



Society for Wildlife Forensic Science

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Wildlife Genetics Proficiency Testing Program –Test # 082614

Consensus Report 01/12/2015

Test Start Date -08/26/2014

Test Due Date -10/31/2014

This document reports the results of the Wildlife Genetics Proficiency Testing Program. The National Fish and Wildlife Forensic Laboratory was the duty Lab and was responsible for sample preparation, sample verification, distribution, and gathering and reporting the results.

The results are self explanatory and are divided into three sections:

1. Results of Test for Species Origin
2. Results of Determination of Gender Origin (Not Applicable for Fish Test)
3. Results of Individual Identification

Each section contains the following:

1. The species source that you identified for Items 1, 2 and 3.
2. The methods used to make these identifications.

Scenario

A Wildlife Agent is investigating an illegal fishing incident involving shark. The suspect claims the meat in his freezer is coming from tuna. All three tissue samples were recovered from the suspect's freezer.

The Agent requests that the species origin of all submitted evidence be determined. It is not known where the fishing incident occurred.

Items Submitted

Item 1: Tissue from suspect's freezer.

Item 2: Tissue from suspect's freezer.

Item 3: Tissue from suspect's freezer.



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Wildlife Genetics Proficiency Testing Program Answers:

	Item 1	Item 2	Item 3
Species Origin	Steelhead Rainbow Trout <i>(Oncorhynchus mykiss)</i>	Steelhead Rainbow Trout <i>(Oncorhynchus mykiss)</i>	Red Snapper <i>(Lutjanus campechanus)</i>
Gender Origin	Male	Male	Unknown
Accession No.	QA4B42-QA4B81	QA4B42-QA4B81	QA4D01-QA4D41
Provider	Northwest Fisheries Science Center Seattle, WA	Northwest Fisheries Science Center Seattle, WA	NOAA NMFS New Smyrna, FL
Original ID	34874-09 Tumwater Dam Wenatchee River	34874-09 Tumwater Dam Wenatchee River	Lcam029

Items 1 and 2 are from the same individual

The results of pre-distribution testing confirmed the expected results.



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I) Compilation of Confirmation Species Origin Results

1 Species Source

Lab	Item 1	Item 2	Item 3
M3B22N	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus campechanus</i>
J4L18F	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus campechanus</i>
B5H06W	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus campechanus</i>
D6S24F	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus campechanus</i>
B1V83W	Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Red Snapper (<i>Lutjanus campechanus</i>)
J1G53Q	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus sp.</i>
R1J97A	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus campechanus</i> Unable to resolve differences between <i>L. purpureus</i> and <i>L.</i> <i>campechanus</i> using the COI mark. Note: These species are considered by some authors as a single species.
L2P41S-1	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus sp.</i>
L2P41S-2	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus sp.</i>
K2M14C-1	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus campechanus</i> or <i>purpureus</i>
K2M14C-2	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus campechanus</i> or <i>Lutjanus purpureus</i>
M8B64N	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus campechanus</i>
L4W29E	<i>Oncorhynchus mykiss</i>	<i>Oncorhynchus mykiss</i>	<i>Lutjanus sp.</i>



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2 Methods Used

Lab	Methods/ Genetic Marker(s)
M3B22N	DNA Sequence Analysis/374 bp portion Cytochrome b
J4L18F	DNA Sequence Analysis/Cytochrome b
B5H06W	DNA Sequence Analysis/mtDNA seq., portion of Cyt B gene
D6S24F	DNA Sequence Analysis/~370 bp portion of Cytochrome b
B1V83W	Isoelectric Focusing/Isoelectric focusing for general proteins
J1G53Q	DNA Sequence Analysis/mtDNA cytochrome b
R1J97A	DNA Sequence Analysis/mtDNA COI sequencing analysis
L2P41S-1	DNA Sequence Analysis/COIII/ND3; Cytb mtDNA sequencing BigDye v3.1
L2P41S-2	DNA Sequence Analysis/COIII/ND3 partial & Cytb partial mtDNA
K2M14C-1	DNA Sequence Analysis/COIII/NDIII for <i>O. mykiss</i> ; cyt B for <i>Lutjanus sp.</i>
K2M14C-2	DNA Sequence Analysis/COIII/ND3 for <i>O. mykiss</i> ; cytochrome b for snapper
M8B64N	DNA Sequence Analysis/FDA Method; Hardy et.al (2010); COI
L4W29E	DNA Sequence Analysis/cytochrome oxidase I



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II) Compilation of Gender Origin Results *(Not Applicable for Fish Test)*

1 Gender Origin

Lab	Item 1	Item 2	Item 3
M3B22N			
J4L18F			
B5H06W			
D6S24F			
B1V83W			
J1G53Q			
R1J97A			
L2P41S-1			
L2P41S-2			
K2M14C-1			
K2M14C-2			
M8B64N			
L4W29E			

2 Methods Used

Lab	Methods/ Genetic Marker(s)
M3B22N	
J4L18F	
B5H06W	
D6S24F	
B1V83W	
J1G53Q	
R1J97A	
L2P41S-1	
L2P41S-2	
K2M14C-1	
K2M14C-2	
M8B64N	
L4W29E	



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III) Compilation Test Results (*Not Applicable for Fish Test*)

Lab	<i>Individual typing is not performed on the following species identified in this proficiency test</i>	1) What could be the minimum number of animals represented in these 3 samples?	2) Which samples have the same genetic profile?
M3B22N			
J4L18F			
B5H06W			
D6S24F			
B1V83W			
J1G53Q			
R1J97A			
L2P41S-1			
L2P41S-2			
K2M14C-1			
K2M14C-2			
M8B64N			
L4W29E			

3 Methods Used

Lab	Methods/ Genetic Marker(s)
M3B22N	
J4L18F	
B5H06W	
D6S24F	
B1V83W	
J1G53Q	
R1J97A	
L2P41S-1	
L2P41S-2	
K2M14C-1	
K2M14C-2	
M8B64N	
L4W29E	



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Response Summary Total Participants: 13

Confirmation	Item 1	Item 2	Item 3
Species Origin	13 (100%)	13 (100%)	13 (100%)
Gender Origin	NA	NA	NA
Individual Identification	NA		

Inconclusive	Item 1	Item 2	Item 3
Species Origin	0 (0%)	0 (0%)	0 (0%)
Gender Origin	NA	NA	NA
Individual Identification	NA		

N/A	Item 1	Item 2	Item 3
Species Origin	0 (0%)	0 (0%)	0 (0%)
Gender Origin	NA	NA	NA
Individual Identification	NA		

END OF REPORT