CZES Coastal Zone and Estuarine Studies

Columbia River Stock Identification Study

by

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INTRODUCTION

Stock identification has been a central problem in salmonid management and research for many years. Tagging studies have provided a wealth of information concerning the biology of salmonids, e.g., life cycles, timing and routes of migration, and homing behavior. Tagging has also been extremely useful in providing catch statistics. However, tagging has some serious limitations in long term studies in which rapid retrieval of information on the stock composition of daily catches are required, such as high cost, slow information retrieval time, and the requirement of marking (tagging) fish each year.

This study is concerned with a method of stock identification based on genetically controlled protein variation detected by starch gel electrophoresis coupled with histochemical staining (for details on the method see May 1975). The potential usefulness of this kind of genetic variation in fisheries research and management of salmonid stocks was recognized and developed mainly through the efforts of F. M. Utter of National Marine Fisheries Service (NMFS) and his associates over the last 15 years (Allendorf and Utter 1979; Utter et al. 1974; Utter et al. in press).

The "Columbia River Stock Identification Study Cooperative Agreement" between the U.S. Fish and Wildlife Service (USFWS) and NMFS was started in 1976 to survey and catalog genetic variation existing among chinook salmon and steelhead populations of the Columbia River and to develop a statistical method that uses biochemical genetic markers as the discriminating parameters for estimating the composition of mixed stock fisheries. The goal for fiscal 1979 was to complete the collection of baseline genetic data. This report includes both the 1979 data and all previously collected data.[1/]

[1/] Includes steelhead data collected by Allendorf (1975).

SURVEY OF GENETIC VARIATION

Populations

Samples from wild and hatchery populations of chinook salmon (Tables 1-3) and steelhead (Tables 4-5) from throughout the Columbia River drainage were provided by USFWS for electrophoretic analysis. The tables give population name, brood year, and origin (i.e., hatchery or wild) of the sampled populations. Figures 1-3 and 4-5 show the geographical distribution of the populations of chinook salmon and steelhead, respectively. Map numbers given in Tables 1-5 correspond to those used in Figures 1-5 to indicate specific populations.

Allele Frequencies

Electrophoresis of 14 proteins representing 24 loci was performed on tissue extracts from whole fish samples. The proteins, number of associated loci, and abbreviations for the loci are listed in Table 6. Partial data for several newly surveyed genetic systems (9 proteins representing 16 loci) for steelhead are also included in this report (Table 7). Genetic variation was quantified by estimating the frequency of each allele at each locus for all the populations.

Allele frequency estimates (arranged in ascending order) and sample sizes (in terms of numbers of alleles observed) are listed by locus in the tables of Appendix A, B, C, D, and E. A locus was considered polymorphic if more than one allele occurred at a frequency greater than or equal to 0.01 in at least one of the populations surveyed. Using this criterion, 10 and 16 polymorphic loci were identified for chinook salmon and steelhead among the loci routinely surveyed, i.e., those loci listed in Table 6. In addition, 7 polymorphic loci were identified for steelhead among the new genetic systems listed in Table 7.

Table 1.--Spring chinook salmon - populations sampled, brood years, and origins (hatchery or wild)

Map number[a/]	Population	Brood year[b/]	Origin
	Columbia River		
1	Cowlitz	74/75, 78	Hatchery
	Deschutes		
2	Round Butte	77	Hatchery
2	Round Butte	77/78	Hatchery
3	Warm Springs	74/75, 76, 75/76	Wild
3	Warm Springs	77/78	Wild
4	Entiat	78	Wild
5	John Day	78	Wild
6	Kalama	74/75, 76	Hatchery
6	Kalama	78	Hatchery
7	Klickitat	74/75	Hatchery
7	Klickitat	78	Hatchery
8	Lewis	76/77	Hatchery
8	Lewis	78	Hatchery
9	Methow-Twisp	78	Wild
	Wenatchee		
10	Leavenworth	76, 76/77	Hatchery
10	Leavenworth	77	Hatchery
10	Leavenworth	78	Hatchery
11	Nason & Chiwawa-Chikamin	78	Wild
12	Dexter	74/75	Hatchery
12	Dexter	78	Hatchery
13	Eagle	74, 75	Hatchery
13	Eagle	77/78	Hatchery
14	McKenzie	76, 78	Hatchery and wild
15	Middle Fork	77/78	Wild
16	North Santiam	76/77, 78	Hatchery
17	South Santiam	74/75	Hatchery
17	South Santiam	78	Hatchery
27	Wind River	70/71, 74/75, 75, 76	Hatchery
28	Yakima	75, 75/76	Wild
	Snake River		
	Clearwater - Middle Fork		
29	Clear Creek	76	Hatchery
29	Clear Creek	77	Hatchery
29	Clear Creek	76/77	Hatchery
	Grand Ronde		
30	Mainstem	78	Wild
31	Wallowa and Lostine	76/77	Wild
32	Imnaha	78	Wild
	Salmon-Little Salmon		
33	Rapid River	71, 74/75, 76/77, 75/76	Hatchery
33	Rapid River	75	Hatchery

a/ Refer to Figure 1.

b/ A slash between brood years indicates uncertainty as to which of the brood years the sample represents.

Table 2.--Summer run chinook salmon - populations sampled, brood years, and origins (hatchery or wild).

Map number[a]	Population	Brood year[b]	Origin
	Columbia River		
1	Deschutes - Round Butte	77	Hatchery
2	Wells	74/75, 75, 78	Hatchery
	Snake River		
	Salmon		
3	Fisher Creek	77	Wild
4	Hell Roaring	77	Wild
5	Pahsimeroi	76/77	Hatchery
	Salmon - Middle Creek		
6	Bear Valley	77	Wild
7	Beaver Creek	77	Wild
8	Capehorn	76/77	Wild
9	Elk Creek	77	Wild
10	Marsh Creek	77	Wild
	Salmon - South Fork		
11	Curtis Creek	77	Wild
12	Headwaters	77	Wild
13	Warm Lake area	77	Wild

a/ Refer to Figure 2.

b/ A slash between brood years indicates uncertainty as to which of the brood years the sample represents.

Table 3.--Fall Chinook salmon - populations sampled, brood years, and origins (hatchery or wild).

Map number[a]	Population	Brood year[b]	Origin
	Columbia River		
1	Abernathy Creek	75, 77	Hatchery
1	Abernathy Creek	78	Hatchery
2	Big Creek	75, 78	Hatchery
3	Bonneville	76, 78	Hatchery
4	Cowlitz	76, 78	Hatchery
5	Elokomin	75	Hatchery
5	Elokomin	78	Hatchery
6	Grays	75, 78	Hatchery
7	Ice Harbor	72/73/74, 73/74/75	Wild
8	Kalama	75, 76, 78	Hatchery
9	Lewis (North Fork)	77	Wild
9	Lewis (North Fork)	78	Wild
10	Little White Salmon	75, 76	Hatchery
11	McKenzie, Willamette	77	Wild
12	Priest Rapids	77	Hatchery
12	Priest Rapids	78	Hatchery
12	Priest Rapids	78	Wild
13	Spring Creek	75, 77	Hatchery
13	Spring Creek	77	Hatchery
13	Spring Creek	77	Hatchery
14	Toutle	70, 75, 77, 78	Hatchery
15	Washougal	74, 77	Hatchery
16	Willard	77	Hatchery

a/ Refer to Figure 3.

b/ A slash between brood years indicates uncertainty as to which of the brood years the sample represents.

Table 4.--Winter run steelhead - populations sampled, brood years, and origins (hatchery or wild).

Map number[a]	Population	Brood year[b]	Origin
	Columbia River		
1	Big Creek	75/76	Hatchery
2	Cowlitz River	74	Hatchery
2	Cowlitz River	71/72	Hatchery
2	Cowlitz River	78	Hatchery
3	Elokomin-Beaver Creek	77/78	Hatchery
4	Kalama	72-75	Wild
	Willamette		
5	Eagle Creek	74	Wild
5	Eagle Creek	78	Wild
	North Santiam		
6	Mainstem and Rock Creek	76 and 78	Hatchery and Wild
7	Marion Forks	74	Hatchery
7	Marion Forks	78	Hatchery

a/ Refer to Figure 4.

b/ A slash between brood years indicates uncertainty as to which of the brood years the sample represents.

Table 5.--Summer run steelhead - populations sampled, brood year, origin (hatchery or wild).

Map number[a]	Population	Brood year[b]	Origin
	Columbia River		
1	Chelan	74, 76	Hatchery
1	Chelan	72	Hatchery
2	Cowlitz	71/72	Hatchery
2	Cowlitz	78	Hatchery
	Deschutes		
3	Round Butte	78	Hatchery
3	Round Butte	70/71	Hatchery
3	Round Butte	77	Wild
3	Round Butte	74	Hatchery
4	Round Butte	74	Wild
5	Warm Springs	78	Wild
6	John Day	78	Wild
7	Kalama	72-75	Wild
8	Umatilla	76	Wild
8	Umatilla	78	Wild
8	Umatilla	78	Wild
8	Umatilla	74	Wild
8	Umatilla	74/75	Wild
	Washougal		
9	Skamania	74, 77/78	Hatchery
10	Washougal	78	Wild
11	Wells	72/73	Wild
11	Wells	74, 76	Wild
	Willamette		
12	South Santiam	76	Hatchery
12	South Santiam	78	Hatchery
13	Wind River	78	Wild

a/ Refer to Figure 5.

b/ A slash between brood years indicates uncertainty as to which of the brood years the sample represents.

Table 5.--Continued.

Map number	Population	Brood year	Origin
	Snake River		
	Clearwater River		
14	Dworshak	76, 77	Hatchery
15	Selway	77	Wild
	Grand Ronde		
16	Mainstem	78	Wild
17	Wallowa and Lostine	76	Wild
	Imnaha		
18	Gumboot Creek and mainstem	78	Wild
19	Niagra Springs	77	Hatchery
19	Niagra Springs	78	Hatchery
	Salmon-Little Salmon		
20	Mainstem, Boulder Creek & Hazard Creek	77	Wild
21	Rapid River	77	Wild
	Salmon-Middle Fork		
22	Bear Valley and Elk Creek	77	Wild
23	Marsh Creek	77	Wild
	Salmon		
24	Pahsimeroi and Hell Roaring	70/71 and 77	Hatchery and wild
25	White Bird	77	Wild
	Salmon - South Fork		
26	Buckhorn Creek	77	Wild
27	Dollar Creek	77	Wild
28	Headwaters #1	77	Wild
28	Headwaters #2	77	Wild
29	Tucannon	76	Hatchery
29	Tucannon	76/77	Hatchery
	Unknown	71/72	Hatchery

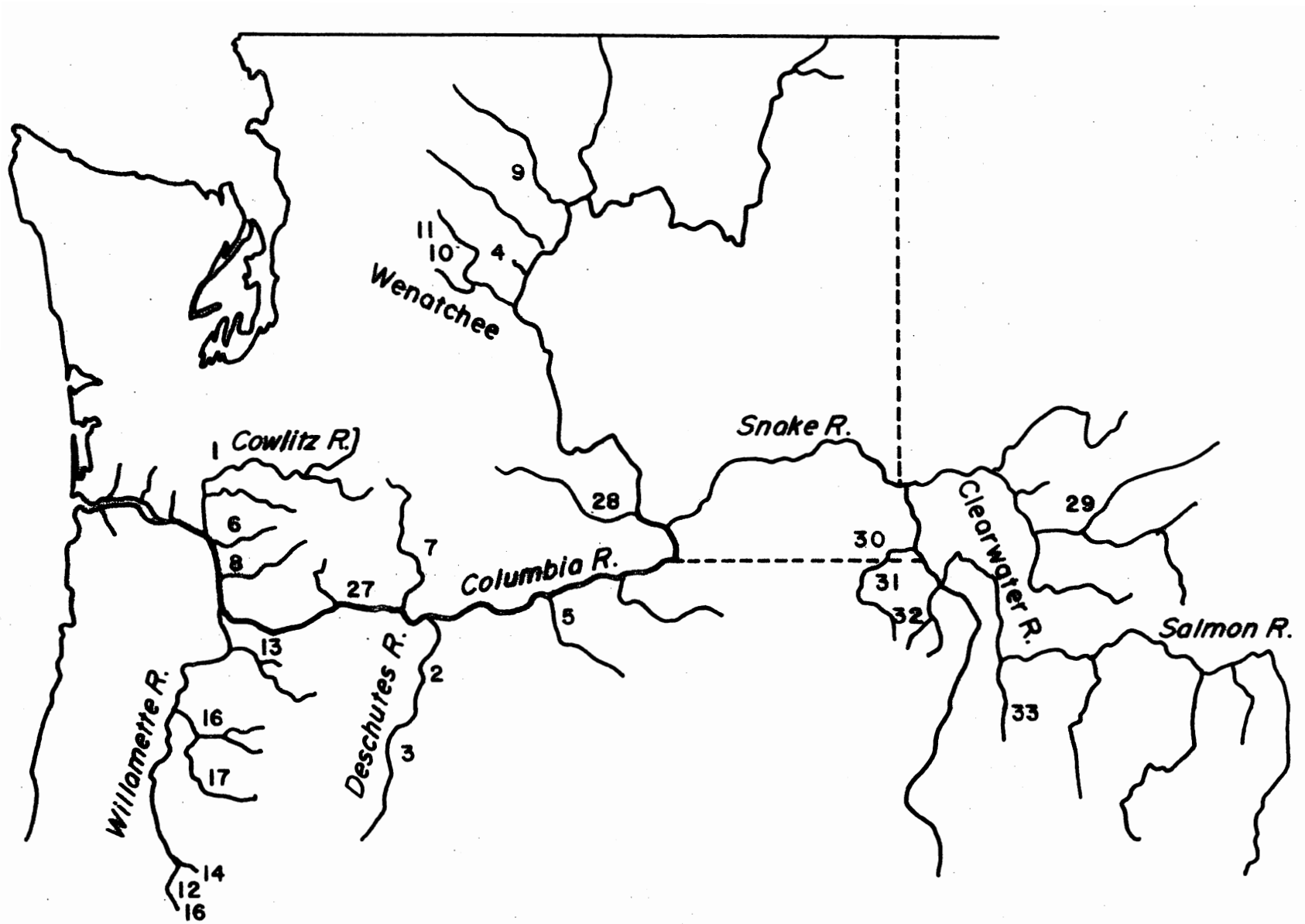

Figure 1.--Spring run chinook salmon populations sampled.

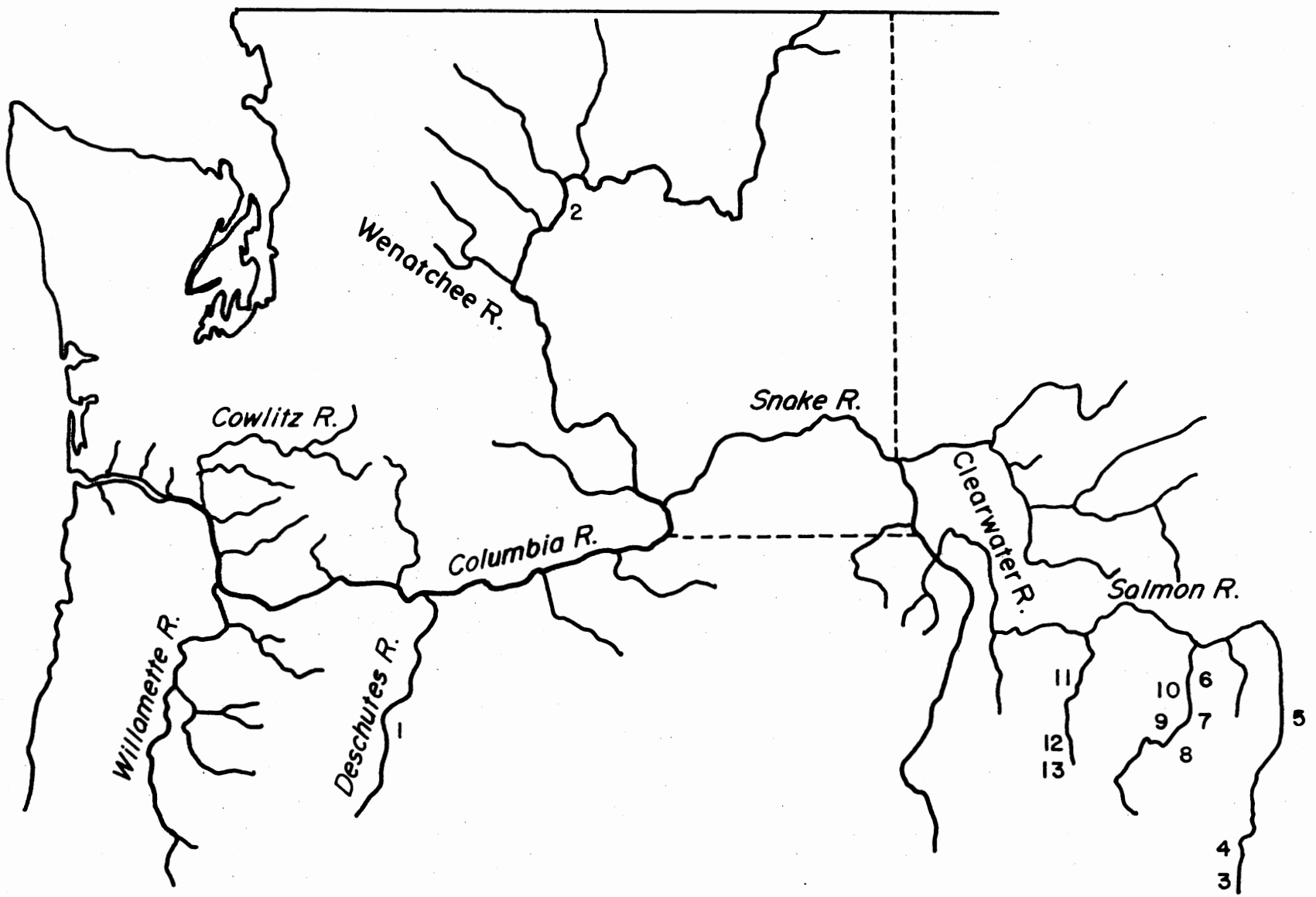

Figure 2.--Summer run chinook salmon populations sampled.

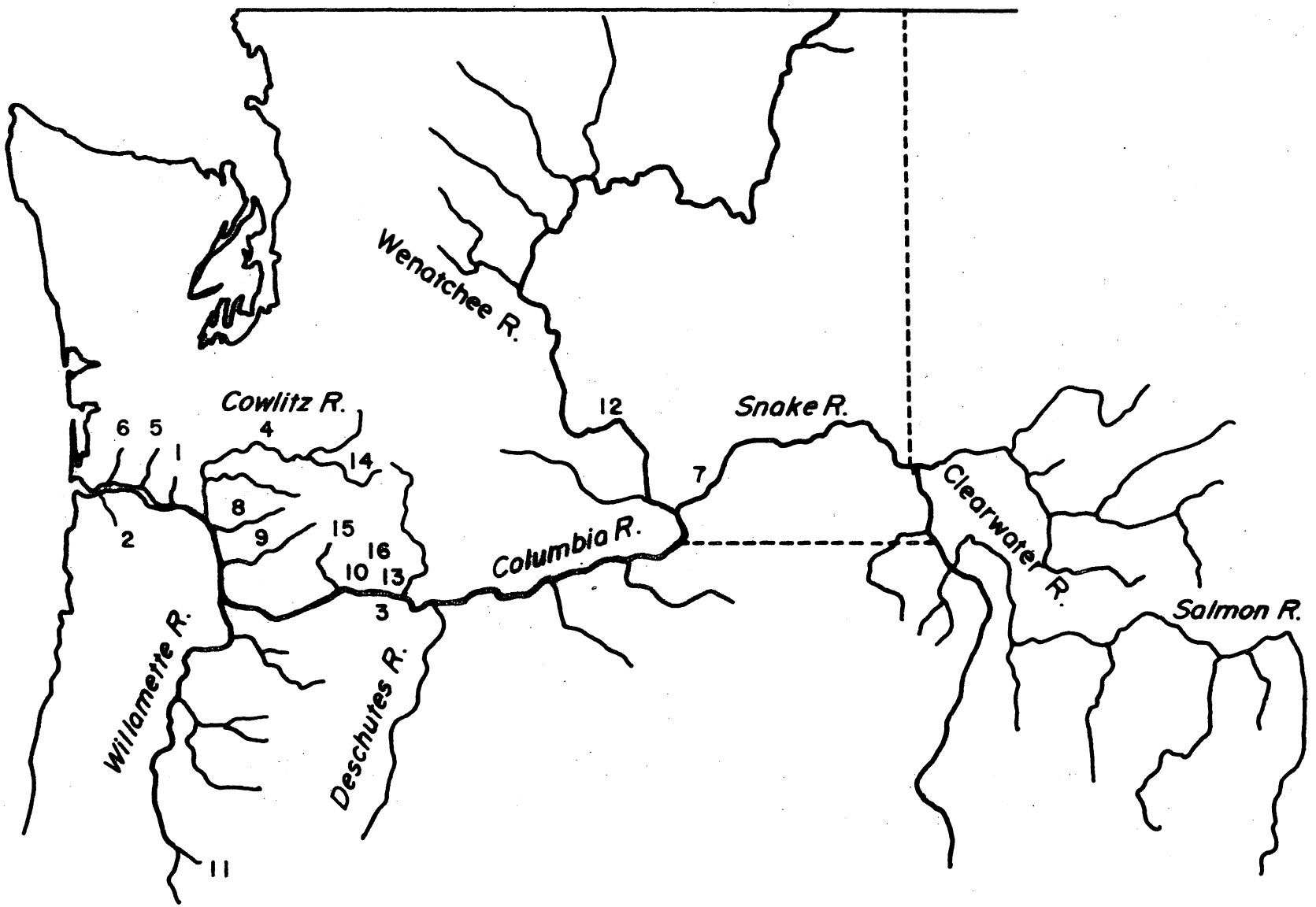

Figure 3.--Fall run chinook salmon populations sampled.

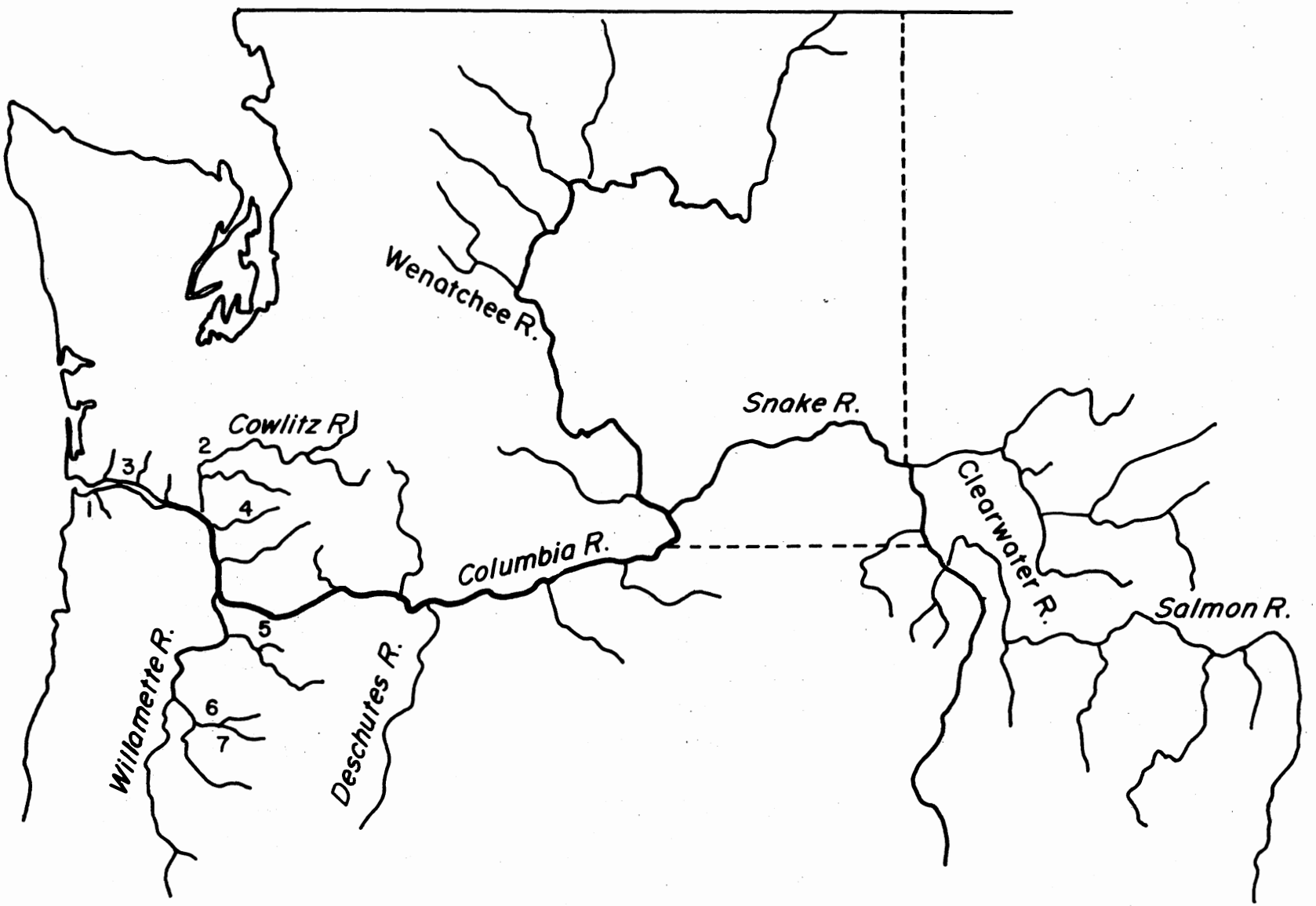

Figure 4.--Winter run steelhead populations sampled.

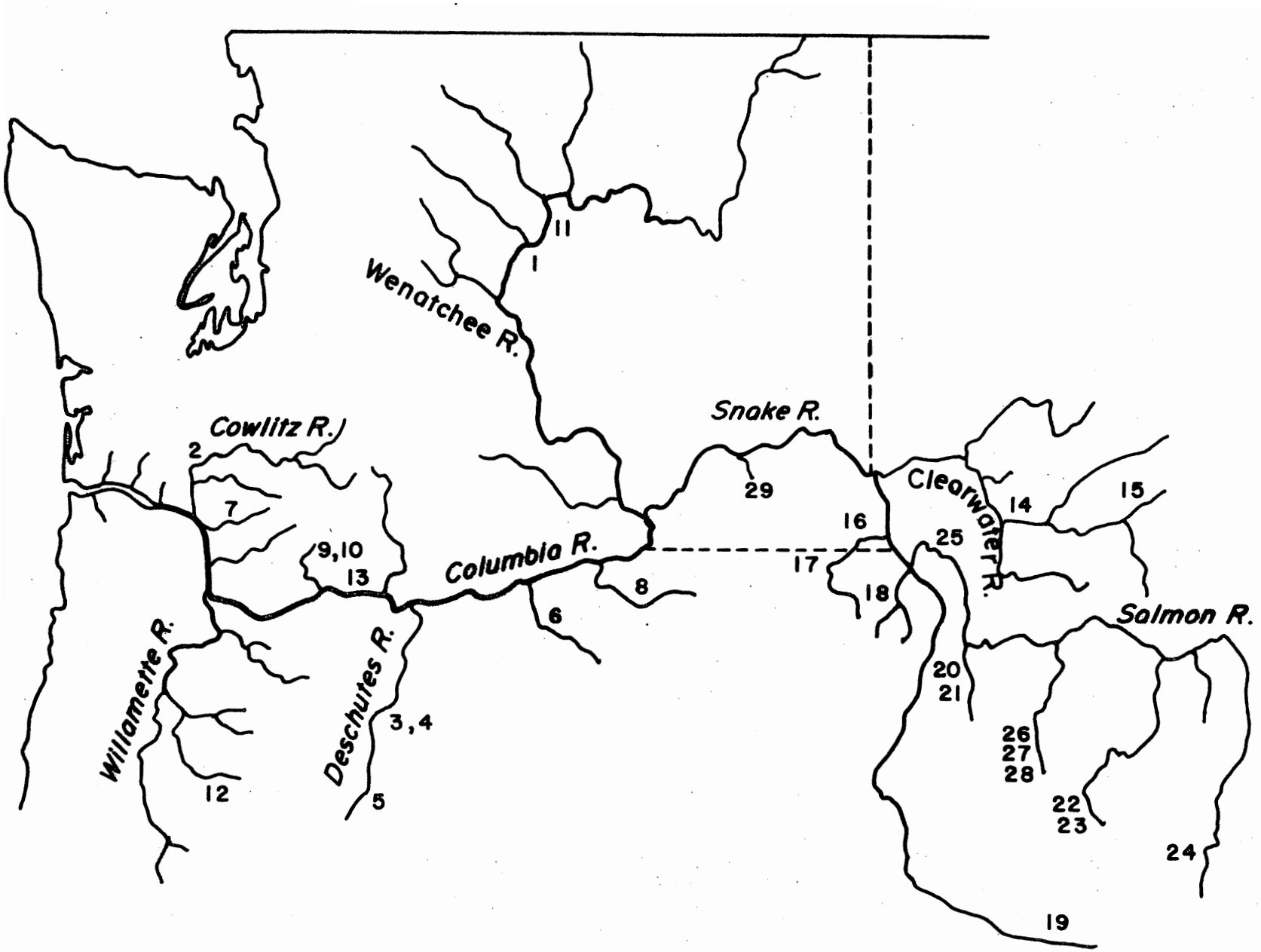

Figure 5.--Summer run steelhead populations sampled.

Table 6.--List of proteins and effective number of genetic loci surveyed.

Protein	Effective[1/] number of loci	Abbreviation
Alcohol dehydrogenase	1	ADH
Aspartate aminotranferase	2	AAT
Creatine kinase	2	CK
Glycerol-3-phosphate dehydrogenase	2	AGP
Isocitrate dehydrogenase	1	IDH
Lactate dehydrogenase	3	LDH
Malate dehydrogenase	2	MDH
Peptidase (glycyl-leucine dipeptide)	2	GL
Peptidase (leucyl-glycyl-glycine tripeptide)	1	LGG
Phosphoglucomutase	1	PGM
6-Phosphogluconate dehydrogenase	1	6PG
Phosphoglucose isomerase	3	PGI
Phosphomannose isomerase	1	PMI
Tetrazolium oxidase	2	TO

[1/] For the purpose of this table, if the gene products of 2 loci governing the amino acid makeup of the same protein were electrophoretically indistinguishable, they were counted as a single duplicated locus.

Table 7.--Newly surveyed genetic systems for steelhead for which partial data have been collected.

Protein	Effective number of loci	Abbreviation
Adenosine deaminase	1	ADA
Esterase	1	EST
Glycerol-3-phosphate dehydrogenase	2	AGP
Glyoxalase	1	GLO
Guanine deaminase	1	GDA
Isocitrate dehydrogenase	2	IDH
Lactate dehydrogenase	2	LDH
Malic enzyme	2	ME
Peptidase (Phenyl-alanyl-proline tripeptide)	3	PHAP
Phosphoglucomutase	1	PGM
Sorbitol dehydrogenase	2	SDH
Xanthine dehydrogenase	1	XDH

Stability of Allele Frequencies

Multiple samples over years were collected and electrophoretically analyzed to determine whether or not there were genetic differences between years within populations. Genetic homogeneity of samples taken from the same population is indicated in Tables 1-5 by multiple brood years (separated by commas) following the population name. Conversely, heterogeneity is indicated in the tables by entering the population name once for each genetically different subsample. For example, it was found that some populations showed genetic differences between sampling years (e.g., Lewis spring chinook salmon, Table 1); whereas, other populations showed no allele frequency instability over multiple sampling years (e.g., Carson spring chinook salmon, Table 1). The instability of allele frequencies is interpreted as predominately a reflection of the dynamic shifts in structures that are occurring in many populations as a result of current management practices involving transplantations, alterations of migrational processes, and consequent straying. At least as long as current management practices persist, these populations must be sampled yearly to update their genetic profiles if accurate mixed fishery estimates are to be obtained.

DEVELOPMENT OF STATISTICAL METHOD

Concept

The flow diagram in Figure 6 illustrates our concept of mixed fishery analysis based on electrophoretically detected genetic variation. First, genotype frequencies are determined for all population units that could contribute to a specific fishery. These data are referred to as baseline

data. Genotype frequencies are also obtained from a sample of the mixed fishery. The two sets of genotype frequencies are then used to obtain maximum likelihood estimates of the proportional contributions of the population units to the mixed fishery.

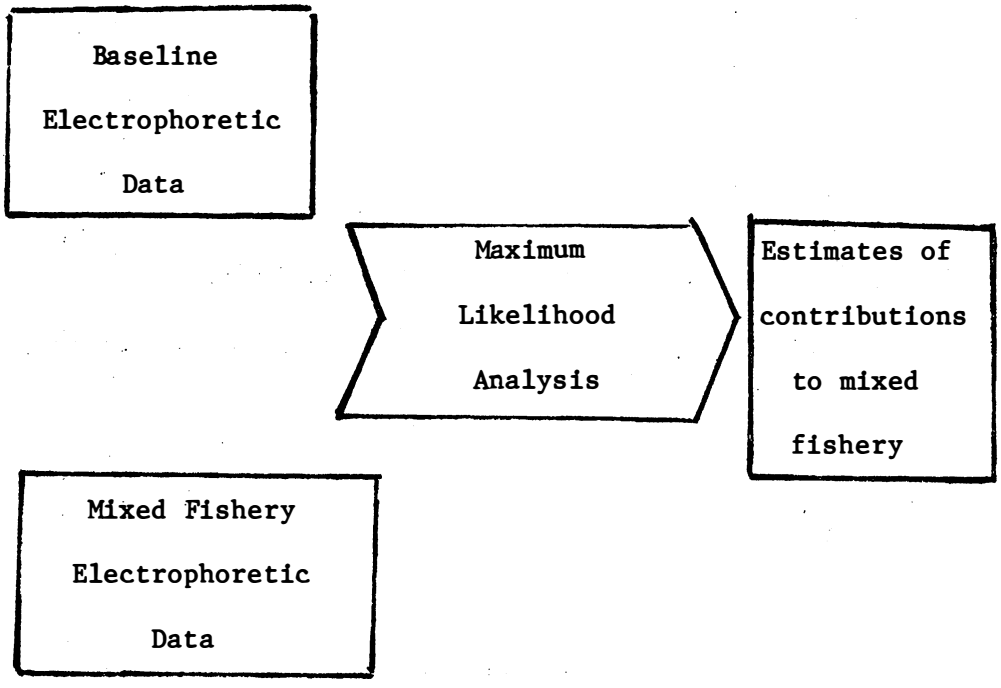

Figure 6.--A concept of mixed fishery analysis.

A model for the mixed fishery is defined by the equation.

$$Y_i/N = \sum_j x_{ij}\theta_j \qquad i = 1, 2 \ldots\ldots p \text{ genotypes}$$

$$j = 1, 2 \ldots\ldots n \text{ population units,}$$

where Y_i/N is the proportion of the mixed fishery having the ith genotype; X_{ij} is the frequency of the ith genotype in the jth population unit contributing to the mixed fishery; and θ_j is the proportion of the mixed fishery derived from the jth population unit. The equation states that the proportion of the mixed fishery having the ith genotype is equal to the sum over population units of the product of the genotype frequency

and the proportion of fish in the mixed fishery from each population unit. The X's are known from the sampling of all possible contributing population units, and the Y's are known from sampling the mixed fishery. Thus, only the proportional contribution of each population unit, θ_j, remains unknown, and this is the quantity to be estimated as described in the following section.

Method

A statistical method was developed that uses naturally occurring genetic differences among stocks to estimate the proportional stock composition of a mixed fishery. The method uses the EM algorithm (Dempster et al. 1977),

$$\theta^*_j = \sum_i \frac{Y_i \, X_{ij} \, \theta_j}{\left(\sum_i Y_i\right)\left(\sum_j X_{ij} \, \theta_j\right)}$$

to obtain some maximum likelihood (ML) estimates of the composition of a mixed fishery. Terms of the algorithm are as defined in the previous section with the addition of θ_j, which is the estimated proportion of fish in the mixed fishery from the jth population.

The estimates are obtained by the following stepwise procedure:

(1) θ^*_j values are obtained through initially solving the equation by arbitrarily assigning equal values to θ_j.

(2) A new set of θ^*_j is then obtained by substituting the previously obtained θ^*_j values for θ_j - and again solving the equation.

(3) Steps 1 and 2 are repeated until the successive values of θ^*_j converge.

The formula used to calculate the variance (V) of the ML estimate was:

$$V_{\theta_j} = -\sum_i \frac{\left[\sum_j X_{ij}\,\theta_j + X_{in}\left(1 - \sum_j^{n-1} \theta_j\right)\right]^2}{Y_i\,\left(X_{ij} - X_{in}\right)^2}$$

where all terms of this expression are defined as above.

Baseline genotype frequencies (X_{ij}) were considered fixed constants. Therefore, variances calculated with the formula given above do not include variation associated with the estimates of baseline genotype frequencies. To include this source of variation in the calculations would be too difficult and costly to be practical. Rather, it is better to minimize this source of variation by using adequate sample sizes for estimating the baseline genotype frequencies.

Evaluation

Results of initial evaluation through simulation using genetic data collected during this study from steelhead populations were very encouraging. In this simulation only four genetic loci (out of 13 polymorphic loci) were used to estimate the contribution of each of eight steelhead population units to a hypothetical mixed fishery that was defined to have the following composition:

Population unit[1/]	Name	Proportional contribution
1	Dworshak Hatchery	0.10
2	Deschutes (R.B.) Hatchery/Wells/Umatilla	0.05
3	Deschutes (R.B.) wild	0.10
4	Eagle Creek	0.50
5	Willamette-Marion Fork	0.05
6	Cowlitz/Kalama	0.10
7	Washougal-Skamania Hatchery	0.10
8	Chelan Hatchery	0.00

From this fishery, samples of 100, 200, 500, and 1000 fish were randomly chosen with 10 replicates of each sample size. Estimates of the proportional composition were made from each of these samples using real

1/ Since there were no significant genetic differences between Deschutes (R.B.) Hatchery, Wells, and Umatilla populations, they were considered as one population unit (Population Unit 2) for purpose of this simulation. The same was true for Cowlitz and Kalama populations (Population Unit 6).

baseline data. The mean and standard deviation (SD) of the estimated contribution of each population unit and its actual contribution to the arbitrarily defined mixed fishery are shown in Figure 7. The length of the vertical lines represents one SD around the means which are indicated by the mid-bars on the vertical lines. The true values are shown as shaded circles. Plus or minus one SD included the true values in every case except for Population Unit 3 for sample size of 100. The magnitude of the SD decreases as the sample size increases. The variance of an estimate is a function of sample size and degree of genetic differentiation among the population units. Therefore, the precision of an estimate can be increased by: (1) increasing the size of the sample taken from the mixed fishery or (2) increasing the genetic differentiation among the population units. The latter can be accomplished by altering the existing genotype frequencies (often referred to as genetic marking) or increasing the number of discriminating genetic loci. The variances of the estimates and, hence, the sample sizes required to obtain a particular level of precision will differ from one mixed fishery to another depending on the population units that could contribute to the fishery.

Further testing was done to determine the effects of sample size and the number of genetic loci on the precision of the ML estimates. To do this, variances were calculated for the two cases that resulted from varying each of the two variables while holding the other constant. Sample sizes were varied from 100 to 1,539 fish, and the number of loci was varied from one to seven. All of the loci were assigned the same distribution of genotypes.

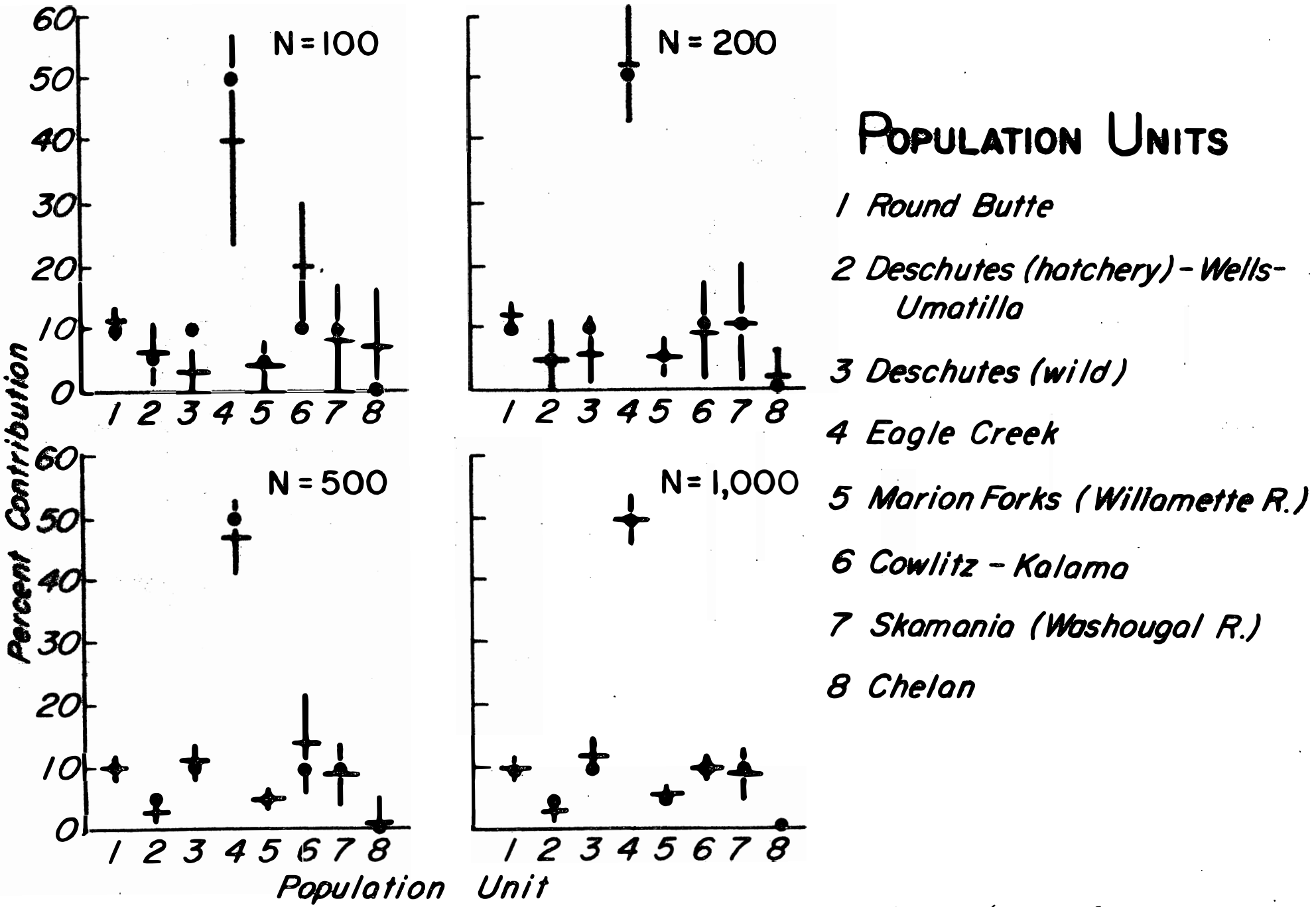

Figure 7.--Simulation results using genetic data (steelhead) collected during this study (see text for explanation of graphics.)

The results obtained are plotted on a log x log coordinate system in Figure 8. Increasing sample size by a factor, f, reduces the standard deviation of the ML estimate by a factor of $1/\sqrt{f}$. The effect of the number of loci used is more complicated and depends upon the distribution of genotype frequencies among the populations considered. In general, increasing the number of loci is an effective way to reduce the variance or standard deviation (SD) as can be seen in the example shown in Figure 8.

Another test of the method was done to determine whether or not the genetic differences found among stocks were sufficiently discriminating to obtain reasonable levels of precision of the ML estimates as measured by their SD's. Using a sample size of 1,000 fish, SD's were calculated for artificial mixed fishery estimates using genetic data collected during the study. The genetic data were limited to three polymorphic loci--TO, MDH-B, and PMI. This was done for the following hypothetical mixed stock fisheries:

1) Spring/summer chinook salmon Zones 1-5 fishery.

2) Fall chinook salmon Zones 1-5 fishery.

Stocks having indistinguishable genetic profiles (based on the three loci used) were pooled and considered one population unit. Results are presented in Tables 8 and 9.

In general, these results were very encouraging especially since only 3 of the 10 polymorphic loci were used.

CONCLUSIONS AND RECOMMENDATIONS

Wild and hatchery stocks of chinook salmon and steelhead from the Columbia River systems were surveyed for biochemical genetic variation that could be used for estimating the composition of mixed stock fisheries. It

FIGURE 8. Effect of varying sample size and number of genetic loci on standard deviation of estimate.

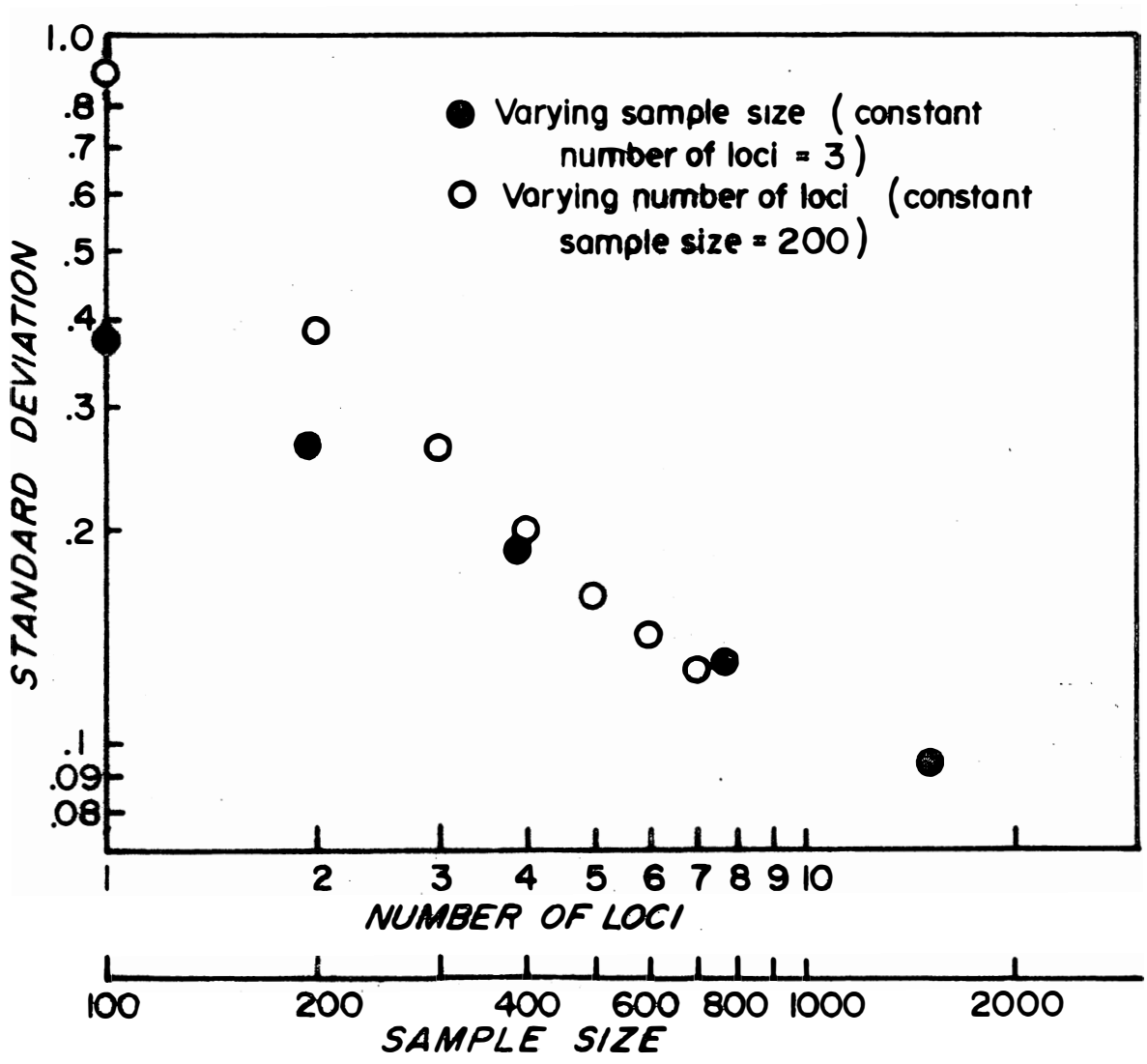

Table 8.--Columbia River spring/summer chinook salmon fishery (Zones 1-5)-precision of ML estimates as measured by their standard deviations using a hypothetical sample of 1,000 fish.

Population unit	Description	Contribution to fishery	Standard deviation
1	Salmon R.-Hell Roaring Creek		
	" " -Fishery Creek		
	" " -Pahsimeroi		
	So. Fork Salmon R.-Headwaters		
	" " " " -Curtis Creek		
	Middle Fork Salmon R.-Capehorn Creek		
	" " " " -Elk Creek	0.14	0.07
	" " " " -Bear Creek		
	" " " " -Marsh Creek		
	" " " " -Beaver Creek		
	Rapid R.		
	Wallowa Lostine		
	Kooskia		
	Middle Fork Clearwater R.		
	Deschutes R.-Round Butte (Spring run)		
	" " " " (Summer run)		
	Klickitat		
	Wind-Carson		
2	Wenatchee R.-Leavenworth	0.02	0.26
3	Yakima	0.02	0.05
4	Wells	0.02	0.02
5	Willamette R.-Dexter		
	" " -McKenzie		
	" " -So. Santiam	0.40	0.11
6	" " -No. Santiam	0.10	0.05
7	Lewis R.	0.10	0.05
8	Kalama R.	0.10	0.13
9	Cowlitz R.	0.10	0.11

Table 9.--Columbia River fall chinook salmon fishery (Zones 1-5)-precision of ML estimates as measured by their standard deviations using a hypothetical sample of 1,000 fish.

Population unit	Description	Contribution to fishery	Standard deviation
1	Ice Harbor	0.10	0.05
2	Priest Rapids	0.10	0.04
3	Deschutes-Warm Springs	0.10	0.05
4	Lewis	0.10	0.04
5	Willamette-McKenzie	0.10	0.03
6	Kalama Cowlitz Toutle Abernathy Elokomin Grays Big Creek Willard Spring Creek Little White Salmon Bonneville Washougal	0.50	0.05

was found that: (1) Considerable genetic differentiation suitable for this purpose existed among many of the stocks of both species. (2) Even better stock differentiation would result if new genetic data were added to the data bank. (3) A method for obtaining ML estimates for the composition of mixed stocks fisheries using biochemical genetic data is useful for analyzing the composition of mixed stock fisheries. (4) Both the appropriateness of the method and the sample size requirement for any specific mixed fishery problem will depend on: a) which stocks may contribute to the fishery, (b) what their genetic profiles are, and c) which contributing stock(s) are of interest. (5) Both the increase in sample size and number of loci reduced the standard deviations of the estimates; however, an increase in sample size yielded minimal gain beyond a certain point. Significant gains in precision occurred with the addition of each highly polymorphic locus, which resulted in a reduced sample size requirement for a given level of precision. For example, in Figure 8 it can be seen that approximately the same level of precision may be obtained using three loci with a sample size of 765 or seven loci with a sample size of 200. (6) Annual estimates of allele frequencies will be required for some populations for reliable mixed fishery estimates because of unstable frequencies due largely to transplantations and migrational modifications.

Recommendations based on this study include the following:

1. The method should be put to use in addressing Columbia/Snake River management problems; e.g., (a) regulation of gill net fisheries, (b) investigation of population structures as they relate to definition and protection of anadromous stocks under ESA, and (c) evaluation of success or failure of stock transplantations or introductions.

2. At the same time, monitoring allele frequencies in populations having unstable allele frequencies and developing and adding new systems to the baseline genetic data should be continued.

3. Transplantations should be made only on a controlled and coordinated basis to assure that the genetic consequences, especially as they relate to the use of this method, have been given due consideration.

4. Consideration should be given to using this method in conjunction with other traditional methods of stock identification.

5. Consideration should be given to breeding programs to modify allele frequencies in certain populations to increase discriminating capabilities of this method of stock identification.

6. Baseline genetic data must be collected for coastal stocks to evaluate the potential of this method for estimating proportional contribution of Columbia/Snake River stocks in Pacific Ocean fisheries.

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APPENDIX A

SPRING CHINOOK SALMON ALLELE FREQUENCIES

TABLE A1 . LOCUS: AAT-1,2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
KLICKIT 75	100	0.99	0.01	0.00	0.00	0.00	0.00
KLICKIT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	400	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	504	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	488	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	360	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	168	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	536	1.00	0.00	0.00	0.00	0.00	0.00
TWISP	196	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	348	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	168	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	316	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 77	172	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	196	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	160	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	696	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	156	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	392	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	180	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	480	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 1	188	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	348	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	188	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	476	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT2	192	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	344	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	400	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 75	320	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	200	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	80	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	160	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	924	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	384	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	580	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	168	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A2. LOCUS: AAT-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MF CLEARWA	164	0.99	0.00	0.01	0.00	0.00	0.00
CARSON 78	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	320	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	300	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	188	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT2	86	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	194	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	192	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	188	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 78	200	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	92	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	36	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	100	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 1	100	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	356	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	176	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 78	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	268	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	132	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	170	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	82	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
TWISP	36	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 77	80	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	180	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	196	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	92	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	160	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	240	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	162	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	52	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	196	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	278	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	174	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 75	80	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	400	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	430	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A3. LOCUS: ADH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
LEWIS 77	100	0.83	0.17	0.00	0.00	0.00	0.00
COWLTZ 78	200	0.92	0.09	0.00	0.00	0.00	0.00
JOHN DAY	162	0.93	0.00	0.07	0.00	0.00	0.00
COWLTZ 75	142	0.94	0.06	0.00	0.00	0.00	0.00
MF WILLAME	74	0.96	0.04	0.00	0.00	0.00	0.00
WALLOWA	30	0.97	0.00	0.03	0.00	0.00	0.00
TWISP	152	0.97	0.00	0.03	0.00	0.00	0.00
KOOSKIA 76	188	0.97	0.03	0.00	0.00	0.00	0.00
WENATCHEE	194	0.97	0.00	0.03	0.00	0.00	0.00
MCKENZIE79	200	0.98	0.03	0.00	0.00	0.00	0.00
MCKEN WILD	194	0.98	0.02	0.00	0.00	0.00	0.00
LEAVENW 77	100	0.98	0.02	0.00	0.00	0.00	0.00
RD BUT 78	200	0.99	0.00	0.02	0.00	0.00	0.00
ENTIAT2	180	0.99	0.00	0.01	0.00	0.00	0.00
CARSON 78	94	0.99	0.00	0.01	0.00	0.00	0.00
KALAMA 76	100	0.99	0.01	0.00	0.00	0.00	0.00
KLICKIT 78	200	0.99	0.01	0.00	0.00	0.00	0.00
EAGLE 78	200	0.99	0.01	0.00	0.00	0.00	0.00
DEXTER 78	200	0.99	0.01	0.00	0.00	0.00	0.00
WELLS 75	162	0.99	0.01	0.00	0.00	0.00	0.00
KALAMA 78	198	1.00	0.01	0.00	0.00	0.00	0.00
LEWIS 78	192	1.00	0.01	0.00	0.00	0.00	0.00
SO SANT 78	196	1.00	0.01	0.00	0.00	0.00	0.00
RAPID R 78	200	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	78	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 78	200	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	192	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	210	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	198	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	86	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	132	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	100	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 1	86	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	140	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	84	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A4. LOCUS: AGP-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
LOW GRANIT	562	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	328	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	198	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	26	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	120	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	100	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	100	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	198	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	400	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	160	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	90	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	76	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	292	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	362	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	278	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	352	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	188	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A5. LOCUS: AGP-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 75	100	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	328	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	198	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	26	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	120	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	100	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	160	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	198	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	400	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	76	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	90	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	562	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	292	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	362	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	278	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	352	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	188	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A6. LOCUS: CK-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 75	358	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	394	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	258	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	194	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	54	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	268	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	278	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 75	226	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	400	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	430	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	404	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	340	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	348	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	190	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A7. LOCUS: CK-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 75	358	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	394	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	258	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	194	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	54	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	268	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	278	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 75	226	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	400	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	430	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	404	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	340	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	348	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	190	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A8. LOCUS: GL-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
LEWIS 77	98	0.82	0.18	0.00	0.00	0.00	0.00
COWLTZ 75	134	0.95	0.05	0.00	0.00	0.00	0.00
RD BUT 78	200	0.96	0.05	0.00	0.00	0.00	0.00
KLICKIT 78	190	0.96	0.04	0.00	0.00	0.00	0.00
LEAVENW 77	100	0.97	0.00	0.00	0.03	0.00	0.00
WELLS 75	84	0.98	0.02	0.00	0.00	0.00	0.00
KOOSKIA 76	200	0.98	0.02	0.00	0.00	0.00	0.00
JOHN DAY	168	0.98	0.02	0.00	0.00	0.00	0.00
ENTIAT2	174	0.98	0.02	0.00	0.00	0.00	0.00
LEWIS 78	196	0.99	0.02	0.00	0.00	0.00	0.00
YAKIMA	440	0.99	0.01	0.00	0.00	0.00	0.00
WARM SP 76	336	0.99	0.01	0.00	0.00	0.00	0.00
CARSON 78	260	0.99	0.00	0.00	0.01	0.00	0.00
WARM SP 78	200	0.99	0.01	0.00	0.00	0.00	0.00
COWLTZ 78	192	0.99	0.01	0.00	0.00	0.00	0.00
KOOSKIA 77	200	0.99	0.01	0.00	0.00	0.00	0.00
RD BUT 77	100	0.99	0.00	0.00	0.01	0.00	0.00
LEAVENW 78	200	0.99	0.00	0.00	0.01	0.00	0.00
NO SANT 78	198	0.99	0.01	0.01	0.00	0.00	0.00
KALAMA 76	100	0.99	0.01	0.00	0.00	0.00	0.00
WENATCHEE	166	0.99	0.01	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.01	0.00	0.00	0.00	0.00
IMNAHA 1	88	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	196	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
TWISP	156	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	198	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	200	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	186	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	196	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	124	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	562	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	126	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	194	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	198	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	430	1.00	0.00	0.00	0.00	0.00	0.00
MF WILLAME	74	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	100	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A9. LOCUS: GL-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TWISP	156	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	200	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	82	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	200	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	40	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 77	100	1.00	0.00	0.00	0.00	0.00	0.00
MF WILLAME	74	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	140	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	170	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	126	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	100	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	166	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	132	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	100	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 1	88	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 78	200	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	198	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	260	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT2	180	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	100	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 78	200	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	100	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	198	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A10. LOCUS: IDH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
RD BUT 77	196	0.60	0.24	0.16	0.00	0.00	0.00
ENTIAT2	320	0.82	0.00	0.18	0.00	0.00	0.00
WENATCHEE	340	0.82	0.00	0.18	0.00	0.00	0.00
TWISP	288	0.85	0.00	0.15	0.00	0.00	0.00
LEAVENW 77	192	0.86	0.02	0.12	0.00	0.00	0.00
SO SANT 78	388	0.86	0.14	0.00	0.00	0.00	0.00
CARSON 78	184	0.86	0.00	0.14	0.00	0.00	0.00
DEXTER 78	372	0.87	0.13	0.00	0.00	0.00	0.00
EAGLE 75	560	0.87	0.08	0.00	0.05	0.00	0.00
WARM SP 78	392	0.88	0.00	0.12	0.00	0.00	0.00
YAKIMA	252	0.88	0.01	0.11	0.00	0.00	0.00
MCKENZIE79	400	0.89	0.11	0.01	0.00	0.00	0.00
MF WILLAME	116	0.89	0.11	0.00	0.00	0.00	0.00
KOOSKIA 76	364	0.89	0.00	0.11	0.00	0.00	0.00
KALAMA 76	348	0.89	0.11	0.00	0.00	0.00	0.00
LEAVENW 78	316	0.90	0.00	0.10	0.00	0.00	0.00
JOHN DAY	324	0.90	0.01	0.09	0.00	0.00	0.00
LEWIS 78	380	0.91	0.00	0.09	0.00	0.00	0.00
KLICKIT 78	364	0.91	0.01	0.08	0.00	0.00	0.00
LEAVENW 76	336	0.91	0.00	0.08	0.00	0.00	0.00
WALLOWA	60	0.92	0.00	0.08	0.00	0.00	0.00
IMNAHA 1	184	0.92	0.00	0.08	0.00	0.00	0.00
CARSON 78	172	0.92	0.00	0.08	0.00	0.00	0.00
EAGLE 78	372	0.93	0.05	0.02	0.00	0.00	0.00
MCKEN WILD	376	0.93	0.07	0.00	0.00	0.00	0.00
RD BUT 78	372	0.93	0.01	0.06	0.00	0.00	0.00
RAPID R 76	196	0.93	0.00	0.07	0.00	0.00	0.00
IMNAHA 2	272	0.93	0.00	0.07	0.00	0.00	0.00
KOOSKIA 77	360	0.94	0.00	0.06	0.00	0.00	0.00
KALAMA 78	320	0.94	0.03	0.03	0.00	0.00	0.00
WELLS 75	336	0.94	0.06	0.00	0.00	0.00	0.00
MFS BEAVER	156	0.94	0.00	0.06	0.00	0.00	0.00
LEWIS 77	196	0.94	0.04	0.02	0.00	0.00	0.00
COWLTZ 78	368	0.95	0.03	0.03	0.00	0.00	0.00
COWLTZ 75	264	0.95	0.02	0.03	0.00	0.00	0.00
MF CLEARWA	176	0.96	0.00	0.04	0.00	0.00	0.00
RAPID R 78	388	0.96	0.00	0.04	0.00	0.00	0.00
GRAN RON 1	168	0.97	0.00	0.03	0.00	0.00	0.00
DEXTER 75	320	0.98	0.02	0.01	0.00	0.00	0.00
NO SANT 78	396	0.98	0.03	0.00	0.00	0.00	0.00
GRAN RON 2	220	0.98	0.00	0.02	0.00	0.00	0.00

TABLE A11. LOCUS: LDH-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
LEAVENW 78	100	1.00	0.00	0.00	0.00	0.00	0.00
MF WILLAME	37	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	168	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	50	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	100	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	100	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	64	1.00	0.00	0.00	0.00	0.00	0.00
TWISP	75	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	100	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	15	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	90	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	85	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	138	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 1	44	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	200	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 77	50	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	100	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	100	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	41	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	50	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	100	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	66	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	50	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	85	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	99	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	65	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	276	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 78	100	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	99	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	42	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	146	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT2	95	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	100	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	50	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 78	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	94	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	92	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	99	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	103	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	139	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	122	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	50	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A12. LOCUS: LDH-4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
RAPID R 78	200	0.94	0.06	0.00	0.00	0.00	0.00
LEAVENW 77	100	0.97	0.03	0.00	0.00	0.00	0.00
LEAVENW 78	200	0.98	0.02	0.00	0.00	0.00	0.00
LOW GRANIT	552	0.98	0.00	0.02	0.00	0.00	0.00
MFS BEAVER	84	0.99	0.01	0.00	0.00	0.00	0.00
LEAVENW 76	184	0.99	0.01	0.00	0.00	0.00	0.00
KOOSKIA 77	200	0.99	0.01	0.00	0.00	0.00	0.00
CARSON 78	100	0.99	0.01	0.00	0.00	0.00	0.00
KOOSKIA 76	394	1.00	0.00	0.01	0.00	0.00	0.00
MF CLEARWA	198	1.00	0.00	0.01	0.00	0.00	0.00
EAGLE 75	300	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	410	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	406	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT2	190	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 1	84	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 78	200	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	320	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	200	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	170	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	100	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	132	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 78	190	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	292	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	198	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	180	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	130	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
TWISP	150	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	170	1.00	0.00	0.00	0.00	0.00	0.00
MF WILLAME	74	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	206	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	188	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	244	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A13. LOCUS: LDH-5

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 75	196	0.96	0.04	0.00	0.00	0.00	0.00
KLICKIT 78	190	0.99	0.01	0.00	0.00	0.00	0.00
COWLTZ 75	222	0.99	0.01	0.00	0.00	0.00	0.00
LOW GRANIT	562	0.99	0.01	0.00	0.00	0.00	0.00
WARM SP 78	200	1.00	0.01	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.01	0.00	0.00	0.00	0.00
RAPID R 76	468	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	406	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT2	190	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	200	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	100	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	130	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	282	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 78	200	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	206	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	198	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	170	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 75	80	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	170	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	180	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	470	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	132	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	198	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 1	84	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	94	1.00	0.00	0.00	0.00	0.00	0.00
TWISP	150	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	188	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 77	100	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
MF WILLAME	74	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	200	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	286	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	198	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	278	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A14. LOCUS: LGG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
DEXTER 78	172	0.77	0.23	0.00	0.00	0.00	0.00
EAGLE 78	198	0.84	0.16	0.00	0.00	0.00	0.00
MF WILLAME	56	0.84	0.16	0.00	0.00	0.00	0.00
SO SANT 78	184	0.88	0.12	0.00	0.00	0.00	0.00
MCKENZIE79	180	0.89	0.11	0.00	0.00	0.00	0.00
LEAVENW 78	200	0.90	0.11	0.00	0.00	0.00	0.00
RAPID R 78	198	0.91	0.09	0.00	0.00	0.00	0.00
LEAVENW 77	96	0.92	0.08	0.00	0.00	0.00	0.00
MCKEN WILD	172	0.92	0.08	0.00	0.00	0.00	0.00
NO SANT 76	92	0.92	0.08	0.00	0.00	0.00	0.00
COWLTZ 78	198	0.92	0.08	0.00	0.00	0.00	0.00
ENTIAT2	116	0.94	0.06	0.00	0.00	0.00	0.00
CARSON 78	100	0.94	0.06	0.00	0.00	0.00	0.00
LEWIS 77	100	0.94	0.06	0.00	0.00	0.00	0.00
NO SANT 78	198	0.94	0.06	0.00	0.00	0.00	0.00
CARSON 78	98	0.95	0.05	0.00	0.00	0.00	0.00
KALAMA 76	100	0.95	0.05	0.00	0.00	0.00	0.00
KOOSKIA 77	200	0.96	0.05	0.00	0.00	0.00	0.00
WARM SP 76	142	0.96	0.04	0.00	0.00	0.00	0.00
WENATCHEE	170	0.96	0.04	0.00	0.00	0.00	0.00
LEAVENW 76	100	0.96	0.04	0.00	0.00	0.00	0.00
IMNAHA 1	78	0.96	0.04	0.00	0.00	0.00	0.00
RD BUT 78	190	0.96	0.04	0.00	0.00	0.00	0.00
KLICKIT 78	196	0.96	0.04	0.00	0.00	0.00	0.00
LOW GRANIT	232	0.97	0.03	0.00	0.00	0.00	0.00
EAGLE 75	90	0.97	0.03	0.00	0.00	0.00	0.00
KALAMA 78	194	0.97	0.03	0.00	0.00	0.00	0.00
TWISP	96	0.98	0.02	0.00	0.00	0.00	0.00
LEWIS 78	188	0.98	0.02	0.00	0.00	0.00	0.00
IMNAHA 2	86	0.99	0.01	0.00	0.00	0.00	0.00
MFS BEAVER	84	0.99	0.01	0.00	0.00	0.00	0.00
WARM SP 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	170	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	132	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A15. LOCUS: MDH-A

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
YAKIMA	776	0.98	0.02	0.00	0.00	0.00	0.00
WARM SP 76	808	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	776	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 77	200	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	140	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 77	400	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	400	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	860	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	400	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	400	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT2	392	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	360	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	16	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	388	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 78	400	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	400	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	168	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	396	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 78	400	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	260	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	400	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	556	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 1	192	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	388	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	400	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	1124	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	280	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	200	1.00	0.00	0.00	0.00	0.00	0.00
TWISP	312	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	400	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	340	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	192	1.00	0.00	0.00	0.00	0.00	0.00
MF WILLAME	148	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	396	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	200	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	400	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	168	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	584	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	396	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A16. LOCUS: MDH-B

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NO SANT 78	396	0.91	0.09	0.00	0.00	0.00	0.00
MCKENZIE79	400	0.93	0.07	0.00	0.00	0.00	0.00
EAGLE 75	680	0.94	0.06	0.00	0.00	0.00	0.00
MCKEN WILD	400	0.94	0.06	0.00	0.00	0.00	0.00
LEWIS 77	200	0.95	0.06	0.00	0.00	0.00	0.00
DEXTER 75	556	0.95	0.05	0.00	0.00	0.00	0.00
DEXTER 78	384	0.95	0.05	0.00	0.00	0.00	0.00
WENATCHEE	400	0.96	0.04	0.00	0.00	0.01	0.00
NO SANT 76	200	0.97	0.03	0.00	0.01	0.00	0.00
MCKENZIE76	572	0.97	0.04	0.00	0.00	0.00	0.00
MF WILLAME	148	0.97	0.03	0.00	0.00	0.00	0.00
KOOSKIA 76	752	0.97	0.03	0.00	0.00	0.00	0.00
IMNAHA 1	192	0.97	0.03	0.00	0.00	0.00	0.00
WELLS 75	524	0.97	0.02	0.01	0.00	0.00	0.00
CARSON 78	900	0.97	0.03	0.00	0.00	0.00	0.00
CARSON 78	192	0.97	0.03	0.00	0.00	0.00	0.00
SO SANT 78	400	0.98	0.03	0.00	0.00	0.00	0.00
LEWIS 78	396	0.98	0.02	0.00	0.00	0.00	0.00
LEAVENW 78	400	0.98	0.02	0.00	0.00	0.00	0.00
LEAVENW 76	368	0.98	0.02	0.00	0.00	0.00	0.00
TWISP	312	0.98	0.02	0.00	0.00	0.00	0.00
KLICKIT 75	452	0.98	0.02	0.00	0.00	0.00	0.00
ENTIAT2	348	0.98	0.02	0.00	0.00	0.00	0.00
IMNAHA 2	272	0.98	0.02	0.00	0.00	0.00	0.00
EAGLE 78	400	0.98	0.02	0.00	0.00	0.00	0.00
WALLOWA	64	0.98	0.02	0.00	0.00	0.00	0.00
KALAMA 76	800	0.98	0.02	0.00	0.00	0.00	0.00
WARM SP 78	400	0.99	0.01	0.00	0.00	0.00	0.00
COWLTZ 75	736	0.99	0.02	0.00	0.00	0.00	0.00
GRAN RON 1	168	0.99	0.01	0.00	0.00	0.00	0.00
COWLTZ 78	400	0.99	0.01	0.00	0.00	0.00	0.00
RD BUT 78	400	0.99	0.00	0.01	0.00	0.00	0.00
LOW GRANIT	1112	0.99	0.01	0.00	0.00	0.00	0.00
KOOSKIA 77	396	0.99	0.01	0.00	0.00	0.00	0.00
YAKIMA	960	0.99	0.00	0.01	0.00	0.00	0.00
LEAVENW 77	200	0.99	0.01	0.00	0.00	0.00	0.00
JOHN DAY	340	0.99	0.01	0.00	0.00	0.00	0.00
KALAMA 78	388	1.00	0.01	0.00	0.00	0.00	0.00
KLICKIT 78	400	1.00	0.01	0.00	0.00	0.00	0.00
RAPID R 76	1176	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	396	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	400	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	168	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	944	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 75	320	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	244	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A17. LOCUS: 6PG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	250	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	200	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	100	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	84	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	26	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	100	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	98	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	198	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	98	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	100	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	378	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	292	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	100	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	200	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	206	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	410	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	40	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A18. LOCUS: PGI-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WARM SP 76	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	80	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	72	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	100	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	258	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	210	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	80	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	206	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	420	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	48	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A19. LOCUS: PGI-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
LEWIS 77	100	0.94	0.06	0.00	0.00	0.00	0.00
WALLOWA	30	0.97	0.03	0.00	0.00	0.00	0.00
LEAVENW 76	184	0.97	0.03	0.00	0.00	0.00	0.00
KALAMA 76	420	0.99	0.01	0.00	0.00	0.00	0.00
WARM SP 76	454	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	198	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	62	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 75	226	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	340	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	268	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	158	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	304	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	112	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	88	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	48	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 75	160	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	442	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	350	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A20. LOCUS: PGI-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
KALAMA 76	420	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	454	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	126	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	290	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	268	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	340	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	482	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	94	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	196	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	304	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	198	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 75	226	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	168	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	390	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 75	160	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	416	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A21. LOCUS: PGM

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
YAKIMA	322	1.00	0.00	0.00	0.00	0.00	0.00
WARM SP 76	476	1.00	0.00	0.00	0.00	0.00	0.00
MF CLEARWA	70	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	94	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAVER	84	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	198	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	100	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 77	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	320	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	268	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	278	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 75	226	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	356	1.00	0.00	0.00	0.00	0.00	0.00
CARSON 78	558	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	416	1.00	0.00	0.00	0.00	0.00	0.00
LOW GRANIT	482	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	340	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 75	160	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	290	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A22. LOCUS: PMI

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MCKENZIE79	196	0.40	0.60	0.00	0.00	0.00	0.00
MCKEN WILD	200	0.42	0.58	0.00	0.00	0.00	0.00
KALAMA 76	418	0.42	0.58	0.00	0.00	0.00	0.00
DEXTER 78	196	0.46	0.54	0.00	0.00	0.00	0.00
NO SANT 76	100	0.46	0.54	0.00	0.00	0.00	0.00
MF WILLAME	66	0.47	0.53	0.00	0.00	0.00	0.00
LEWIS 77	100	0.47	0.45	0.08	0.00	0.00	0.00
MCKENZIE76	282	0.48	0.52	0.00	0.00	0.00	0.00
COWLTZ 78	200	0.50	0.46	0.04	0.00	0.00	0.00
EAGLE 78	200	0.51	0.49	0.00	0.00	0.00	0.00
SO SANT 78	200	0.51	0.49	0.00	0.00	0.00	0.00
COWLTZ 75	368	0.51	0.46	0.02	0.00	0.00	0.00
EAGLE 75	334	0.52	0.48	0.00	0.00	0.00	0.00
KALAMA 78	200	0.52	0.48	0.00	0.00	0.00	0.00
NO SANT 78	198	0.54	0.46	0.00	0.00	0.00	0.00
DEXTER 75	270	0.56	0.44	0.00	0.00	0.00	0.00
SO SANT 75	154	0.58	0.42	0.01	0.00	0.00	0.00
WELLS 75	354	0.67	0.33	0.00	0.00	0.00	0.00
YAKIMA	464	0.75	0.25	0.00	0.00	0.00	0.00
KLICKIT 75	226	0.76	0.24	0.00	0.00	0.00	0.00
WALLOWA	30	0.77	0.23	0.00	0.00	0.00	0.00
LEAVENW 77	100	0.78	0.22	0.00	0.00	0.00	0.00
RD BUT 77	100	0.79	0.21	0.00	0.00	0.00	0.00
MFS BEAVER	54	0.80	0.20	0.00	0.00	0.00	0.00
IMNAHA 2	138	0.80	0.20	0.00	0.00	0.00	0.00
TWISP	156	0.84	0.16	0.00	0.00	0.00	0.00
IMNAHA 1	100	0.86	0.14	0.00	0.00	0.00	0.00
KOOSKIA 76	368	0.86	0.14	0.00	0.00	0.00	0.00
GRAN RON 2	122	0.88	0.12	0.00	0.00	0.00	0.00
LEAVENW 76	184	0.88	0.12	0.00	0.00	0.00	0.00
GRAN RON 1	84	0.88	0.12	0.00	0.00	0.00	0.00
CARSON 78	100	0.89	0.11	0.00	0.00	0.00	0.00
LEAVENW 78	200	0.89	0.11	0.00	0.00	0.00	0.00
WARM SP 78	200	0.89	0.11	0.00	0.00	0.00	0.00
CARSON 78	390	0.89	0.11	0.00	0.00	0.00	0.00
KOOSKIA 77	200	0.90	0.11	0.00	0.00	0.00	0.00
RAPID R 76	510	0.90	0.10	0.00	0.00	0.00	0.00
WARM SP 76	448	0.90	0.10	0.00	0.00	0.00	0.00
LOW GRANIT	550	0.91	0.09	0.00	0.00	0.00	0.00
LEWIS 78	200	0.92	0.09	0.00	0.00	0.00	0.00
MF CLEARWA	168	0.92	0.08	0.00	0.00	0.00	0.00
RD BUT 78	200	0.92	0.08	0.00	0.00	0.00	0.00
WENATCHEE	200	0.93	0.07	0.00	0.00	0.00	0.00
KLICKIT 78	198	0.93	0.07	0.00	0.00	0.00	0.00
ENTIAT2	182	0.93	0.07	0.00	0.00	0.00	0.00
RAPID R 78	198	0.95	0.05	0.00	0.00	0.00	0.00
JOHN DAY	156	0.96	0.05	0.00	0.00	0.00	0.00

TABLE A23. LOCUS: TO-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WARM SP 76	356	0.52	0.48	0.00	0.00	0.00	0.00
RD BUT 77	100	0.57	0.43	0.00	0.00	0.00	0.00
WARM SP 78	200	0.58	0.42	0.00	0.00	0.00	0.00
WELLS 75	342	0.58	0.41	0.00	0.00	0.00	0.00
LEWIS 77	100	0.61	0.39	0.00	0.00	0.00	0.00
COWLTZ 75	364	0.62	0.38	0.00	0.00	0.00	0.00
COWLTZ 78	200	0.65	0.36	0.00	0.00	0.00	0.00
EAGLE 75	334	0.65	0.35	0.00	0.00	0.00	0.00
TWISP	156	0.67	0.33	0.00	0.00	0.00	0.00
KLICKIT 78	198	0.67	0.33	0.00	0.00	0.00	0.00
KALAMA 78	198	0.69	0.31	0.00	0.00	0.00	0.00
LEWIS 78	200	0.70	0.30	0.00	0.00	0.00	0.00
WENATCHEE	200	0.72	0.29	0.00	0.00	0.00	0.00
ENTIAT2	190	0.73	0.27	0.00	0.00	0.00	0.00
KLICKIT 75	222	0.73	0.27	0.00	0.00	0.00	0.00
YAKIMA	394	0.73	0.27	0.00	0.00	0.00	0.00
LEAVENW 76	184	0.74	0.26	0.00	0.00	0.00	0.00
LEAVENW 78	200	0.74	0.26	0.00	0.00	0.00	0.00
JOHN DAY	170	0.74	0.26	0.00	0.00	0.00	0.00
NO SANT 78	198	0.74	0.26	0.00	0.00	0.00	0.00
MF WILLAME	74	0.74	0.26	0.00	0.00	0.00	0.00
RD BUT 78	200	0.75	0.25	0.00	0.00	0.00	0.00
WALLOWA	30	0.77	0.23	0.00	0.00	0.00	0.00
GRAN RON 1	84	0.77	0.23	0.00	0.00	0.00	0.00
KOOSKIA 77	200	0.78	0.22	0.00	0.00	0.00	0.00
NO SANT 76	100	0.81	0.19	0.00	0.00	0.00	0.00
LEAVENW 77	100	0.82	0.18	0.00	0.00	0.00	0.00
KALAMA 76	412	0.82	0.18	0.00	0.00	0.00	0.00
KOOSKIA 76	196	0.82	0.18	0.00	0.00	0.00	0.00
MCKENZIE79	200	0.83	0.17	0.00	0.00	0.00	0.00
CARSON 78	384	0.83	0.17	0.00	0.00	0.00	0.00
SO SANT 78	200	0.84	0.16	0.00	0.00	0.00	0.00
DEXTER 75	276	0.84	0.16	0.00	0.00	0.00	0.00
EAGLE 78	116	0.85	0.16	0.00	0.00	0.00	0.00
DEXTER 78	200	0.85	0.16	0.00	0.00	0.00	0.00
MCKEN WILD	200	0.86	0.14	0.00	0.00	0.00	0.00
GRAN RON 2	112	0.88	0.13	0.00	0.00	0.00	0.00
CARSON 78	100	0.88	0.12	0.00	0.00	0.00	0.00
MCKENZIE76	94	0.89	0.11	0.00	0.00	0.00	0.00
IMNAHA 1	100	0.91	0.09	0.00	0.00	0.00	0.00
IMNAHA 2	140	0.91	0.09	0.00	0.00	0.00	0.00
RAPID R 78	200	0.92	0.09	0.00	0.00	0.00	0.00
RAPID R 76	588	0.93	0.07	0.00	0.00	0.00	0.00
MF CLEARWA	198	0.93	0.07	0.00	0.00	0.00	0.00
SO SANT 75	80	0.96	0.04	0.00	0.00	0.00	0.00
LOW GRANIT	468	0.98	0.02	0.00	0.00	0.00	0.00
MFS BEAVER	82	1.00	0.00	0.00	0.00	0.00	0.00

TABLE A24. LOCUS: TO-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WARM SP 76	406	0.92	0.08	0.00	0.00	0.00	0.00
WARM SP 78	188	0.94	0.06	0.00	0.00	0.00	0.00
MFS BEAVER	82	0.94	0.06	0.00	0.00	0.00	0.00
RD BUT 78	180	0.96	0.04	0.00	0.00	0.00	0.00
CARSON 78	202	0.98	0.02	0.00	0.00	0.00	0.00
JOHN DAY	170	0.98	0.02	0.00	0.00	0.00	0.00
KOOSKIA 77	182	0.98	0.02	0.00	0.00	0.00	0.00
LOW GRANIT	562	1.00	0.01	0.00	0.00	0.00	0.00
LEAVENW 77	94	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 78	190	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 75	200	1.00	0.00	0.00	0.00	0.00	0.00
KLICKIT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	30	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 75	100	1.00	0.00	0.00	0.00	0.00	0.00
TWISP	156	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 1	84	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R 76	400	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 78	200	1.00	0.00	0.00	0.00	0.00	0.00
KOOSKIA 76	100	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RON 2	122	1.00	0.00	0.00	0.00	0.00	0.00
YAKIMA	40	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT2	174	1.00	0.00	0.00	0.00	0.00	0.00
MCKEN WILD	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAHA 2	140	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE76	200	1.00	0.00	0.00	0.00	0.00	0.00
WENATCHEE	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
DEXTER 75	278	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE79	200	1.00	0.00	0.00	0.00	0.00	0.00
LEAVENW 76	184	1.00	0.00	0.00	0.00	0.00	0.00
MF WILLAME	74	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 75	198	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 78	188	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00

APPENDIX B

SUMMER CHINOOK SALMON ALLELE FREQUENCIES

TABLE B1. LOCUS: AAT-1,2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
S F SAL2	200	1.00	0.01	0.00	0.00	0.00	0.00
SFS CURT 2	172	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT1	188	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B2. LOCUS: ~~AAT-3~~

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
RD BUTT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	200	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	100	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT1	86	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B3. LOCUS: ADH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 78	200	0.99	0.01	0.00	0.00	0.00	0.00
ENTIAT1	188	1.00	0.01	0.00	0.00	0.00	0.00
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	50	1.00	0.00	0.00	0.00	0.00	0.00
RD BUTT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	200	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	240	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	76	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	80	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	200	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	198	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B4. LOCUS: AGP-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
RD BUTT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	224	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	48	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	158	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	86	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	192	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	80	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B5. LOCUS: AGP-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
RD BUTT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	224	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	48	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	158	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	86	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	192	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	80	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B6. LOCUS: CK-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
SFS CURT 2	78	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
RD BUTT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	198	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	194	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	200	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	48	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	88	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	86	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B7. LOCUS: CK-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
SFS CURT 2	78	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
RD BUTT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	198	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	86	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	200	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	48	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	88	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	194	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B8. LOCUS: GL-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 78	200	0.97	0.03	0.00	0.00	0.00	0.00
RD BUT 77	200	0.99	0.02	0.00	0.00	0.00	0.00
RD BUTT 77	100	0.99	0.00	0.00	0.01	0.00	0.00
SAL HELL R	200	0.99	0.01	0.00	0.00	0.00	0.00
ENTIAT1	188	1.00	0.00	0.00	0.01	0.00	0.00
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	236	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	48	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	88	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	86	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	198	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B9. LOCUS: GL-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
RD BUT 77	200	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	240	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	50	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT1	194	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	198	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	86	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	200	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	88	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B10. LOCUS: IDH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MFS BEAR V	156	0.83	0.00	0.17	0.00	0.00	0.00
ENTIAT1	304	0.86	0.00	0.14	0.00	0.00	0.00
MFS ELK	100	0.87	0.00	0.13	0.00	0.00	0.00
MFS CAPEHO	344	0.87	0.01	0.12	0.00	0.00	0.00
PAHSIMEROI	180	0.88	0.00	0.12	0.00	0.00	0.00
RD BUTT 77	188	0.90	0.00	0.10	0.00	0.00	0.00
S F SAL1	392	0.90	0.00	0.10	0.00	0.00	0.00
S F SAL2	272	0.91	0.00	0.09	0.00	0.00	0.00
SFS CURT 2	140	0.91	0.00	0.09	0.00	0.00	0.00
RD BUT 77	380	0.93	0.00	0.07	0.00	0.00	0.00
WELLS 78	368	0.93	0.07	0.00	0.00	0.00	0.00
SAL HELL R	396	0.95	0.01	0.05	0.00	0.00	0.00
MFS MARSH	164	0.96	0.00	0.04	0.00	0.00	0.00
SAL FISHER	384	0.96	0.00	0.04	0.00	0.00	0.00

TABLE B11. LOCUS: LDH-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
S F SAL2	73	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
RD BUTT 77	50	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	96	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	43	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 78	100	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	120	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	26	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	25	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT1	93	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	100	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	43	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	100	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	99	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	44	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B12. LOCUS: LDH-4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MFS MARSH	86	0.97	0.04	0.00	0.00	0.00	0.00
PAHSIMEROI	240	0.98	0.03	0.00	0.00	0.00	0.00
SFS CURT 2	86	0.98	0.02	0.00	0.00	0.00	0.00
MFS ELK	50	0.98	0.02	0.00	0.00	0.00	0.00
RD BUTT 77	100	0.98	0.02	0.00	0.00	0.00	0.00
S F SAL1	200	0.98	0.02	0.00	0.00	0.00	0.00
MFS CAPEHO	192	0.98	0.02	0.00	0.00	0.00	0.00
RD BUT 77	200	0.99	0.02	0.00	0.00	0.00	0.00
MFS BEAR V	88	0.99	0.01	0.00	0.00	0.00	0.00
S F SAL2	146	0.99	0.01	0.00	0.00	0.00	0.00
WELLS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	200	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	198	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT1	174	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B13. LOCUS: LDH-5

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 78	200	0.92	0.08	0.00	0.00	0.00	0.00
RD BUTT 77	100	0.98	0.02	0.00	0.00	0.00	0.00
RD BUT 77	200	0.98	0.02	0.00	0.00	0.00	0.00
S F SAL2	146	0.99	0.01	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	240	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT1	176	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	50	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	88	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	200	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	86	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	198	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B14. LOCUS: LGG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 78	200	0.72	0.28	0.00	0.00	0.00	0.00
MFS MARSH	86	0.91	0.09	0.00	0.00	0.00	0.00
MFS BEAR V	88	0.92	0.08	0.00	0.00	0.00	0.00
SAL HELL R	170	0.92	0.08	0.00	0.00	0.00	0.00
RD BUT 77	200	0.93	0.07	0.00	0.00	0.00	0.00
ENTIAT1	72	0.94	0.06	0.00	0.00	0.00	0.00
MFS ELK	50	0.96	0.04	0.00	0.00	0.00	0.00
RD BUTT 77	88	0.97	0.03	0.00	0.00	0.00	0.00
S F SAL1	196	0.97	0.03	0.00	0.00	0.00	0.00
SAL FISHER	182	0.98	0.02	0.00	0.00	0.00	0.00
S F SAL2	144	0.98	0.02	0.00	0.00	0.00	0.00
MFS CAPEHO	192	0.98	0.02	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B15. LOCUS: MDH-A

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
RD BUTT 77	200	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	144	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	172	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	400	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL2	292	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	480	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	104	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	384	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 78	340	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	160	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT1	388	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	92	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	400	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	400	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	396	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B21. LOCUS: PGM

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
RD BUTT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	192	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	198	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	50	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	240	1.00	0.00	0.00	0.00	0.00	0.00
MFS MARSH	86	1.00	0.00	0.00	0.00	0.00	0.00
MFS BEAR V	80	1.00	0.00	0.00	0.00	0.00	0.00
SAL HELL R	200	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00
S F SAL1	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B22. LOCUS: PMI

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 78	200	0.74	0.27	0.00	0.00	0.00	0.00
RD BUTT 77	100	0.85	0.15	0.00	0.00	0.00	0.00
MFS CAPEHO	192	0.89	0.11	0.00	0.00	0.00	0.00
SAL FISHER	198	0.90	0.10	0.00	0.00	0.00	0.00
SAL HELL R	200	0.91	0.10	0.00	0.00	0.00	0.00
MFS BEAR V	88	0.91	0.09	0.00	0.00	0.00	0.00
ENTIAT1	194	0.91	0.09	0.00	0.00	0.00	0.00
MFS MARSH	86	0.92	0.08	0.00	0.00	0.00	0.00
PAHSIMEROI	240	0.95	0.05	0.00	0.00	0.00	0.00
RD BUT 77	198	0.95	0.05	0.00	0.00	0.00	0.00
S F SAL1	200	0.99	0.02	0.00	0.00	0.00	0.00
S F SAL2	138	0.99	0.01	0.00	0.00	0.00	0.00
SFS CURT 2	86	0.99	0.01	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
MFS ELK	50	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B23. LOCUS: TO-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WELLS 78	200	0.46	0.54	0.00	0.00	0.00	0.00
ENTIAT1	194	0.74	0.26	0.00	0.00	0.00	0.00
RD BUT 77	200	0.80	0.21	0.00	0.00	0.00	0.00
RD BUTT 77	100	0.84	0.16	0.00	0.00	0.00	0.00
MFS BEAR V	88	0.90	0.10	0.00	0.00	0.00	0.00
SAL HELL R	200	0.94	0.07	0.00	0.00	0.00	0.00
MFS CAPEHO	192	0.95	0.05	0.00	0.00	0.00	0.00
PAHSIMEROI	240	0.96	0.04	0.00	0.00	0.00	0.00
SFS CURT 2	86	0.97	0.04	0.00	0.00	0.00	0.00
S F SAL1	200	0.97	0.04	0.00	0.00	0.00	0.00
SAL FISHER	198	0.97	0.04	0.00	0.00	0.00	0.00
S F SAL2	146	0.97	0.03	0.00	0.00	0.00	0.00
SFS CURT 1	52	0.98	0.02	0.00	0.00	0.00	0.00
MFS MARSH	86	0.99	0.01	0.00	0.00	0.00	0.00
MFS ELK	50	1.00	0.00	0.00	0.00	0.00	0.00

TABLE B24. LOCUS: TO-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MFS ELK	50	0.96	0.04	0.00	0.00	0.00	0.00
PAHSIMEROI	156	0.96	0.04	0.00	0.00	0.00	0.00
MFS BEAR V	88	0.97	0.03	0.00	0.00	0.00	0.00
MFS MARSH	86	0.99	0.01	0.00	0.00	0.00	0.00
S F SAL1	200	0.99	0.01	0.00	0.00	0.00	0.00
WELLS 78	200	1.00	0.01	0.00	0.00	0.00	0.00
SAL HELL R	200	1.00	0.01	0.00	0.00	0.00	0.00
S F SAL2	146	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	200	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 2	86	1.00	0.00	0.00	0.00	0.00	0.00
MFS CAPEHO	92	1.00	0.00	0.00	0.00	0.00	0.00
SFS CURT 1	52	1.00	0.00	0.00	0.00	0.00	0.00
SAL FISHER	192	1.00	0.00	0.00	0.00	0.00	0.00
ENTIAT1	94	1.00	0.00	0.00	0.00	0.00	0.00

APPENDIX C

FALL CHINOOK SALMON ALLELE FREQUENCIES

TABLE C1. LOCUS: AAT-1,2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TOUTLE 78	380	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST1 78	400	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	380	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	400	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 78	388	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 78	200	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	1080	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	388	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST2 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	584	1.00	0.00	0.00	0.00	0.00	0.00
ABERNAT 78	384	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	200	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	400	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	208	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 75	500	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	384	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	160	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 75	160	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C2. LOCUS: AAT-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TOUTLE 78	174	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST1 78	190	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	192	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	192	1.00	0.00	0.00	0.00	0.00	0.00
SPRING1 77	94	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 78	198	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNAT 78	100	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 78	100	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 78	190	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	194	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	272	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	184	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	240	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	180	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	424	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 75	250	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	458	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 75	216	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	74	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	98	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C3. LOCUS: ADH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
L W SALMON	104	0.79	0.21	0.00	0.00	0.00	0.00
SPRING 75	98	0.82	0.18	0.00	0.00	0.00	0.00
BIG CK 78	196	0.82	0.18	0.00	0.00	0.00	0.00
BONNEV 76	96	0.83	0.17	0.00	0.00	0.00	0.00
ELOKOM 78	200	0.84	0.17	0.00	0.00	0.00	0.00
BONNEV 78	198	0.85	0.15	0.00	0.00	0.00	0.00
ABERNAT 78	200	0.86	0.15	0.00	0.00	0.00	0.00
SPRING1 77	194	0.89	0.11	0.00	0.00	0.00	0.00
TOUTLE 78	196	0.90	0.10	0.00	0.00	0.00	0.00
GREYS 78	194	0.91	0.09	0.00	0.00	0.00	0.00
KALAMA 76	88	0.91	0.09	0.00	0.00	0.00	0.00
WILLARD	100	0.91	0.09	0.00	0.00	0.00	0.00
TOUTLE 77	100	0.92	0.08	0.00	0.00	0.00	0.00
WASHOUGAL	176	0.92	0.08	0.00	0.00	0.00	0.00
COWLTZ 76	100	0.92	0.08	0.00	0.00	0.00	0.00
LEWIS 78	190	0.93	0.07	0.00	0.00	0.00	0.00
COWLTZ 78	200	0.94	0.07	0.00	0.00	0.00	0.00
SPRING2 77	64	0.94	0.06	0.00	0.00	0.00	0.00
KALAMA 78	200	0.96	0.05	0.00	0.00	0.00	0.00
PRIEST 77	192	0.97	0.03	0.00	0.00	0.00	0.00
PRIEST1 78	196	0.98	0.02	0.00	0.00	0.00	0.00
PRIEST2 78	82	0.99	0.01	0.00	0.00	0.00	0.00
ICE HAR 74	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	96	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C4. LOCUS: AGP-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
BONNEV 76	92	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST2 78	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	100	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	100	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	240	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	354	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	94	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C5. LOCUS: AGP-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
BONNEV 76	92	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST2 78	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	100	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	100	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	240	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	354	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	94	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C6. LOCUS: CK-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
GREYS 75	192	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	340	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 75	250	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	126	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	288	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	524	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	454	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	296	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 75	48	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	264	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C7. LOCUS: CK-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	340	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	192	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	454	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	126	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 75	250	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	524	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	288	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	296	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 75	48	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	264	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C8. LOCUS: GL-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TOUTLE 77	100	0.87	0.13	0.00	0.00	0.00	0.00
COWLTZ 76	100	0.88	0.12	0.00	0.00	0.00	0.00
TOUTLE 78	186	0.88	0.12	0.00	0.00	0.00	0.00
KALAMA 76	100	0.91	0.09	0.00	0.00	0.00	0.00
COWLTZ 78	194	0.92	0.08	0.00	0.00	0.00	0.00
LEWIS 78	198	0.92	0.08	0.00	0.00	0.00	0.00
GREYS 78	200	0.95	0.06	0.00	0.00	0.00	0.00
KALAMA 78	192	0.95	0.05	0.00	0.00	0.00	0.00
SPRING 75	200	0.98	0.03	0.00	0.00	0.00	0.00
ICE HAR 73	130	0.98	0.02	0.01	0.00	0.00	0.00
PRIEST2 78	90	0.98	0.02	0.00	0.00	0.00	0.00
WILLARD	90	0.98	0.00	0.00	0.02	0.00	0.00
L W SALMON	104	0.98	0.02	0.00	0.00	0.00	0.00
WASHOUGAL	272	0.98	0.02	0.00	0.00	0.00	0.00
ABERNA 77	200	0.99	0.02	0.00	0.00	0.00	0.00
SPRING2 77	94	0.99	0.01	0.00	0.00	0.00	0.00
BIG CK 78	200	0.99	0.01	0.00	0.00	0.00	0.00
BONNEV 76	100	0.99	0.01	0.00	0.00	0.00	0.00
PRIEST1 78	198	0.99	0.01	0.00	0.00	0.00	0.00
BONNEV 78	200	0.99	0.01	0.00	0.00	0.00	0.00
SPRING1 77	160	0.99	0.01	0.00	0.00	0.00	0.00
ABERNAT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	192	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C9. LOCUS: GL-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TOUTLE 78	186	1.00	0.01	0.00	0.00	0.00	0.00
BONNEV 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST1 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	104	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING1 77	160	1.00	0.00	0.00	0.00	0.00	0.00
ABERNAT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST2 78	88	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	100	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	94	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	100	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	58	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C10. LOCUS: IDH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
LEWIS 77	184	0.88	0.00	0.13	0.00	0.00	0.00
PRIEST 77	544	0.89	0.11	0.00	0.00	0.00	0.00
MCKENZIE	180	0.91	0.09	0.00	0.00	0.00	0.00
PRIEST1 78	380	0.93	0.07	0.01	0.00	0.00	0.00
PRIEST2 78	196	0.94	0.06	0.00	0.00	0.00	0.00
TOUTLE 77	196	0.94	0.02	0.04	0.00	0.00	0.00
COWLTZ 78	296	0.96	0.03	0.01	0.00	0.00	0.00
WASHOUGAL	308	0.96	0.01	0.03	0.00	0.00	0.00
COWLTZ 76	192	0.97	0.00	0.03	0.00	0.00	0.00
LEWIS 78	372	0.97	0.02	0.01	0.00	0.00	0.00
SPRING 75	184	0.98	0.02	0.00	0.00	0.00	0.00
TOUTLE 78	356	0.98	0.01	0.01	0.00	0.00	0.00
SPRING2 77	184	0.98	0.01	0.01	0.00	0.00	0.00
ABERNAT 78	380	0.98	0.02	0.00	0.00	0.00	0.00
SPRING1 77	200	0.99	0.02	0.00	0.00	0.00	0.00
KALAMA 78	312	0.99	0.01	0.00	0.00	0.00	0.00
BIG CK 78	372	0.99	0.00	0.01	0.00	0.00	0.00
BONNEV 76	200	0.99	0.01	0.00	0.00	0.00	0.00
L W SALMON	204	0.99	0.01	0.01	0.00	0.00	0.00
KALAMA 76	328	0.99	0.01	0.00	0.00	0.00	0.00
GREYS 78	368	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 78	368	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	364	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	264	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	200	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	400	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C11. LOCUS: LDH-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TOUTLE 78	95	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST1 78	100	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 78	100	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	50	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	100	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 78	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	50	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 78	100	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST2 78	39	1.00	0.00	0.00	0.00	0.00	0.00
ABERNAT 78	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	100	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	100	1.00	0.00	0.00	0.00	0.00	0.00
SPRING1 77	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	100	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	52	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	45	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	100	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	65	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	50	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	50	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	104	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	148	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	150	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	50	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	50	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	50	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C12. LOCUS: LDH-4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
LEWIS 77	100	0.96	0.04	0.00	0.00	0.00	0.00
MCKENZIE	100	0.99	0.01	0.00	0.00	0.00	0.00
TOUTLE 78	190	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST1 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ABERNAT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 78	200	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST2 78	78	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	90	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	276	1.00	0.00	0.00	0.00	0.00	0.00
SPRING1 77	200	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	298	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	100	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	208	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	300	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	104	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C13. LOCUS: LDH-5

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
PRIEST2 78	78	0.99	0.01	0.00	0.00	0.00	0.00
ICE HAR 73	130	0.99	0.01	0.00	0.00	0.00	0.00
COWLTZ 78	192	1.00	0.01	0.00	0.00	0.00	0.00
PRIEST 77	188	1.00	0.01	0.00	0.00	0.00	0.00
WASHOUGAL	276	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	80	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 78	190	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST1 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ABERNAT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	238	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 78	196	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING1 77	200	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	104	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	100	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C14. LOCUS: LGG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
ABERNAT 78	198	0.68	0.32	0.00	0.00	0.00	0.00
SPRING 75	100	0.71	0.29	0.00	0.00	0.00	0.00
ELOKOM 78	184	0.71	0.29	0.00	0.00	0.00	0.00
L W SALMON	104	0.74	0.26	0.00	0.00	0.00	0.00
WILLARD	96	0.77	0.23	0.00	0.00	0.00	0.00
BONNEV 78	194	0.78	0.22	0.00	0.00	0.00	0.00
BIG CK 78	198	0.78	0.22	0.00	0.00	0.00	0.00
PRIEST1 78	198	0.80	0.20	0.00	0.00	0.00	0.00
SPRING2 77	90	0.80	0.20	0.00	0.00	0.00	0.00
GREYS 78	200	0.81	0.20	0.00	0.00	0.00	0.00
PRIEST2 78	84	0.81	0.19	0.00	0.00	0.00	0.00
BONNEV 76	98	0.84	0.16	0.00	0.00	0.00	0.00
KALAMA 76	100	0.84	0.16	0.00	0.00	0.00	0.00
MCKENZIE	96	0.84	0.16	0.00	0.00	0.00	0.00
KALAMA 78	182	0.87	0.13	0.00	0.00	0.00	0.00
SPRING1 77	198	0.88	0.12	0.00	0.00	0.00	0.00
TOUTLE 78	196	0.89	0.11	0.00	0.00	0.00	0.00
LEWIS 78	190	0.90	0.10	0.00	0.00	0.00	0.00
TOUTLE 77	94	0.90	0.10	0.00	0.00	0.00	0.00
COWLTZ 76	100	0.94	0.06	0.00	0.00	0.00	0.00
LEWIS 77	92	0.96	0.04	0.00	0.00	0.00	0.00
COWLTZ 78	194	0.96	0.04	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C15. LOCUS: MDH-A

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
ABERNA 77	400	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 78	400	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST1 78	400	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	396	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	200	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	400	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 78	396	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	392	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	200	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 78	400	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST2 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ABERNAT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	200	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 78	400	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	200	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	400	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING1 77	400	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	260	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	400	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	480	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	200	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	388	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	600	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	208	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C16. LOCUS: MDH-B

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
SPRING2 77	200	0.91	0.09	0.00	0.00	0.00	0.00
MCKENZIE	200	0.91	0.09	0.00	0.00	0.00	0.00
BONNEV 76	196	0.92	0.08	0.00	0.00	0.00	0.00
BIG CK 75	272	0.92	0.08	0.00	0.00	0.00	0.00
GREYS 75	536	0.93	0.07	0.00	0.00	0.00	0.00
L W SALMON	764	0.94	0.06	0.00	0.00	0.00	0.00
ELOKOM 75	500	0.94	0.06	0.00	0.00	0.00	0.00
PRIEST1 78	400	0.95	0.03	0.03	0.00	0.00	0.00
BONNEV 78	400	0.95	0.06	0.00	0.00	0.00	0.00
SPRING1 77	396	0.95	0.05	0.00	0.00	0.00	0.00
WILLARD	200	0.95	0.05	0.00	0.00	0.00	0.00
ABERNA 77	900	0.95	0.05	0.00	0.00	0.00	0.00
SPRING 75	1032	0.95	0.05	0.00	0.00	0.00	0.00
WASHOUGAL	768	0.96	0.04	0.00	0.00	0.00	0.00
BIG CK 78	400	0.96	0.04	0.00	0.00	0.00	0.00
PRIEST2 78	200	0.97	0.04	0.00	0.00	0.00	0.00
GREYS 78	400	0.97	0.04	0.00	0.00	0.00	0.00
KALAMA 76	1508	0.97	0.03	0.00	0.00	0.00	0.00
KALAMA 78	400	0.97	0.03	0.00	0.00	0.00	0.00
ABERNAT 78	400	0.97	0.03	0.00	0.00	0.00	0.00
TOUTLE 77	656	0.97	0.03	0.00	0.00	0.00	0.00
LEWIS 77	200	0.98	0.03	0.00	0.00	0.00	0.00
ELOKOM 78	396	0.98	0.02	0.00	0.00	0.00	0.00
COWLTZ 76	192	0.98	0.02	0.00	0.00	0.00	0.00
PRIEST 77	512	0.98	0.01	0.01	0.00	0.00	0.00
TOUTLE 78	400	0.99	0.02	0.00	0.00	0.00	0.00
ICE HAR 74	400	0.99	0.01	0.01	0.00	0.00	0.00
LEWIS 78	400	0.99	0.01	0.00	0.00	0.00	0.00
COWLTZ 78	392	1.00	0.01	0.00	0.00	0.00	0.00
ICE HAR 73	260	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C17. LOCUS: 6PG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
PRIEST2 78	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	100	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	92	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	100	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	380	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	100	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	70	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	104	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C18. LOCUS: PGI-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
ICE HAR 74	200	1.00	0.01	0.00	0.00	0.00	0.00
WASHOUGAL	136	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	100	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	340	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	80	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	104	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C19. LOCUS: PGI-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WASHOUGAL	136	0.93	0.07	0.00	0.00	0.00	0.00
MCKENZIE	94	0.96	0.04	0.00	0.00	0.00	0.00
KALAMA 76	340	0.96	0.04	0.00	0.00	0.00	0.00
LEWIS 77	100	0.96	0.04	0.00	0.00	0.00	0.00
TOUTLE 77	208	0.97	0.03	0.00	0.00	0.00	0.00
PRIEST 77	196	0.99	0.02	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	198	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	80	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 75	168	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	100	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	412	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	266	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 75	250	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C20. LOCUS: PGI-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
KALAMA 76	340	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	208	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	198	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 74	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	412	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 75	250	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL	228	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 75	168	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 75	80	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	374	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	288	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C21. LOCUS: PGM

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
ICE HAR 74	200	1.00	0.01	0.00	0.00	0.00	0.00
WASHOUGAL	190	1.00	0.01	0.00	0.00	0.00	0.00
GREYS 75	80	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	100	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 77	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 76	100	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 75	216	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 75	250	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	98	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	378	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	328	1.00	0.00	0.00	0.00	0.00	0.00
TOUTLE 77	288	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 76	340	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	164	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	298	1.00	0.00	0.00	0.00	0.00	0.00
MCKENZIE	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE C22. LOCUS: PMI

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 76	100	0.41	0.53	0.06	0.00	0.00	0.00
COWLTZ 78	198	0.50	0.46	0.05	0.00	0.00	0.00
ABERNAT 78	200	0.50	0.42	0.08	0.00	0.00	0.00
TOUTLE 78	192	0.50	0.47	0.03	0.00	0.00	0.00
WASHOUGAL	252	0.51	0.48	0.01	0.00	0.00	0.00
MCKENZIE	100	0.51	0.49	0.00	0.00	0.00	0.00
KALAMA 76	330	0.52	0.44	0.03	0.00	0.00	0.00
BONNEV 78	200	0.53	0.45	0.02	0.00	0.00	0.00
TOUTLE 77	286	0.54	0.41	0.05	0.00	0.00	0.00
BONNEV 76	100	0.54	0.40	0.06	0.00	0.00	0.00
L W SALMON	356	0.55	0.40	0.05	0.00	0.00	0.00
SPRING 75	498	0.56	0.41	0.03	0.00	0.00	0.00
ELOKOM 78	200	0.57	0.39	0.05	0.00	0.00	0.00
BIG CK 75	204	0.57	0.41	0.02	0.00	0.00	0.00
GREYS 78	200	0.58	0.39	0.04	0.00	0.00	0.00
LEWIS 78	190	0.59	0.35	0.05	0.00	0.00	0.00
WILLARD	100	0.60	0.39	0.01	0.00	0.00	0.00
BIG CK 78	200	0.62	0.37	0.02	0.00	0.00	0.00
ABERNA 77	438	0.62	0.33	0.06	0.00	0.00	0.00
KALAMA 78	200	0.62	0.37	0.01	0.00	0.00	0.00
SPRING2 77	98	0.62	0.31	0.07	0.00	0.00	0.00
GREYS 75	266	0.63	0.36	0.02	0.00	0.00	0.00
SPRING1 77	196	0.65	0.32	0.03	0.00	0.00	0.00
PRIEST 77	292	0.67	0.33	0.00	0.00	0.00	0.00
PRIEST1 78	198	0.68	0.32	0.00	0.00	0.00	0.00
ELOKOM 75	250	0.68	0.29	0.03	0.00	0.00	0.00
ICE HAR 73	122	0.74	0.26	0.00	0.00	0.00	0.00
PRIEST2 78	98	0.75	0.25	0.00	0.00	0.00	0.00
ICE HAR 74	200	0.80	0.21	0.00	0.00	0.00	0.00
LEWIS 77	100	0.96	0.04	0.00	0.00	0.00	0.00

TABLE C23. LOCUS: TO-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
BIG CK 78	200	0.45	0.56	0.00	0.00	0.00	0.00
ABERNAT 78	200	0.45	0.55	0.00	0.00	0.00	0.00
BONNEV 78	200	0.46	0.54	0.00	0.00	0.00	0.00
ELOKOM 75	224	0.48	0.52	0.00	0.00	0.00	0.00
PRIEST 77	280	0.49	0.51	0.00	0.00	0.00	0.00
PRIEST1 78	200	0.50	0.50	0.00	0.00	0.00	0.00
KALAMA 76	686	0.50	0.49	0.00	0.00	0.00	0.00
WILLARD	100	0.51	0.49	0.00	0.00	0.00	0.00
SPRING1 77	84	0.51	0.49	0.00	0.00	0.00	0.00
L W SALMON	374	0.52	0.48	0.00	0.00	0.00	0.00
SPRING2 77	98	0.52	0.48	0.00	0.00	0.00	0.00
SPRING 75	506	0.53	0.47	0.00	0.00	0.00	0.00
LEWIS 78	200	0.53	0.47	0.00	0.00	0.00	0.00
ELOKOM 78	200	0.54	0.46	0.00	0.00	0.00	0.00
BONNEV 76	96	0.54	0.46	0.00	0.00	0.00	0.00
KALAMA 78	200	0.55	0.45	0.00	0.00	0.00	0.00
ABERNA 77	318	0.55	0.45	0.00	0.00	0.00	0.00
WASHOUGAL	342	0.56	0.44	0.00	0.00	0.00	0.00
GREYS 75	142	0.57	0.43	0.00	0.00	0.00	0.00
PRIEST2 78	94	0.57	0.43	0.00	0.00	0.00	0.00
GREYS 78	200	0.58	0.42	0.00	0.00	0.00	0.00
TOUTLE 78	198	0.58	0.42	0.00	0.00	0.00	0.00
BIG CK 75	72	0.58	0.42	0.00	0.00	0.00	0.00
TOUTLE 77	234	0.58	0.42	0.00	0.00	0.00	0.00
COWLTZ 76	100	0.60	0.40	0.00	0.00	0.00	0.00
COWLTZ 78	200	0.66	0.34	0.00	0.00	0.00	0.00
ICE HAR 74	200	0.66	0.34	0.00	0.00	0.00	0.00
ICE HAR 73	126	0.71	0.28	0.01	0.00	0.00	0.00
LEWIS 77	92	0.73	0.27	0.00	0.00	0.00	0.00
MCKENZIE	100	0.77	0.23	0.00	0.00	0.00	0.00

TABLE C24. LOCUS: TO-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TOUTLE 78	198	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST1 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ELOKOM 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 76	56	1.00	0.00	0.00	0.00	0.00	0.00
LEWIS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BONNEV 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ICE HAR 73	130	1.00	0.00	0.00	0.00	0.00	0.00
BIG CK 78	200	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST2 78	88	1.00	0.00	0.00	0.00	0.00	0.00
ABERNAT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
ABERNA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
GREYS 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SPRING2 77	98	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
L W SALMON	104	1.00	0.00	0.00	0.00	0.00	0.00
SPRING1 77	200	1.00	0.00	0.00	0.00	0.00	0.00
PRIEST 77	100	1.00	0.00	0.00	0.00	0.00	0.00
WILLARD	100	1.00	0.00	0.00	0.00	0.00	0.00
SPRING 75	300	1.00	0.00	0.00	0.00	0.00	0.00

APPENDIX D

WINTER STEELHEAD ALLELE FREQUENCIES

TABLE D1. LOCUS: AAT-1,2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 74	400	1.00	0.01	0.00	0.00	0.00	0.00
ROCK CRK	372	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	400	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	400	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	84	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	964	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	392	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	352	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	400	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	316	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D2. LOCUS: AAT-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	154	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	124	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	96	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 74	198	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D3. LOCUS: ADH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	0.97	0.00	0.00	0.03	0.00	0.00
ROCK CRK	198	1.00	0.01	0.00	0.00	0.00	0.00
NO SANT 76	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	158	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	64	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	144	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 74	184	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D4. LOCUS: AGP-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MARION F74	100	0.87	0.13	0.00	0.00	0.00	0.00
ROCK CRK	198	0.91	0.09	0.00	0.00	0.00	0.00
NO SANT 76	92	0.92	0.08	0.00	0.00	0.00	0.00
EAGLE 78	200	0.93	0.07	0.00	0.00	0.00	0.00
COWLTZ 72	158	0.98	0.03	0.00	0.00	0.00	0.00
KALAMA	714	0.98	0.02	0.00	0.00	0.00	0.00
COWLTZ 78	196	0.98	0.02	0.01	0.00	0.00	0.00
COWLTZ 74	272	0.98	0.02	0.00	0.00	0.00	0.00
EAGLE 74	124	0.99	0.01	0.00	0.00	0.00	0.00
BIG CRK	276	0.99	0.01	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	74	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D5. LOCUS: AGP-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	126	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	88	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	100	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D6. LOCUS: AGP-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MARION F78	170	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D7. LOCUS: AGP-4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
BEAVER C78	190	0.59	0.41	0.01	0.00	0.00	0.00
COWLTZ 78	196	0.62	0.38	0.00	0.00	0.00	0.00
EAGLE 78	200	0.78	0.22	0.00	0.00	0.00	0.00
ROCK CRK	98	0.91	0.09	0.00	0.00	0.00	0.00
MARION F78	168	0.99	0.01	0.00	0.00	0.00	0.00

TABLE D8. LOCUS: CK-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	714	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	64	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 74	236	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	100	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	108	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D9. LOCUS: CK-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	714	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	64	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 74	236	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	100	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	108	1.00	0.00	0.00	0.00	0.00	0.00

TABLED10. LOCUS: EST

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
BEAVER C78	188	0.64	0.36	0.00	0.00	0.00	0.00
EAGLE 78	200	0.92	0.09	0.00	0.00	0.00	0.00
COWLTZ 78	196	0.99	0.01	0.01	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D11. LOCUS: GL-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MARION F78	200	0.89	0.12	0.00	0.00	0.00	0.00
MARION F74	78	0.90	0.10	0.00	0.00	0.00	0.00
COWLTZ 74	80	0.90	0.10	0.00	0.00	0.00	0.00
ROCK CRK	198	0.99	0.02	0.00	0.00	0.00	0.00
COWLTZ 78	196	0.99	0.01	0.00	0.00	0.00	0.00
KALAMA	684	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	80	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D12. LOCUS: GL-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	88	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	198	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D13. LOCUS: GLO

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D14. LOCUS: IDH-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	198	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D15. LOCUS: IDH-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MARION F78	198	0.99	0.02	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D16. LOCUS: IDH-3,4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	400	0.64	0.20	0.03	0.14	0.00	0.01
ROCK CRK	392	0.65	0.18	0.01	0.16	0.00	0.00
COWLTZ 78	380	0.66	0.11	0.05	0.18	0.00	0.01
MARION F78	392	0.66	0.19	0.03	0.12	0.00	0.00
COWLTZ 72	312	0.67	0.17	0.04	0.13	0.00	0.00
BIG CRK	160	0.68	0.11	0.01	0.20	0.00	0.00
BEAVER C78	400	0.70	0.15	0.02	0.14	0.00	0.00

TABLE D17. LOCUS: LDH-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	42	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D18. LOCUS: LDH-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D19. LOCUS: LDH-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	126	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	100	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D20. LOCUS: LDH-4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MARION F78	200	0.49	0.51	0.00	0.00	0.00	0.00
ROCK CRK	198	0.50	0.50	0.00	0.00	0.00	0.00
NO SANT 76	102	0.53	0.47	0.00	0.00	0.00	0.00
MARION F74	100	0.63	0.37	0.00	0.00	0.00	0.00
BEAVER C78	200	0.75	0.25	0.00	0.00	0.00	0.00
COWLTZ 78	196	0.80	0.20	0.00	0.00	0.00	0.00
EAGLE 74	124	0.81	0.19	0.00	0.00	0.00	0.00
EAGLE 78	200	0.83	0.17	0.00	0.00	0.00	0.00
KALAMA	682	0.84	0.16	0.00	0.00	0.00	0.00
COWLTZ 72	158	0.85	0.15	0.00	0.00	0.00	0.00
BEAVER CRK	98	0.86	0.14	0.00	0.00	0.00	0.00
COWLTZ 74	268	0.87	0.13	0.00	0.00	0.00	0.00
BIG CRK	274	0.99	0.02	0.00	0.00	0.00	0.00

TABLE D21. LOCUS: LDH-5

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	96	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	124	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	100	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	96	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D22. LOCUS: LGG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	194	0.93	0.07	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.01	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	100	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D23. LOCUS: MDH-A

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
BEAVER C78	400	0.99	0.00	0.01	0.00	0.00	0.00
COWLTZ 74	556	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	1100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	392	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	400	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	204	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	396	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	160	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	400	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	160	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	156	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	316	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D24. LOCUS: MDH-B

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	400	0.83	0.17	0.00	0.00	0.00	0.00
BEAVER C78	400	0.88	0.12	0.00	0.00	0.00	0.00
BIG CRK	552	0.90	0.09	0.00	0.01	0.00	0.00
BEAVER CRK	172	0.90	0.10	0.00	0.00	0.00	0.00
KALAMA	1416	0.91	0.08	0.01	0.00	0.00	0.00
COWLTZ 74	556	0.91	0.08	0.00	0.01	0.00	0.00
COWLTZ 78	392	0.92	0.06	0.00	0.02	0.00	0.00
COWLTZ 72	316	0.93	0.07	0.00	0.00	0.00	0.00
EAGLE 74	248	0.93	0.06	0.00	0.01	0.00	0.00
ROCK CRK	396	0.96	0.03	0.00	0.01	0.00	0.00
NO SANT 76	196	0.97	0.03	0.00	0.00	0.00	0.00
MARION F78	400	0.98	0.02	0.00	0.00	0.00	0.00
MARION F74	156	0.99	0.01	0.00	0.00	0.00	0.00

TABLE D25. LOCUS: ME-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D26. LOCUS: ME-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
KALAMA	614	0.83	0.17	0.00	0.00	0.00	0.00
COWLTZ 78	194	0.85	0.16	0.00	0.00	0.00	0.00
EAGLE 78	200	0.86	0.15	0.00	0.00	0.00	0.00
BEAVER C78	200	0.94	0.07	0.00	0.00	0.00	0.00
ROCK CRK	198	0.97	0.03	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D27. LOCUS: 6PG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	34	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	100	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D28. LOCUS: PGI-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MARION F78	200	0.92	0.09	0.00	0.00	0.00	0.00
KALAMA	458	0.99	0.00	0.00	0.01	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	12	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	64	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 74	278	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	80	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	196	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D29. LOCUS: PGI-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	50	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	78	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	64	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D30. LOCUS: PGI-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 78	196	0.92	0.08	0.00	0.00	0.00	0.00
KALAMA	712	0.95	0.04	0.00	0.00	0.00	0.00
COWLTZ 74	278	0.99	0.01	0.00	0.00	0.00	0.00
ROCK CRK	198	0.99	0.01	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	64	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	78	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	100	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	196	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D31. LOCUS: PGM-1[a/]

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 78	196	0.97	0.03	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00

a/ Not reported in Milner and Teel 1979.

TABLE D32. LOCUS: PGM-2[a/]

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	622	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	198	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	124	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	276	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	158	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 74	266	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	80	1.00	0.00	0.00	0.00	0.00	0.00

a/ Same locus as PGM-1 reported in Milner and Teel 1979.

TABLE D33. LOCUS: PHAP-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D34. LOCUS: PHAP-2[a/]

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

a/ Same locus as PGM-1 reported in Minler and Teel 1979.

TABLE D35. LOCUS: PHAP-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D36. LOCUS: PMI

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 78	196	0.99	0.02	0.00	0.00	0.00	0.00
KALAMA	158	0.99	0.01	0.00	0.00	0.00	0.00
NO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	194	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
EAGLE 74	60	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BIG CRK	96	1.00	0.00	0.00	0.00	0.00	0.00
MARION F74	100	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 74	238	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D37. LOCUS: SDH-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D38. LOCUS: SDH-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
BIG CRK	80	0.90	0.10	0.00	0.00	0.00	0.00
COWLTZ 78	196	0.99	0.00	0.01	0.00	0.00	0.00
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	158	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	190	1.00	0.00	0.00	0.00	0.00	0.00

TABLE D39. LOCUS: TO

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
MARION F74	100	0.37	0.63	0.00	0.00	0.00	0.00
MARION F78	200	0.41	0.59	0.00	0.00	0.00	0.00
BIG CRK	276	0.48	0.52	0.00	0.00	0.00	0.00
ROCK CRK	198	0.51	0.49	0.00	0.00	0.00	0.00
EAGLE 78	200	0.54	0.47	0.00	0.00	0.00	0.00
BEAVER CRK	98	0.58	0.42	0.00	0.00	0.00	0.00
COWLTZ 74	276	0.64	0.36	0.00	0.00	0.00	0.00
KALAMA	706	0.67	0.33	0.00	0.00	0.00	0.00
BEAVER C78	200	0.68	0.32	0.00	0.00	0.00	0.00
NO SANT 76	102	0.69	0.31	0.00	0.00	0.00	0.00
COWLTZ 78	196	0.75	0.25	0.00	0.00	0.00	0.00
COWLTZ 72	158	0.75	0.25	0.00	0.00	0.00	0.00
EAGLE 74	122	0.78	0.22	0.00	0.00	0.00	0.00

TABLE D40. LOCUS: XDH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
EAGLE 78	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
ROCK CRK	98	1.00	0.00	0.00	0.00	0.00	0.00
MARION F78	200	1.00	0.00	0.00	0.00	0.00	0.00
BEAVER C78	200	1.00	0.00	0.00	0.00	0.00	0.00

APPENDIX E

SUMMER STEELHEAD ALLELE FREQUENCIES

TABLE E1. LOCUS: AAT-1,2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
DWORSHAK76	156	0.97	0.03	0.00	0.00	0.00	0.00
GRAN RONDE	340	0.98	0.02	0.00	0.00	0.00	0.00
UMATIL	84	0.98	0.02	0.00	0.00	0.00	0.00
NIAGRA 78	392	0.98	0.02	0.00	0.00	0.00	0.00
JOHN DAY	392	0.98	0.02	0.00	0.00	0.00	0.00
GUMBOOT	200	0.99	0.02	0.00	0.00	0.00	0.00
SKAMANIA78	368	0.99	0.01	0.00	0.00	0.00	0.00
WARM SPR	388	0.99	0.01	0.00	0.00	0.00	0.00
WIND R	400	0.99	0.01	0.00	0.00	0.00	0.00
WELLS73	160	0.99	0.01	0.00	0.00	0.00	0.00
KALAMA	2148	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	204	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	400	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	224	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	276	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	152	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	196	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	156	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	20	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	160	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	80	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	400	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	108	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	436	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	92	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
SNAKE 72	160	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA74	2772	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 74	108	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 71	160	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	160	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK72	288	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 72	160	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E2. LOCUS: AAT-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
GUMBOOT	100	0.94	0.01	0.05	0.00	0.00	0.00
CHELAN 74	374	0.99	0.01	0.00	0.00	0.00	0.00
SO FK SAL1	88	0.99	0.01	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	188	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	138	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 74	54	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	100	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	160	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	76	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	100	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E3. LOCUS: ADH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
SKAMANIA78	194	0.91	0.00	0.00	0.09	0.00	0.00
UMATIL	42	0.93	0.07	0.00	0.00	0.00	0.00
RD BUT1 74	80	0.95	0.05	0.00	0.00	0.00	0.00
WARM SPR	200	0.98	0.02	0.00	0.00	0.00	0.00
JOHN DAY	196	0.99	0.00	0.02	0.00	0.00	0.00
RD BUT 77	100	0.99	0.01	0.00	0.00	0.00	0.00
TUCANN 77	98	0.99	0.00	0.00	0.01	0.00	0.00
NIAGRA 78	200	0.99	0.00	0.00	0.01	0.00	0.00
WIND R	200	0.99	0.01	0.00	0.00	0.00	0.00
UMATIL1 78	138	0.99	0.01	0.00	0.00	0.00	0.00
SO FK SAL1	172	0.99	0.01	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.01	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.01	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.01	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.01	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
WELLS73	80	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	80	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	78	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 74	54	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 71	80	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	80	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	166	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	76	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 72	80	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	22	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	100	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK72	144	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	80	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	62	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	404	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	120	1.00	0.00	0.00	0.00	0.00	0.00
SNAKE 72	80	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E4. LOCUS: AGP-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TUCANN 76	188	0.77	0.23	0.00	0.00	0.00	0.00
COWLTZ 78	190	0.82	0.18	0.00	0.00	0.00	0.00
TUCANN 77	100	0.86	0.14	0.00	0.00	0.00	0.00
SKAMANIA74	1990	0.86	0.14	0.00	0.00	0.00	0.00
COWLTZ 72	78	0.90	0.10	0.00	0.00	0.00	0.00
IMNAH	10	0.90	0.10	0.00	0.00	0.00	0.00
SO SANT 78	200	0.90	0.10	0.00	0.00	0.00	0.00
SKAMANIA78	194	0.90	0.10	0.00	0.00	0.00	0.00
SO SANT 76	102	0.90	0.10	0.00	0.00	0.00	0.00
KALAMA	1742	0.94	0.06	0.00	0.00	0.00	0.00
WELLS73	80	0.95	0.05	0.00	0.00	0.00	0.00
WASHOUGAL2	46	0.96	0.04	0.00	0.00	0.00	0.00
WASHOUGAL1	112	0.96	0.04	0.00	0.00	0.00	0.00
WIND R	200	0.97	0.03	0.01	0.00	0.00	0.00
CHELAN 74	388	0.97	0.03	0.00	0.00	0.00	0.00
WASHOUGAL3	42	0.98	0.02	0.00	0.00	0.00	0.00
WALLOWA	72	0.99	0.01	0.00	0.00	0.00	0.00
PAHSIMEROI	80	0.99	0.01	0.00	0.00	0.00	0.00
NIAGRA 78	200	0.99	0.01	0.00	0.00	0.00	0.00
WELLS 74	178	0.99	0.01	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.01	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.01	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.01	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.01	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	50	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 71	80	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK72	144	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	152	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	120	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	76	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
SNAKE 72	80	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 72	80	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	94	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	462	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	18	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	100	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E5. LOCUS: AGP-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
DWORSHAK76	66	0.97	0.03	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	1282	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	152	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	98	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	94	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	100	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	100	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	100	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	18	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E6. LOCUS: AGP-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WARM SPR	194	0.74	0.26	0.00	0.00	0.00	0.00
RD BUT 78	190	0.96	0.04	0.00	0.00	0.00	0.00

TABLE E7. LOCUS: AGP-4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WARM SPR	182	0.61	0.39	0.00	0.00	0.00	0.00
UMATIL2 78	54	0.69	0.32	0.00	0.00	0.00	0.00
IMNAH	10	0.70	0.30	0.00	0.00	0.00	0.00
TUCANN 77	88	0.71	0.30	0.00	0.00	0.00	0.00
NIAGRA 78	100	0.71	0.29	0.00	0.00	0.00	0.00
WASHOUGAL1	112	0.73	0.27	0.00	0.00	0.00	0.00
UMATIL1 78	38	0.74	0.26	0.00	0.00	0.00	0.00
GUMBOOT	100	0.74	0.26	0.00	0.00	0.00	0.00
SO SANT 78	186	0.76	0.24	0.00	0.00	0.00	0.00
RD BUT 78	194	0.77	0.20	0.03	0.00	0.00	0.00
JOHN DAY	190	0.77	0.23	0.00	0.00	0.00	0.00
WIND R	200	0.78	0.22	0.00	0.00	0.00	0.00
COWLTZ 78	176	0.80	0.21	0.00	0.00	0.00	0.00
WASHOUGAL2	46	0.80	0.20	0.00	0.00	0.00	0.00
WASHOUGAL3	42	0.83	0.17	0.00	0.00	0.00	0.00
GRAN RONDE	196	0.84	0.12	0.04	0.00	0.00	0.00
SKAMANIA78	194	0.92	0.05	0.03	0.00	0.00	0.00

TABLE E8. LOCUS: CK-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
KALAMA	926	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	6	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 74	54	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA74	1644	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	246	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	76	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	80	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	412	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	22	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	94	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	172	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E9. LOCUS: CK-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
KALAMA	926	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	6	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 74	54	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA74	1644	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	246	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	76	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	80	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	412	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	22	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	94	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	172	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E10. LOCUS: EST

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 78	186	0.57	0.43	0.00	0.01	0.00	0.00
TUCANN 77	98	0.83	0.17	0.00	0.00	0.00	0.00
NIAGRA 78	194	0.88	0.11	0.01	0.00	0.00	0.00
WIND R	200	0.98	0.00	0.02	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E11. LOCUS: GL-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
DWORSHAK76	482	0.47	0.52	0.00	0.00	0.00	0.00
HELL ROV	22	0.64	0.36	0.00	0.00	0.00	0.00
SO FK SAL2	132	0.77	0.24	0.00	0.00	0.00	0.00
UMATIL1 78	138	0.83	0.17	0.00	0.00	0.00	0.00
SO FK SAL1	168	0.83	0.17	0.00	0.00	0.00	0.00
RD BUT2 74	64	0.83	0.09	0.08	0.00	0.00	0.00
UMATIL 76	98	0.84	0.15	0.01	0.00	0.00	0.00
SELWAY	178	0.84	0.16	0.01	0.00	0.00	0.00
NIAGRA 77	200	0.84	0.16	0.01	0.00	0.00	0.00
WARM SPR	200	0.88	0.05	0.00	0.08	0.00	0.00
GRAN RONDE	198	0.88	0.12	0.01	0.00	0.00	0.00
UMATIL	42	0.88	0.10	0.02	0.00	0.00	0.00
GUMBOOT	100	0.90	0.10	0.00	0.00	0.00	0.00
RAPID R	20	0.90	0.10	0.00	0.00	0.00	0.00
RD BUT 78	200	0.91	0.09	0.00	0.01	0.00	0.00
UMATIL 74	54	0.91	0.09	0.00	0.00	0.00	0.00
CHELAN 74	180	0.91	0.09	0.00	0.00	0.00	0.00
WELLS 74	168	0.92	0.08	0.00	0.00	0.00	0.00
UMATIL2 78	54	0.93	0.07	0.00	0.00	0.00	0.00
TUCANN 76	98	0.93	0.05	0.02	0.00	0.00	0.00
WALLOWA	72	0.93	0.07	0.00	0.00	0.00	0.00
JOHN DAY	196	0.94	0.04	0.03	0.00	0.00	0.00
NIAGRA 78	200	0.94	0.04	0.00	0.03	0.00	0.00
COWLTZ 78	200	0.95	0.02	0.00	0.04	0.00	0.00
WHITE BIRD	136	0.97	0.03	0.00	0.00	0.00	0.00
SKAMANIA74	1912	0.98	0.02	0.01	0.00	0.00	0.00
RD BUT1 74	80	0.98	0.03	0.00	0.00	0.00	0.00
SO SANT 78	200	0.98	0.02	0.00	0.01	0.00	0.00
TUCANN 77	98	0.98	0.01	0.00	0.01	0.00	0.00
SKAMANIA78	194	0.99	0.01	0.01	0.00	0.00	0.00
BUCKHORN	78	0.99	0.01	0.00	0.00	0.00	0.00
HAZARD C	86	0.99	0.01	0.00	0.00	0.00	0.00
KALAMA	1224	0.99	0.01	0.00	0.00	0.00	0.00
WIND R	200	0.99	0.01	0.00	0.00	0.00	0.00
SO SANT 76	102	0.99	0.01	0.00	0.00	0.00	0.00
WASHOUGAL1	112	0.99	0.01	0.00	0.00	0.00	0.00
BEAR VALLY	178	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E12. LOCUS: GL-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	88	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	178	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	160	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E13. LOCUS: GLO

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E14. LOCUS: IDH-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E15. LOCUS: IDH-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E16. LOCUS: IDH-3,4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
UMATIL	80	0.58	0.17	0.01	0.24	0.00	0.00
RD BUT 71	108	0.58	0.21	0.07	0.14	0.00	0.00
SNAKE 72	152	0.59	0.14	0.00	0.27	0.00	0.00
CHELAN 72	152	0.62	0.26	0.00	0.12	0.00	0.00
CHELAN 74	276	0.62	0.24	0.00	0.14	0.00	0.00
PAHSIMEROI	148	0.64	0.14	0.00	0.22	0.00	0.00
RD BUT 78	396	0.64	0.14	0.00	0.22	0.00	0.00
UMATIL1 78	264	0.64	0.16	0.04	0.15	0.00	0.00
GRAN RONDE	368	0.66	0.17	0.00	0.17	0.01	0.00
UMATIL2 78	108	0.66	0.13	0.02	0.19	0.00	0.00
RD BUT1 74	144	0.66	0.16	0.00	0.18	0.00	0.00
SO SANT 78	400	0.66	0.18	0.02	0.12	0.00	0.01
WARM SPR	380	0.67	0.16	0.01	0.16	0.00	0.00
SKAMANIA78	384	0.67	0.15	0.00	0.15	0.00	0.03
JOHN DAY	384	0.67	0.16	0.01	0.17	0.00	0.00
COWLTZ 72	144	0.67	0.16	0.01	0.16	0.00	0.00
WELLS73	128	0.68	0.19	0.00	0.13	0.00	0.00
COWLTZ 78	396	0.68	0.14	0.00	0.13	0.00	0.04
WIND R	400	0.70	0.16	0.03	0.06	0.00	0.06
WASHOUGAL1	224	0.70	0.17	0.00	0.13	0.00	0.00
WASHOUGAL3	84	0.70	0.21	0.00	0.07	0.00	0.01
TUCANN 77	196	0.72	0.14	0.00	0.11	0.00	0.03
NIAGRA 78	396	0.73	0.16	0.00	0.11	0.00	0.00
GUMBOOT	200	0.74	0.15	0.00	0.12	0.00	0.00
IMNAH	20	0.75	0.05	0.00	0.20	0.00	0.00
WASHOUGAL2	92	0.80	0.13	0.00	0.03	0.00	0.03
DWORSHAK76	200	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E17. LOCUS: LDH-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	160	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	200	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	100	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	100	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E18. LOCUS: LDH-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E19. LOCUS: LDH-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	1280	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	260	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	30	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	200	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	100	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	94	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E20. LOCUS: LDH-4

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
HELL ROV	26	0.15	0.85	0.00	0.00	0.00	0.00
BOULDER CK	30	0.17	0.83	0.00	0.00	0.00	0.00
L SAL	108	0.18	0.82	0.00	0.00	0.00	0.00
ELK CRK	56	0.21	0.79	0.00	0.00	0.00	0.00
BEAR VALLY	114	0.24	0.76	0.00	0.00	0.00	0.00
SO FK SAL1	172	0.26	0.74	0.00	0.00	0.00	0.00
WHITE BIRD	142	0.27	0.73	0.00	0.00	0.00	0.00
BUCKHORN	78	0.28	0.72	0.00	0.00	0.00	0.00
SELWAY	194	0.28	0.72	0.00	0.00	0.00	0.00
DWORSHAK72	144	0.29	0.71	0.00	0.00	0.00	0.00
IMNAH	10	0.30	0.70	0.00	0.00	0.00	0.00
GRAN RONDE	196	0.30	0.70	0.00	0.00	0.00	0.00
NIAGRA 77	198	0.31	0.69	0.00	0.00	0.00	0.00
DWORSHAK76	506	0.31	0.69	0.00	0.00	0.00	0.00
UMATIL2 78	54	0.33	0.67	0.00	0.00	0.00	0.00
RD BUT1 74	66	0.33	0.67	0.00	0.00	0.00	0.00
NIAGRA 78	200	0.33	0.66	0.01	0.00	0.00	0.00
GUMBOOT	100	0.34	0.65	0.01	0.00	0.00	0.00
RD BUT 78	200	0.36	0.64	0.00	0.00	0.00	0.00
CHELAN 74	422	0.38	0.62	0.00	0.00	0.00	0.00
UMATIL	42	0.38	0.62	0.00	0.00	0.00	0.00
UMATIL1 78	138	0.38	0.62	0.00	0.00	0.00	0.00
PAHSIMEROI	80	0.39	0.61	0.00	0.00	0.00	0.00
UMATIL 74	54	0.39	0.61	0.00	0.00	0.00	0.00
SO FK SAL2	132	0.39	0.61	0.00	0.00	0.00	0.00
HAZARD C	86	0.40	0.61	0.00	0.00	0.00	0.00
JOHN DAY	196	0.40	0.60	0.00	0.00	0.00	0.00
RD BUT 71	80	0.40	0.60	0.00	0.00	0.00	0.00
WARM SPR	200	0.43	0.57	0.00	0.00	0.00	0.00
RAPID R	20	0.45	0.55	0.00	0.00	0.00	0.00
DOLLAR	22	0.46	0.55	0.00	0.00	0.00	0.00
SNAKE 72	80	0.46	0.54	0.00	0.00	0.00	0.00
UMATIL 76	98	0.47	0.53	0.00	0.00	0.00	0.00
MARSH CRK	32	0.47	0.53	0.00	0.00	0.00	0.00
RD BUT2 74	76	0.47	0.53	0.00	0.00	0.00	0.00
WELLS 74	216	0.50	0.50	0.00	0.00	0.00	0.00
CHELAN 72	80	0.51	0.49	0.00	0.00	0.00	0.00
RD BUT 77	100	0.52	0.44	0.00	0.04	0.00	0.00
WALLOWA	70	0.53	0.47	0.00	0.00	0.00	0.00
WELLS73	80	0.55	0.45	0.00	0.00	0.00	0.00
TUCANN 77	98	0.66	0.20	0.13	0.00	0.00	0.00
COWLTZ 72	78	0.78	0.22	0.00	0.00	0.00	0.00
COWLTZ 78	200	0.80	0.20	0.00	0.00	0.00	0.00
KALAMA	1666	0.84	0.17	0.00	0.00	0.00	0.00
SO SANT 76	102	0.84	0.16	0.00	0.00	0.00	0.00
TUCANN 76	198	0.85	0.15	0.00	0.00	0.00	0.00
WASHOUGAL1	112	0.86	0.14	0.00	0.00	0.00	0.00
SKAMANIA74	1956	0.86	0.14	0.00	0.00	0.00	0.00
WIND R	200	0.88	0.12	0.00	0.00	0.00	0.00
SO SANT 78	200	0.90	0.10	0.00	0.00	0.00	0.00
SKAMANIA78	194	0.90	0.10	0.00	0.00	0.00	0.00
WASHOUGAL3	42	0.91	0.10	0.00	0.00	0.00	0.00
WASHOUGAL2	46	0.91	0.09	0.00	0.00	0.00	0.00

TABLE E21. LOCUS: LDH-5

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
JOHN DAY	196	1.00	0.01	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	90	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	186	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	246	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	94	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	320	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	100	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	172	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E22. LOCUS: LGG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TUCANN 76	96	0.82	0.18	0.00	0.00	0.00	0.00
UMATIL2 78	54	0.89	0.04	0.00	0.07	0.00	0.00
RAPID R	16	0.94	0.06	0.00	0.00	0.00	0.00
WHITE BIRD	142	0.94	0.06	0.00	0.00	0.00	0.00
HELL ROV	26	0.96	0.04	0.00	0.00	0.00	0.00
WARM SPR	200	0.97	0.00	0.04	0.00	0.00	0.00
RD BUT 78	200	0.97	0.00	0.04	0.00	0.00	0.00
JOHN DAY	196	0.97	0.00	0.02	0.01	0.00	0.00
WASHOUGAL2	46	0.98	0.02	0.00	0.00	0.00	0.00
WELLS 74	98	0.98	0.02	0.00	0.00	0.00	0.00
WIND R	200	0.99	0.00	0.00	0.01	0.00	0.00
UMATIL1 78	138	0.99	0.01	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	158	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA74	1000	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	92	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	68	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	148	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	100	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	78	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E23. LOCUS: MDH-A

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
UMATIL2 78	108	0.98	0.00	0.00	0.02	0.00	0.00
DWORSHAK72	288	0.99	0.01	0.00	0.00	0.00	0.00
PAHSIMEROI	160	0.99	0.01	0.00	0.00	0.00	0.00
WELLS73	160	0.99	0.01	0.00	0.00	0.00	0.00
SO SANT 76	204	1.00	0.01	0.00	0.00	0.00	0.00
DWORSHAK76	1032	1.00	0.01	0.00	0.00	0.00	0.00
CHELAN 74	508	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	1772	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	344	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	52	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	196	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	400	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	396	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	160	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	84	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	156	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	64	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	400	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	400	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	400	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	44	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	104	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	20	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	400	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	156	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	112	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	200	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 71	160	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	276	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	224	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA74	1240	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	40	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	200	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	388	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	84	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	196	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	284	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	392	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	152	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	264	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	388	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	400	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 72	160	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	160	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	216	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	92	1.00	0.00	0.00	0.00	0.00	0.00
SNAKE 72	160	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	240	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	132	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	64	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E24. LOCUS: MDH-B

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
SO SANT 78	400	0.78	0.22	0.00	0.00	0.00	0.00
CHELAN 72	160	0.87	0.13	0.01	0.00	0.00	0.00
COWLTZ 78	400	0.87	0.12	0.01	0.01	0.00	0.00
WASHOUGAL2	92	0.88	0.11	0.00	0.01	0.00	0.00
WASHOUGAL1	224	0.88	0.11	0.00	0.00	0.00	0.00
KALAMA	3360	0.91	0.08	0.01	0.00	0.00	0.00
WIND R	400	0.91	0.09	0.00	0.00	0.00	0.00
SKAMANIA74	3832	0.91	0.08	0.00	0.01	0.00	0.00
TUCANN 76	380	0.93	0.00	0.00	0.07	0.00	0.00
WASHOUGAL3	84	0.93	0.07	0.00	0.00	0.00	0.00
SO SANT 76	200	0.93	0.06	0.01	0.01	0.00	0.00
SKAMANIA78	388	0.94	0.06	0.00	0.00	0.00	0.00
COWLTZ 72	156	0.94	0.06	0.00	0.00	0.00	0.00
RD BUT2 74	152	0.94	0.06	0.00	0.00	0.00	0.00
RD BUT1 74	160	0.94	0.03	0.03	0.00	0.00	0.00
RAPID R	40	0.95	0.00	0.05	0.00	0.00	0.00
WELLS73	160	0.95	0.04	0.01	0.00	0.00	0.00
SO FK SAL2	264	0.96	0.00	0.03	0.01	0.00	0.00
RD BUT 78	396	0.96	0.04	0.00	0.00	0.00	0.00
TUCANN 77	196	0.96	0.04	0.00	0.00	0.00	0.00
UMATIL	84	0.96	0.02	0.01	0.00	0.00	0.00
UMATIL 76	196	0.96	0.00	0.00	0.04	0.00	0.00
WELLS 74	360	0.97	0.03	0.01	0.00	0.00	0.00
CHELAN 74	816	0.97	0.01	0.02	0.00	0.00	0.00
SELWAY	388	0.97	0.00	0.03	0.00	0.00	0.00
JOHN DAY	392	0.97	0.01	0.00	0.01	0.00	0.00
WALLOWA	140	0.98	0.01	0.01	0.00	0.00	0.00
UMATIL 74	108	0.98	0.00	0.00	0.02	0.00	0.00
MARSH CRK	64	0.98	0.00	0.02	0.00	0.00	0.00
RD BUT 77	188	0.98	0.02	0.00	0.00	0.00	0.00
RD BUT 71	160	0.99	0.01	0.00	0.00	0.00	0.00
GRAN RONDE	396	0.99	0.01	0.00	0.00	0.00	0.00
DWORSHAK72	288	0.99	0.01	0.00	0.00	0.00	0.00
WARM SPR	400	0.99	0.00	0.01	0.00	0.00	0.00
DWORSHAK76	876	0.99	0.00	0.01	0.00	0.00	0.00
UMATIL1 78	276	0.99	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	160	0.99	0.00	0.01	0.00	0.00	0.00
BUCKHORN	156	0.99	0.00	0.01	0.00	0.00	0.00
L SAL	216	1.00	0.00	0.01	0.00	0.00	0.00
BEAR VALLY	304	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	400	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	400	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	92	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	44	1.00	0.00	0.00	0.00	0.00	0.00
SNAKE 72	160	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	108	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	284	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	64	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	44	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	344	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	20	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	172	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E25. LOCUS: ME-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.01	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.01	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	196	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E26. LOCUS: ME-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
CHELAN 74	60	0.40	0.60	0.00	0.00	0.00	0.00
KALAMA	1066	0.77	0.23	0.00	0.00	0.00	0.00
COWLTZ 78	192	0.92	0.08	0.00	0.00	0.00	0.00
WASHOUGAL1	112	0.92	0.08	0.00	0.00	0.00	0.00
SO SANT 78	200	0.92	0.08	0.00	0.00	0.00	0.00
WIND R	196	0.94	0.06	0.00	0.00	0.00	0.00
TUCANN 77	98	0.94	0.06	0.00	0.00	0.00	0.00
SKAMANIA74	838	0.96	0.04	0.00	0.00	0.00	0.00
SKAMANIA78	194	0.97	0.03	0.00	0.00	0.00	0.00
WASHOUGAL3	42	0.98	0.02	0.00	0.00	0.00	0.00
WASHOUGAL2	46	0.98	0.02	0.00	0.00	0.00	0.00
WARM SPR	200	0.99	0.01	0.00	0.00	0.00	0.00
UMATIL1 78	136	0.99	0.01	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E27. LOCUS: 6PG

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	350	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	100	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	150	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	80	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	200	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	204	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	28	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	44	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E28. LOCUS: PGI-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WASHOUGAL1	112	0.93	0.00	0.07	0.00	0.00	0.00
WIND R	200	0.94	0.00	0.00	0.00	0.07	0.00
WASHOUGAL2	46	0.96	0.00	0.04	0.00	0.00	0.00
WASHOUGAL3	42	0.98	0.00	0.02	0.00	0.00	0.00
KALAMA	604	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA74	1200	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	96	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	100	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	132	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	94	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	180	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	72	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	500	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	76	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	178	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E29. LOCUS: PGI-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	424	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	100	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	72	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	132	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	102	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	74	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	178	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E30. LOCUS: PGI-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
TUCANN 77	98	0.88	0.12	0.00	0.00	0.00	0.00
TUCANN 76	200	0.90	0.11	0.00	0.00	0.00	0.00
SKAMANIA74	1908	0.92	0.08	0.00	0.00	0.00	0.00
SKAMANIA78	194	0.92	0.08	0.00	0.00	0.00	0.00
WASHOUGAL3	42	0.93	0.07	0.00	0.00	0.00	0.00
SO SANT 76	92	0.94	0.07	0.00	0.00	0.00	0.00
KALAMA	1236	0.96	0.04	0.00	0.00	0.00	0.00
WASHOUGAL2	46	0.96	0.04	0.00	0.00	0.00	0.00
COWLTZ 78	200	0.96	0.04	0.00	0.00	0.00	0.00
SO SANT 78	200	0.96	0.04	0.00	0.00	0.00	0.00
CHELAN 74	346	0.96	0.01	0.02	0.00	0.00	0.00
WELLS 74	180	0.97	0.03	0.01	0.00	0.00	0.00
WIND R	200	0.97	0.03	0.00	0.00	0.00	0.00
WASHOUGAL1	112	0.98	0.02	0.00	0.00	0.00	0.00
NIAGRA 78	200	0.99	0.01	0.00	0.00	0.00	0.00
JOHN DAY	196	0.99	0.01	0.00	0.01	0.00	0.00
RD BUT 78	200	1.00	0.01	0.00	0.00	0.00	0.00
DWORSHAK76	500	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	136	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 74	54	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	142	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 76	98	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	76	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	78	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	178	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E31. LOCUS: PGM-1[a/]

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
IMNAH	10	0.90	0.10	0.00	0.00	0.00	0.00
TUCANN 77	98	0.95	0.05	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.01	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00

a/ Not reported in Milner and Teel 1979.

TABLE E32. LOCUS: PGM-2[a/]

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
COWLTZ 72	78	0.94	0.06	0.00	0.00	0.00	0.00
WALLOWA	72	0.99	0.01	0.00	0.00	0.00	0.00
UMATIL 76	92	0.99	0.01	0.00	0.00	0.00	0.00
NIAGRA 78	200	0.99	0.01	0.01	0.00	0.00	0.00
DWORSHAK72	144	0.99	0.01	0.00	0.00	0.00	0.00
DWORSHAK76	512	0.99	0.01	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.01	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.01	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 76	92	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	1024	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	32	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
WELLS73	80	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	2	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA74	1208	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT2 74	76	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	138	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
WHITE BIRD	148	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 71	80	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 72	80	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	2	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 74	54	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
WELLS 74	180	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	80	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	100	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	120	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	346	1.00	0.00	0.00	0.00	0.00	0.00
SNAKE 72	80	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT1 74	80	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00

a/ Same locus as PGM-1 reported in Milner and Teel 1979.

TABLE E33. LOCUS: PHAP-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL1 78	38	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E34. LOCUS: PHAP-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	98	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E35. LOCUS: PHAP-3

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E36. LOCUS: PMI

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
UMATIL	42	0.81	0.19	0.00	0.00	0.00	0.00
UMATIL 74	54	0.83	0.17	0.00	0.00	0.00	0.00
GUMBOOT	100	0.85	0.15	0.00	0.00	0.00	0.00
UMATIL 76	98	0.91	0.09	0.00	0.00	0.00	0.00
WHITE BIRD	142	0.94	0.04	0.02	0.00	0.00	0.00
RD BUT1 74	80	0.96	0.04	0.00	0.00	0.00	0.00
UMATIL1 78	108	0.98	0.01	0.01	0.00	0.00	0.00
WIND R	200	0.99	0.00	0.02	0.00	0.00	0.00
RD BUT2 74	76	0.99	0.01	0.00	0.00	0.00	0.00
NIAGRA 78	200	1.00	0.00	0.01	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.01	0.00	0.00	0.00
WELLS 74	260	1.00	0.00	0.00	0.00	0.00	0.00
KALAMA	492	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL1	172	1.00	0.00	0.00	0.00	0.00	0.00
NIAGRA 77	200	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	2	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 77	92	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA74	702	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
ELK CRK	56	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 74	308	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SO FK SAL2	132	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	328	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
BEAR VALLY	100	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00
WALLOWA	72	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
MARSH CRK	10	1.00	0.00	0.00	0.00	0.00	0.00
BUCKHORN	2	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 76	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	26	1.00	0.00	0.00	0.00	0.00	0.00
HAZARD C	86	1.00	0.00	0.00	0.00	0.00	0.00
SELWAY	194	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
L SAL	108	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E37. LOCUS: SDH-1

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E38. LOCUS: SDH-2

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
UMATIL1 78	38	0.92	0.08	0.00	0.00	0.00	0.00
WARM SPR	188	0.97	0.00	0.03	0.00	0.00	0.00
UMATIL2 78	54	0.98	0.00	0.02	0.00	0.00	0.00
JOHN DAY	196	0.99	0.02	0.00	0.00	0.00	0.00
NIAGRA 78	200	0.99	0.00	0.01	0.00	0.00	0.00
WELLS73	80	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 72	78	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
PAHSIMEROI	80	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL 74	44	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	146	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK72	46	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 71	80	1.00	0.00	0.00	0.00	0.00	0.00
SNAKE 72	80	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL	42	1.00	0.00	0.00	0.00	0.00	0.00
CHELAN 72	80	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E39. LOCUS: TO

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
WIND R	200	0.63	0.38	0.00	0.00	0.00	0.00
WASHOUGAL2	46	0.63	0.37	0.00	0.00	0.00	0.00
WASHOUGAL1	112	0.64	0.35	0.01	0.00	0.00	0.00
TUCANN 77	98	0.65	0.35	0.00	0.00	0.00	0.00
SO SANT 76	102	0.67	0.33	0.00	0.00	0.00	0.00
WASHOUGAL3	42	0.67	0.33	0.00	0.00	0.00	0.00
KALAMA	1414	0.69	0.31	0.00	0.00	0.00	0.00
IMNAH	10	0.70	0.00	0.30	0.00	0.00	0.00
SKAMANIA74	1922	0.70	0.30	0.00	0.00	0.00	0.00
SO SANT 78	200	0.71	0.29	0.00	0.00	0.00	0.00
SKAMANIA78	194	0.74	0.26	0.00	0.00	0.00	0.00
COWLTZ 78	200	0.78	0.22	0.00	0.00	0.00	0.00
TUCANN 76	182	0.80	0.20	0.00	0.00	0.00	0.00
SO FK SAL1	162	0.80	0.01	0.19	0.00	0.00	0.00
WELLS73	80	0.84	0.13	0.04	0.00	0.00	0.00
COWLTZ 72	78	0.85	0.15	0.00	0.00	0.00	0.00
BUCKHORN	78	0.89	0.00	0.12	0.00	0.00	0.00
BEAR VALLY	90	0.89	0.00	0.11	0.00	0.00	0.00
RD BUT 77	100	0.89	0.09	0.02	0.00	0.00	0.00
GRAN RONDE	198	0.89	0.03	0.08	0.00	0.00	0.00
CHELAN 72	80	0.90	0.08	0.03	0.00	0.00	0.00
WALLOWA	72	0.90	0.04	0.06	0.00	0.00	0.00
UMATIL	42	0.91	0.00	0.10	0.00	0.00	0.00
JOHN DAY	196	0.91	0.05	0.04	0.00	0.00	0.00
WARM SPR	200	0.92	0.07	0.02	0.00	0.00	0.00
NIAGRA 78	200	0.92	0.04	0.05	0.00	0.00	0.00
CHELAN 74	410	0.92	0.06	0.02	0.00	0.00	0.00
WHITE BIRD	128	0.92	0.00	0.08	0.00	0.00	0.00
RD BUT1 74	80	0.93	0.08	0.00	0.00	0.00	0.00
PAHSIMEROI	80	0.94	0.01	0.05	0.00	0.00	0.00
MARSH CRK	32	0.94	0.06	0.00	0.00	0.00	0.00
SNAKE 72	80	0.94	0.06	0.00	0.00	0.00	0.00
WELLS 74	236	0.94	0.05	0.01	0.00	0.00	0.00
UMATIL 74	54	0.94	0.06	0.00	0.00	0.00	0.00
RD BUT 78	200	0.96	0.04	0.01	0.00	0.00	0.00
UMATIL2 78	54	0.96	0.04	0.00	0.00	0.00	0.00
RD BUT 71	80	0.96	0.04	0.00	0.00	0.00	0.00
SO FK SAL2	132	0.97	0.00	0.03	0.00	0.00	0.00
L SAL	100	0.97	0.01	0.02	0.00	0.00	0.00
GUMBOOT	100	0.97	0.02	0.01	0.00	0.00	0.00
RD BUT2 74	76	0.97	0.03	0.00	0.00	0.00	0.00
UMATIL1 78	138	0.98	0.02	0.00	0.00	0.00	0.00
SELWAY	194	0.99	0.01	0.01	0.00	0.00	0.00
HAZARD C	74	0.99	0.00	0.01	0.00	0.00	0.00
NIAGRA 77	200	0.99	0.01	0.00	0.00	0.00	0.00
UMATIL 76	98	0.99	0.01	0.00	0.00	0.00	0.00
DWORSHAK72	46	1.00	0.00	0.00	0.00	0.00	0.00
RAPID R	20	1.00	0.00	0.00	0.00	0.00	0.00
HELL ROV	16	1.00	0.00	0.00	0.00	0.00	0.00
DOLLAR	22	1.00	0.00	0.00	0.00	0.00	0.00
DWORSHAK76	516	1.00	0.00	0.00	0.00	0.00	0.00
BOULDER CK	32	1.00	0.00	0.00	0.00	0.00	0.00

TABLE E40. LOCUS: XDH

POPULATION	SAMPLE SIZE	ALLELE FREQUENCIES 1	2	3	4	5	6
NIAGRA 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WARM SPR	200	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL1	112	1.00	0.00	0.00	0.00	0.00	0.00
RD BUT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
WIND R	200	1.00	0.00	0.00	0.00	0.00	0.00
COWLTZ 78	200	1.00	0.00	0.00	0.00	0.00	0.00
GRAN RONDE	198	1.00	0.00	0.00	0.00	0.00	0.00
SO SANT 78	200	1.00	0.00	0.00	0.00	0.00	0.00
SKAMANIA78	194	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL2	46	1.00	0.00	0.00	0.00	0.00	0.00
GUMBOOT	100	1.00	0.00	0.00	0.00	0.00	0.00
JOHN DAY	196	1.00	0.00	0.00	0.00	0.00	0.00
TUCANN 77	98	1.00	0.00	0.00	0.00	0.00	0.00
WASHOUGAL3	42	1.00	0.00	0.00	0.00	0.00	0.00
UMATIL2 78	54	1.00	0.00	0.00	0.00	0.00	0.00
IMNAH	10	1.00	0.00	0.00	0.00	0.00	0.00