

Non-lethal Juvenile Finfish OmniSwab Sampling for DNA Analysis

ADF&G Gene Conservation Lab, Anchorage

I. General Information

We use the mucus samples from juvenile fish using OmniSwab to determine the genetic characteristics and profile of a particular run or stock of fish. The most important thing to remember in collecting sample is that **only quality tissue samples give quality results**. If sampling from carcasses: tissues need to be as “fresh” and as cold as possible and recently moribund, do not sample from fungal fish.

II. Sampling Method



Figure 1



Figure 2

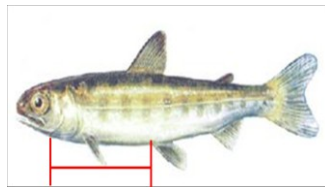


Figure 3

Steps for taking mucus samples in 2.0ml vials:

- Organize work area prior to sampling.
- Hinged plastic box will hold up to 50 silica pre-filled vials. Works best with 40 vials or less so hinged lid can close easily between sampling events.
- Lift lid on white box, should be marker line upper left edge of box bottom; starting vial #1,2,3... left to right.
- Load plastic box with vial #s 1,2,3...in **consecutive** order. **All vials remain capped until sampling each fish.** Do not uncap vials ahead of time since silica will begin absorbing moisture. Want to minimize exposure time to moisture.
- Cover work area (cooler, tarp, rain coat, backpack, under tree) to protect samples from rain and/or direct sunlight.
- Wipe right hand dry before opening each OmniSwab to reduce excess water dripping on swab pad applicator.
- Dry hands, open OmniSwab by peeling package open at the handle end of swab and remove carefully.
- Pick up one fish and hold in palm of left hand with belly side up (Figure 1).
- **Do not touch swab pad applicator (Figure 2).**
- Sample location on fish is located between lower jaw and front of pelvic fin (Figure 3).
- Hold OmniSwab handle in right hand, **gently** rub the swab pad serrated edge against preferred area (Figure 3 and below):
 - **Rub swab pad back/forth 8-10 times (back/forth=1 time).**
- Be careful not to depress ejector tip while swabbing fish.
- Once sampling is complete, release fish back to the local stream or waterway.
- **Uncap vial** with dry hand after sample is taken. Tilt vial on slight angle making room for swab pad in silica beads and eject swab pad (using release button at tip) into one vial. Cap and swiftly shake capped vial to distribute silica beads around applicator pad to enhance drying process.
- **Place only one swab pad per vial!**
- Record metadata (vial #, date, location, lat/long, etc...) electronic copy preferred.
- Place each individual vial back into white storage box, working from vial #s 1,2,3...100 consecutively until the entire box of 100 vials are full.
- Swab pads will slowly dry inside capped vials and be dry by the end of the day.
- In field: store vial collection at room temperature away from heat and/or place in **dry** cooler or tote.

III. Supplies included with sampling kits:

1. OmniSwab – plastic applicator swab for collecting mucus from fish.
2. 2.0ml vials – pre-labeled individual vial and cap for sample storage.
3. Silca beads – vial pre-filled ½ silica beads/capped prior to sampling.
4. White boxes – storage for individual capped vials with silica beads.
5. Hinged plastic box – used while sampling, protects vials from rain.
6. Sampling instructions.

IV. Shipping: No special paperwork required for return shipment of these samples.

Return to ADF&G Anchorage lab: ADF&G – Genetics
333 Raspberry Road
Anchorage, AK 99518

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Freight code: _____