



**STATE OF ALASKA
DEPARTMENT OF FISH AND GAME-SF
P.O. BOX 115525
JUNEAU, ALASKA 99811-5525**

Permit No. **SF2010-239**

Expires: **10/15/2010**

Report/Samples Due: **11/15/2010**

**FISH RESOURCE PERMIT
(For Scientific/Educational Purposes)**

This permit authorizes Leonard Hanson (whose signature is required on page 2 for permit validation)
 of Teck- Pogo, Inc. ^{person} **at** Box 145, Delta Junction, AK 99737
 agency or organization address

to conduct the following activities from September 15, 2010 to October 15, 2010 in accordance with AS 16.05.930:

Purpose: To fulfill the Pogo Mine's NPDES permit sampling requirements.

Location Goodpaster River and Central Creek

Species Collected: King salmon juveniles

Method of Capture: Minnow traps

Department Sample Request: The Department requests samples suitable for genetic analysis from 30 juvenile King salmon handled under this permit (**Stipulation #4 and Attachments for instructions**).

Final Disposition: ≤ 500 juvenile King salmon may be captured, measured and generally released unharmed at the capture sites.
 ≤ 30 of the above fish may be killed immediately for heavy metal analysis.
 ≤ 30 of the above fish (24 from Central Creek and 6 from the Goodpaster River) may be sampled or killed for genetic samples for ADF&G.
 All non-target fish captured must be identified, counted, and immediately released alive (**See Stipulation #6 for exception**) at the capture site.

-Continued on Back-

REPORT DUE November 15, 2010. The report, using a data submission form furnished by ADF&G, shall include species, numbers, dates, and locations of collection (datum/GPS coordinates in the decimal degrees format (dd.ddddd)) and disposition, and if applicable, sex, age, and breeding condition, and lengths and weights of fish. It must also include the date/time the local biologist was contacted for final authorization to carry out collecting activities. A completion report (abstract, background, methods, data, analysis), if not submitted with the collection report described above, must be submitted to the department by: **April 2011**. Data from such reports are considered public information. The report shall also include other information as may be required under the permit stipulations section.

GENERAL CONDITIONS, EXCEPTIONS AND RESTRICTIONS

1. This permit must be carried by person(s) specified during approved activities who shall show it on request to persons authorized to enforce Alaska's fish and game laws. This permit is nontransferable and will be revoked or renewal denied by the Commissioner of Fish and Game if the permittee violates any of its conditions, exceptions or restrictions. No redelegation of authority may be allowed under this permit unless specifically noted.
2. No specimens taken under authority hereof may be sold or bartered. All specimens must be deposited in a public museum or a public scientific or educational institution unless otherwise stated herein. Subpermittees shall not retain possession of live animals or other specimens.
3. The permittee shall keep records of all activities conducted under authority of this permit, available for inspection at all reasonable hours upon request of any authorized state enforcement officer.
4. Permits will not be renewed until the department has received detailed reports, as specified above.
5. UNLESS SPECIFICALLY STATED HEREIN, THIS PERMIT DOES NOT AUTHORIZE the exportation of specimens or the taking of specimens in areas otherwise closed to hunting and fishing; without appropriate licenses required by state regulations; during closed seasons; or in any manner, by any means, at any time not permitted by those regulations.

Bob Reinhardt
 Fish Resource Permit Coordinator
 Division of Sport Fish

Laura B. Rippen for
 Director
 Division of Sport Fish

7-16-10
 Date

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Authorized Personnel: The following persons may perform collecting activities under terms of this permit:

Michael Carney, Ben Farnham, Leonard Hanson, Sally McLeod, Stacey Staley

Employees and volunteers under the direct supervision of, and in the presence of, one of the authorized personnel listed above may participate in collecting activities under terms of this permit.

Permit Stipulations:

- 1) The local Area Management Biologist (AMB), Audra Brase (459-7244; audra.brased@alaska.gov) Tanana River, must be notified **sufficiently prior to you engaging in any collecting activities so that he can arrange his schedule to accompany you when you collect.** *The time/date of this contact must be included in your collections report (using the "data submission form" furnished by ADF&G).* This AMB has the right to specify methods for collecting, as well as limiting the collections of any species by number, time and location.
- 2) All unattended sampling gear; 1) labeled with the permittee's name, telephone number, and permit number, 2) securely tied to substrate, 3) be placed in a location where they will not be easily noticed (e.g. under cut banks, in pools away from roads or trails), 4) soak no more than twenty-four hours at a time, 5) be located with GPS coordinates, and 6) must be accounted for/ removed at the conclusion of sampling.
- 3) Salmon eggs used as bait in traps must either be; sterilized commercial eggs or, if raw, be disinfected prior to use. A 10-minute soak in 1/100 Betadine solution or some other iodophor disinfectant is adequate.
- 4) Please contact Judy Berger (907-267-2175, judy.berger@alaska.gov) to attain sampling supplies prior to the start of the sampling period. She requests one-week notice prior to field deployment for scheduling time to assemble sampling supplies. Also contact Judy for shipping instructions prior to report due date.
- 5) If anadromous fish species new to permitted streams and rivers are found, the permit holder will work closely with ADF&G to see that information is included in the database for the *Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes*. Anadromous fish include *Oncorhynchus spp.*, Arctic char, Dolly Varden, sheefish, smelts, lamprey, whitefish, and sturgeon. Please direct questions to J. Johnson, 267-2337 or j.johnson@alaska.gov
- 6) Atlantic salmon and other non-native invasive aquatic species encountered should be killed. Contact the nearest AMB (**Stipulation #1**) immediately with species identification or description, capture or sighting location, number captured, size, and sex. Preserve/turn in the whole specimen to the nearest ADF&G office.
- 7) *A copy of this permit, including any amendments, must be made available at all field collection sites and project sites for inspection upon request by a representative of the department or a law enforcement officer.*
- 8) Issuance of this permit does not absolve the permittee from compliance in full with any and all other applicable federal, state, or local laws, regulations, or ordinances.
- 9) A report of collecting activities, referenced to this fish resource permit number, must be submitted to the Alaska Department of Fish and Game, Division of Sport Fish HQ, P.O. Box 115525, Juneau, AK 99811-5525, Attention: Bob Piorkowski (465-6109; Robert.Piorkowski@alaska.gov), and to the AMB (**Stipulation #1**) within 30 days after the expiration of this permit. This report must summarize the number of fish captured by date, by location (provide GPS coordinates and datum), and by species, and the fate of those fish. Fish length, weight, sex, and age data should be included if collected. A completion report (abstract/background/methods /data/analysis), if not submitted with the collection report described above, must be submitted to the department within six months of the expiration of the permit. Data from such reports are considered public information. A report is required whether or not collecting activities were undertaken.

PERMIT VALIDATION requires permittee's signature agreeing to abide by permit conditions before beginning collecting activities:

Signature of Permittee

cc: Audra Brase, Division of Sport Fish, Fairbanks
Mac Mclean, Division of Habitat, Fairbanks
Bonnie Borba, Division of Commercial Fisheries, Fairbanks
Fish and Wildlife Protection, Fairbanks

ATTACHMENT:

Sampling Non-lethal/Lethal Finfish Tissue for DNA Analysis - Smolts

ADF&G Gene Conservation Lab, Anchorage

I. General Information

We use fin clip samples from individual fish to determine the genetic characteristics and profile of a particular run or stock of fish. This is a non-lethal method of collecting tissue samples from smolt size fish for genetic analysis. The most important thing to remember in collecting samples is that **only quality tissue samples give quality results**. If sampling from recently moribund smolts: tissues need to be as “fresh” and as cold as possible, do not sample from fungal fins.

Sample preservative: Ethanol (EtOH) preserves tissues for later DNA extraction without having to store frozen tissues. Avoid extended contact with skin.

II. Sample procedure:

- 1) Tissue type: Fin clip tissue types will be determined and collected based on smolt(s) overall size. **NO adipose fin.**
 - a) **Non-lethal** sampling: pelvic fin clip samples will be taken from smolt (> 100mm) in size.
Only one pelvic fin clip per fish per vial.
 - b) **Lethal** sampling: two size categories (65-100mm) and/or (< 65mm) in size to provide ample tissue/ethanol ratio for quality tissue preservation. Clip ½ caudal fin clip per smolt (65-100mm) or clip the entire caudal fin from smolts (< 65mm) in size as shown in diagram provided.
- 2) Select smolts randomly, without regard to size or position in the rotary fish trap.
- 3) Prior to sampling, fill the vials half way with EtOH from the squirt bottle. Fill only the vials that you will use for a particular sampling period.
- 4) To avoid any excess water or fish slime in the vial, wipe the selected fin dry prior to sampling. Using the dog toenail clipper or scissors, make the fin clip off (**1/2 -1” max**) to fit into the cryovial.
- 5) Place fin clip into EtOH. The tissue/ethanol ratio should be **slightly less than 1:3** to thoroughly soak the tissue in the buffer.
- 6) Top up vials with EtOH and screw cap on securely. Invert tube twice to mix EtOH and tissue. Periodically, wipe the dog toe nail clippers or scissor blade so not to cross contaminate samples.
- 7) Data to record: Record each vial number so individual tissue samples correlate with additional data being collected.
- 8) Discard or store remaining ethanol from the 500ml bottle before returning samples. **Tissue samples must remain in 2ml ethanol** after sampling. HAZ-MAT paperwork will be required for return shipment. Store vials containing tissues at cool or room temperature, away from heat in the white sample boxes provided. In the field: keep samples out of direct sun, rain and store capped vials in a dry, cool location. Freezing not required.

III. Supplies included with sampling kit:

1. (1) Nail clipper - used for cutting the fin clip
2. Cryovials - small (2ml) plastic vials; pre-labeled.
3. Caps – with or without gasket to prevent evaporation of ETOH.
4. Cryovial rack- white plastic rack with holes for holding cryovials while sampling
5. Ethanol (EtOH) – in bulk Nalgene bottle
6. Squirt bottle – to fill or “top off” each cryovial with ETOH. Squirt bottle not for ethanol storage.
7. Printout of sampling instructions
8. Laminated “return address” label

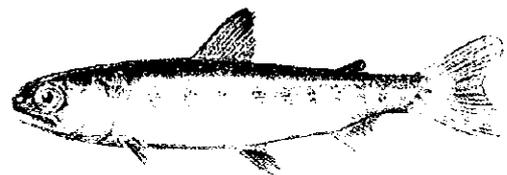
IV. Shipping: HAZMAT paperwork is required for return shipment of these samples and is included in the kit.

Return shipping code: use today's date (retro)

Ship samples to:

ADF&G – Genetics
333 Raspberry Road
Anchorage, Alaska 99518

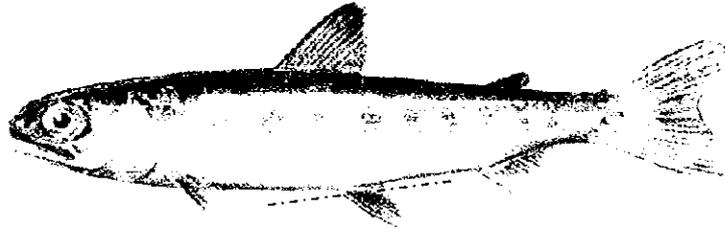
Lab staff: 1-907-267-2247
Judy Berger: 1-907-267-2175
Chris Habicht: 1-907-267-2169



Smolt Stage

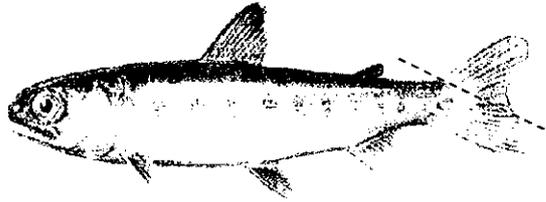
ADF&G Gene Conservation Laboratory,

Non-lethal finfish tissue sampling of Chinook salmon



(>100mm)

Lethal finfish tissue sampling of Chinook salmon



(65-100mm)



(< 65mm)

Smolt Stage

Non-lethal sampling: one category (> 100mm). Clip off only one pelvic and put fin clip into pre-filled ETOH cryovial (shown above). Only one fin clip per fish per vial.

Lethal sampling: two size categories (65-100mm) and/or (< 65mm). Clip off 1/2 caudal fin or the entire caudal fin (shown above) necessary to maintain 1:3 tissue/ethanol ratio for tissue quality.

Select Chinook smolts for tissue sampling randomly, without regard to size or position in rotary screw fish traps. NO adipose fin ("fatty tissue").