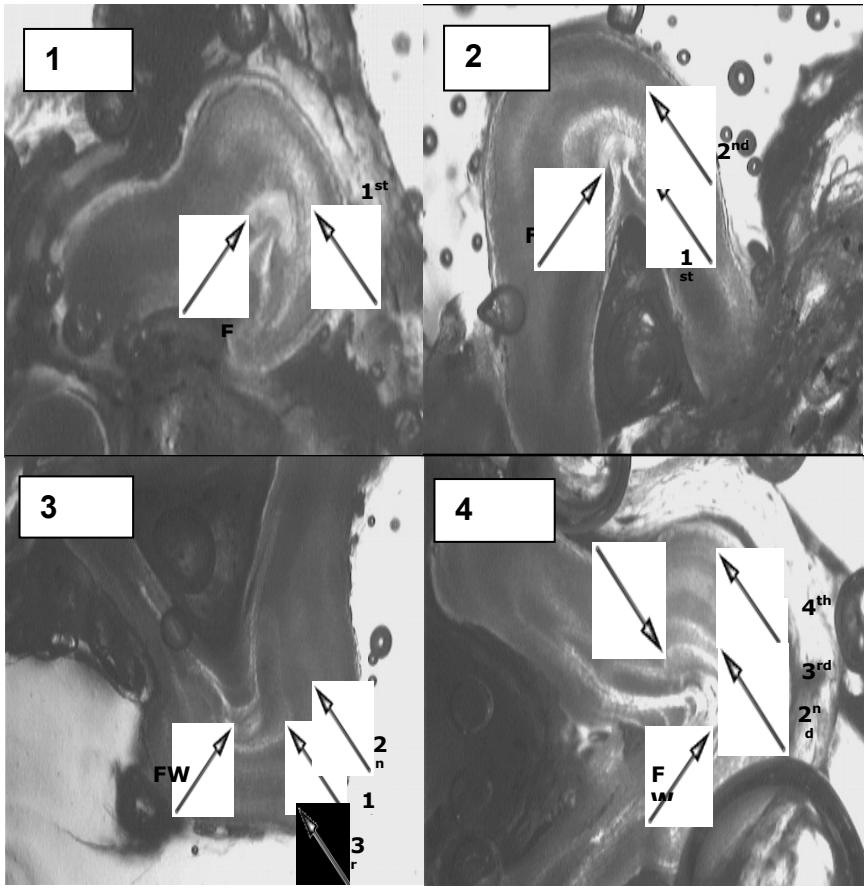
    - Mature males have an elongated head often with a curved jaw known as a kipe. The best way to tell sex is to look internally for the pair of white testes

- **Marks:** Are there any missing fins that have been clipped (adipose, right vent, left vent)? If all fins are intact, the fish is unmarked. Opercle Punches can heal over; look inside the opercle (gill plate cover) for a black paper punch scar.

- **Length:** Record **BOTH** Fork and Mehps length in **centimeters.** (Mehps length is from the middle of the eye to the hypural bone. – With the fish laying flat on the ground bend up the tail, a crease will form near the base of the tail, this is where you end your measurement.) IF you do not have a tape measure in centimeters then make sure you cross out the cm and write INCHES!



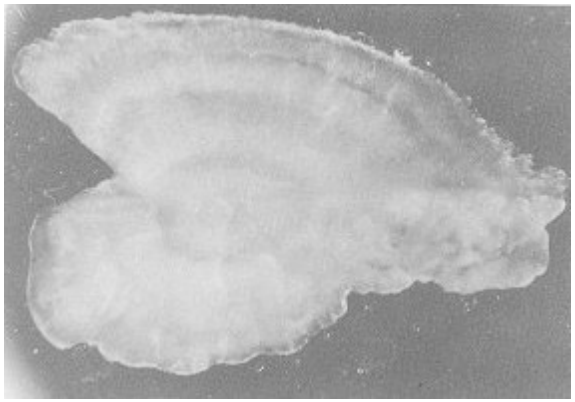
- **PUT DOWN A DATE with a YEAR**



Examples of Fin Ray cross sections

Collection of Otoliths in Middle Fork Salmon River Drainage

Otoliths or earbones are being used for a microchemistry analysis study. To collect otoliths cut approximately 1 eye width above the eye and two eye widths behind the eye to open the brain cavity. Remove the brain and you should find the hard bony structures in a pocket below the brain. There will be two and you will be able to feel them with your forceps. Once they are located, remove the membrane around them and place them dry in the data envelope.



- Put down your **FULL NAME.** That means both first and last name of collectors. Not first initial, last name, not your nick name, but your **FULL NAME**. This will help if we need to contact you later to ask a question.
    - Acceptable: John Doe
    - Not Acceptable: J. Doe, J. D., or Johnny, 825
- **GPS waypoint** should be WGS 84 Decimal Degrees, and when you save the waypoint, **label it with the fin ray sample packet number** (ex. 07-0001). Use the entire number!!! Make sure you understand how to run a GPS and write down the correct numbers. Double check.
- If the fish has a **tag** (PIT tag, CWT, Radio, etc) write down the information! The entire PIT tag numbers should be written in the comments field (verify the number again). PIT tag can be put in the envelope if you can find it. For CWT's Write the Snout BAG # on the envelope and write the envelope number on the Snout Bag too as Fin Ray # 0x-xxxx (Snout bag number, PIT tag number, etc). Radio Tags are a large tag placed down the fish's throat. You will see an Antenna protruding from the fish's mouth. Pull on the antenna to remove the radio tag. Radio tags can be included with the samples or if you want to send them in, write the radio tag numbers/channel in the comments field.
- If there is any other piece of information that you think may possibly be useful please feel free to write it in the **comments**.
- If you take a **DNA sample** make sure to clearly mark the box labeled DNA. When taking a DNA sample make sure you do not take too large of a sample, this can overwhelm the alcohol and allow the sample to rot. A sample the size of a hole punch is best.

Aging Fin Sample

- To determine an accurate age for returning adult chinook, we need to collect a fin for cross sectioning and aging. The dorsal fin is used.

- **Dorsal Fin:** When taking the dorsal fin rays, hold the fish up by the dorsal, cut where a crease forms with the body (right along the back of the fish, not down by the backbone!). The first, short spine does not need to be taken. We need the second through the sixth fin ray. NOTE that dorsals with the top eroded still need to be collected and unless it is missing, collect it. IF the dorsal is missing do not take any other info or use a sample packet. Using a sharp knife, cut behind the first short fin ray to the back of the fish. Cut down to the back again behind the sixth fin ray. Lift the dorsal fin and cut across the back of the fish. Cut towards the tail, moving the knife along the bones. Be careful not to cut off the base of the fin rays (paired knobby

- bones). **If you lift up on the fin ray as you cut, you should find a spot where you are not cutting through bone. Cut level with the back, see diagram below.

- *Do Not cut clear down to the backbone*

Checklist for Wild Chinook Carcass Processing:

1) Turn on GPS Unit
2) Record Stream location, section beginning and ending points, Your Full Name, date
3) Check for external marks (missing fins) and/or tags (remove jaw or radio tags & put in baggie)
4) Scan for CWT/PIT tags (record full PIT tag code if applicable)
5) Record Fork Length
6) Record MEHP length
7) Record Carcass condition as excellent, good, fair, poor or dry
8) Take a paper punch size Genetic sample from a fin with good color (do not use the adipose fin)
9) Remove dorsal fin section - Put in scale envelope with rays flat across the top of coin envelope
   - ✓ Coin envelope with fin ray goes in separate zip- lock bag!
10) Remove snout if CWT - Fill out snout bag data
11) Collect otoliths if in Middle Fork Salmon River drainage (clean and put in envelope)
12) Record GPS coordinates as envelope # in WGS 84 Decimal Degree Minutes
13) Cut fish open from vent to gills
14) Determine sex and record
15) Determine % spawned if female
16) Find PIT tag if present (include in sample pack) Write on envelope that it's included.
17) Cut off tail
18) Return carcass to stream near where found

- **Fill out label completely!!! Place envelope in fin ray/aging baggie <u>by itself</u>!! Make sure it is sealed. Place the fin ray/aging baggie in the sample baggie with the DNA sample and data envelope/card. Keep cold and freeze as soon as possible**.

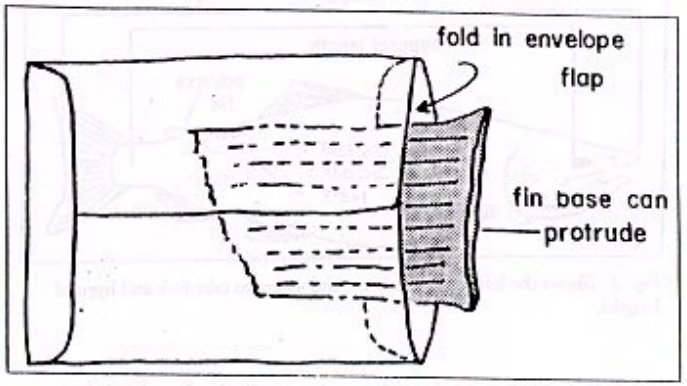
- I recommend taking a cooler along just for fin rays

- Trim off any excess flesh along the fin base. Do not take the backbone. If you have taken the backbone, you are cutting too deep. Make a V cut and remove the backbone. Trim to 5 <u>full length</u> fin rays, lay flat and spread out rays so they are in **a horizontal line** and sticking out of the envelope.

- Make sure the fin rays are straightened out along the side of the envelope and cut end bones are in a horizontal position.

- Before inserting the fin rays into the designated envelope make sure all sections on the envelope are filled out!

- Take the time to look at the sample, does it look straight? (you don't have to fold in the flap)



When inserting the fin into the envelope, press it flat against one side and leave the base end protruding.

- Put the fin ray envelope back into the bag it came out of and close it! This helps keep all that data you took the time to write down correctly, readable! Then place the fin ray bag back into the other zip-lock with the DNA sample and data envelope.

- Place on ice as soon as possible to keep the smell down!! Get the fins into a freezer when you return to the office.

- **<u>All samples & empty bags need to reach the Nampa Fishery Research Office by October 31.</u>**

DO NOT DEVIATE FROM INSTRUCTIONS UNLESS TOLD TO DO SO!!!

Do I sample this Fish?