

Thiesfeld, Steven L (DFW)

From: Warheit, Kenneth I (DFW)
Sent: Wednesday, August 27, 2014 7:49 AM
To: Thiesfeld, Steven L (DFW)
Cc: Young, Sewall F (DFW)
Subject: Willapa Bay Chinook Fishery - genetic analysis

Steve - the Genetics Lab has completed the analysis of the tissue samples you provided last week (Cherril Bowman: lab technician; Sewall Young: analyst). What do you need in terms of a report? Sewall submitted to me on Monday a detailed summary of the results, but if all you need to a breakdown of population/aggregate composition, I've provided that below. If you need more than below, please specify what you need, and we'll provide that before the end of the week.

Two points that need some discussion:

1. The appropriate tissue to ethanol ratio for good preservation of usable DNA is 1 to 5. That is, the tube should contain five times more ethanol than tissue. The samples that we received from you had considerably more tissue than ethanol, which resulted in tissue decomposition and difficult laboratory operations. We needed to run samples twice, increasing our cost, but still were not able to get great genotypes. The simple rule for sample collection for DNA analysis is more is NOT better. We have field protocols which we will provide to you for future collections

2. The only baseline population we have in our collection from Willapa Bay is Forks Creek Hatchery. We need additional collections from the other hatcheries, and any wild population in Willapa, to adequately characterize Willapa Bay Chinook. Also, we need to determine our statistical power to differentiate genetically Washington Coast populations. Our current baseline may not provide adequate power, which means that the appropriate level for you to interpret the results below would be the aggregate (second level in the hierarchy in Sewall's table below), not the population (third level in the hierarchy in Sewall's table below).

Summary Results:

Washington Coast: 85%

Columbia River: 6%

Oregon Coast: 5%

From Sewall Young's report to me:

Row Labels	Sum of Mixture Proportions
British Columbia	0.01
California	0.00
Columbia River & tribs	0.06
Deschutes_R_fa	0.01
L_Columbia_R_fa	0.02
L_Columbia_R_sp	0.00
Mid_and_Upper_Columbia_R_sp	0.00
Mid_Columbia_R_tule_fa	0.03
Snake_R_fa	0.00
Snake_R_sp/su	0.00
U_Columbia_R_su/fa	0.00
Willamette_R	0.00
Oregon Coast	0.05
Puget Sound & SJF	0.03

SEAK & Transboundary	0.00
Washington Coast	0.85
Washington_Coast	0.85
Chehalis_R_Fa	0.06
Forks_Cr_H	0.72
Hoh_R	0.00
Hoh_R_SpSu	0.00
Hoko_H_Fa	0.00
Humptulips_H	0.02
Makah_H	0.01
Queets_R	0.04
Quilayute_R	0.00
Quinalt_R_Fa	0.00
Quinault_NFH_Fa	0.00
Sol_Duc_H	0.00
Grand Total	1.00