



Chinook Salmon Fin Ray Removal

Fin rays are used to estimate the ocean age of Chinook salmon, which allow biologist to reconstruct the cohort and estimate their productivity. This information is essential for monitoring natural Chinook populations.

The phrase “collecting fin rays” is a misnomer, it suggest any part of the fin ray can be used to age a fish. In reality only the bases of fin rays are cross-sectioned and aged (Image 1).

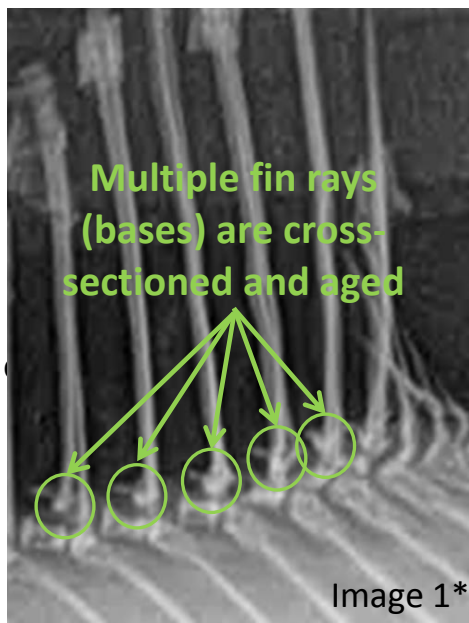


Image 1*

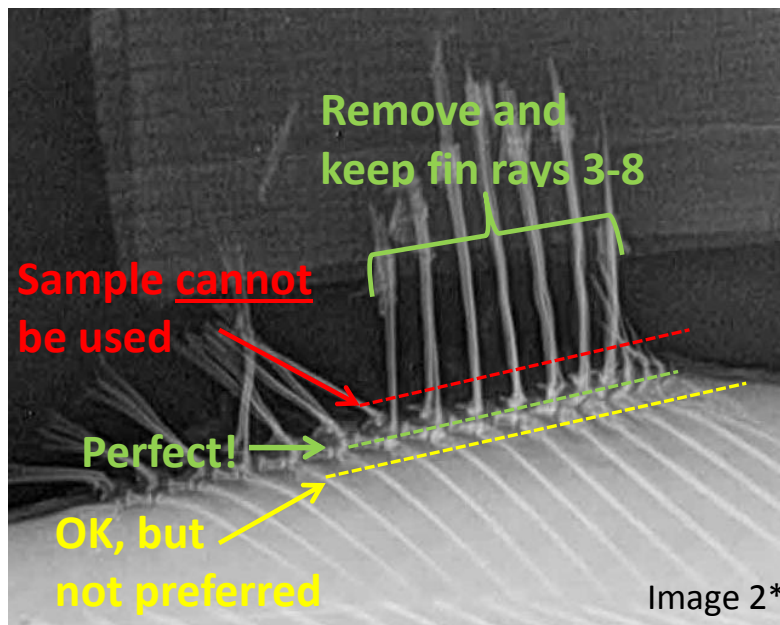


Image 2*

*X-rays are courtesy of Tony Lamansky (IDFG)

Image 2 shows the best and worst cuts to make when removing fin rays. The “perfect” cut (green line) is just below the base of the fin rays. When you make the perfect cut you can see the base of the fin rays, they look like a knuckle (Image 3). An “OK” cut (yellow line) is slightly deeper and part of the back bone is removed as well. This is an OK cut because it is usable sample but requires the extra material to be cut off before being aged. If you make an OK cut it would be greatly appreciated if you remove the extra material (turn it into a perfect cut) before putting it in the sample envelope. This will save time in the lab! A cut above the base of the fin ray (red line) makes the sample unusable; please dispose of these samples rather than sending them to the lab.

This makes it sound like collecting a fin ray is nearly impossible but it is very easy to get proficient at getting the “perfect cut” with just a little bit of practice - two or three fish. It’s easiest to remove fin rays 1 and 2 (short ones) so that you can see to start the cut under fin ray number 3 at the right depth. Slightly pulling up on the remaining fin rays helps maintain the depth of the cut as you remove the fin ray sample (fin ray numbers 3-8).

The last step in collecting fin rays is to place them in the envelope in the proper orientation to dry. The fin ray bases should create a line perpendicular to the fin rays themselves (Image 4). If they are not dried in the proper position, it creates a lot of work in the lab (up to 15 minutes per sample) so please position them correctly.

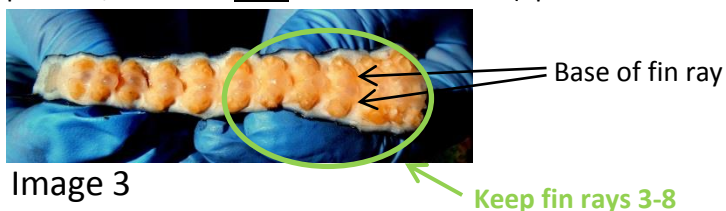


Image 3

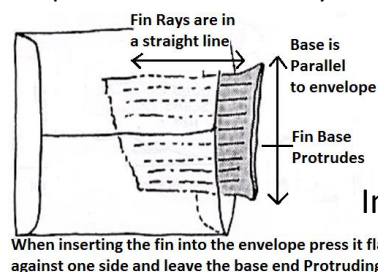


Image 4