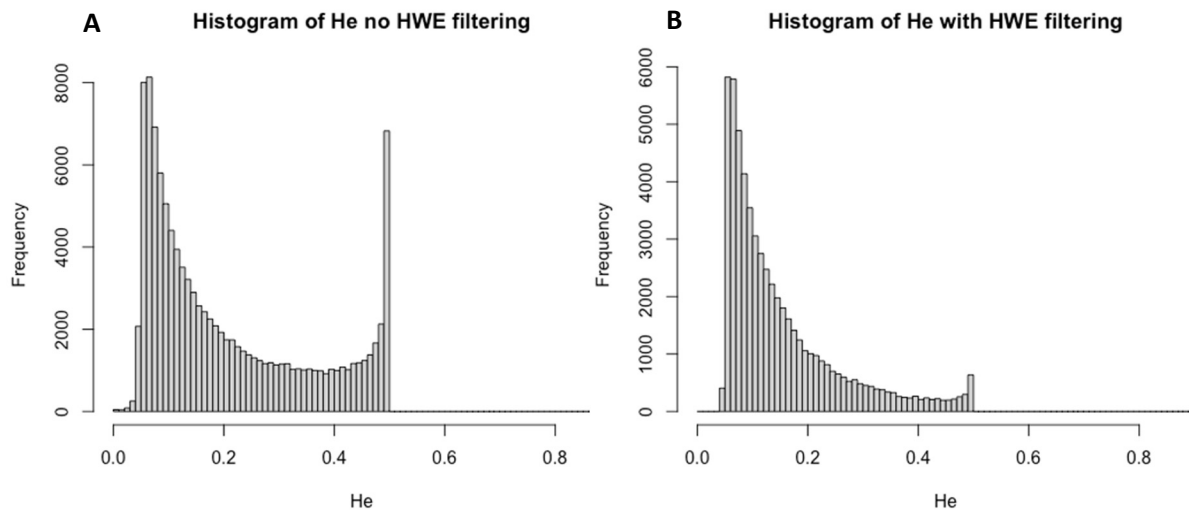
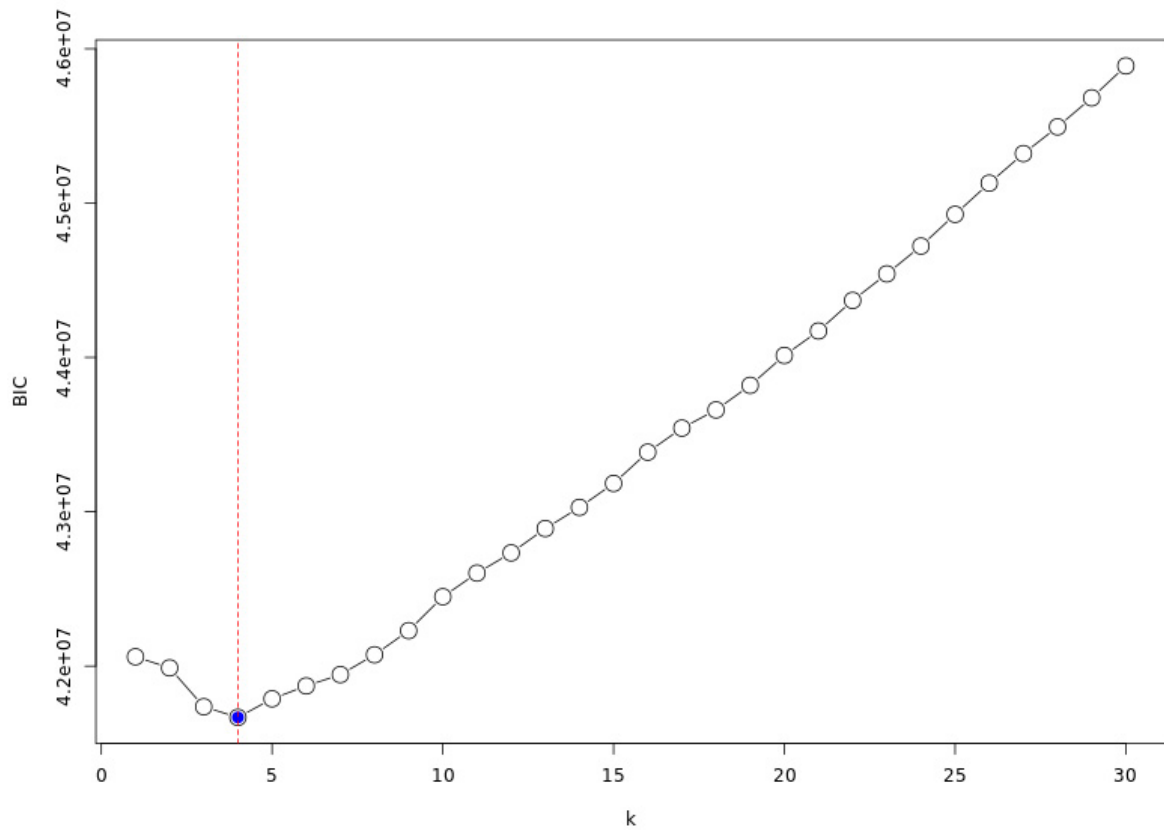


Supplementary Figure S1. Gain of Heterozygosity (GoH_e) associated with sequencing based errors causes deviations from Hardy Weinberg Equilibrium. (A) The GoH_e in the IUFRO population without HWE filters and (B) elimination of GoH_e with filtering on HWE ($p>0.0001$).



Supplementary Figure S2. Optimal clusters as determined by Bayesian Information Criterion (BIC). Number of clusters within the population (K) was determined from a sample size of 1177 using 36567 SNPs for Bayesian clustering.



Supplementary Table S1. Provenances and their respective geographic regions.

Provenances are ordered from North to South based off their latitudinal coordinates.

Coordinates recorded in decimal.

Provenance	Geographic Region	Longitude	Latitude
Valdez	North Alaska	-146.233	61.11667
Cordova	North Alaska	-145.75	60.55
Eyak Lake	North Alaska	-145.667	60.55
Sheridan Glacier	North Alaska	-145.333	60.51667
Seward	North Alaska	-149.533	60.16667
Haning Bay	Montague Island	-147.717	59.96667
McLeod Harbor	Montague Island	-147.833	59.88333
Yakutat	North Alaska	-139.7	59.51667
Kodiak Island	Kodiak Island	-152.417	58.76667
Eagle River	North Alaska	-134.8	58.51667
Dyea	North Alaska	-135.35	58.5
Duck Creek	North Alaska	-134.633	58.36667

Afognack Island	North Alaska	-152.883	56.1
Derrick Lake	Upper Naas Rivers	-133.683	55.68333
Ohmer Creek	South Alaska	-128.733	55.58333
Craig	South Alaska	-128.133	55.5
Old Hollis	South Alaska	-131.667	55.46667
Cranberry River	Upper Naas Rivers	-128.233	55.46667
Ward Lake	South Alaska	-127.7	55.41667
Dragon Lake	Upper Naas Rivers	-129.95	55.35
Kitwanga	Upper Naas Rivers	-128.867	55.16667
Zolap Creek	Lower Naas Rivers	-131.217	55.15
Fulmar Creek	Lower Naas Rivers	-128.967	55.15
Moss Point	South Alaska	-131.55	55.03333
Cedarvale	Upper Skeena River	-128.3	55.01667
Vesach Creek	Middle Skeena River	-128.717	54.8
Pacific	Upper Skeena River	-128.25	54.76667
Kitsum Kalum	Middle Skeena River	-128.767	54.71667
Usk Ferry	Middle Skeena River	-128.4	54.63333
Shames	Middle Skeena River	-128.95	54.4
Kasiks River	Lower Skeena River	-129.417	54.28333
Inverness	Lower Skeena River	-130.25	54.2
Aberdeen	Lower Skeena River	-129.917	54.2
Weden River	Middle Skeena River	-128.617	54.05
Humpback Creek	Lower Skeena River	-130.367	54.03333
Chittenden Point	Haida Gwaii	-132.6	53.95
Masset Sound	Haida Gwaii	-132.083	53.91667
Ain River	Haida Gwaii	-132.417	53.73333
Dinan Bay	Haida Gwaii	-132.667	53.66667
Tlell	Haida Gwaii	-131.933	53.58333
Link Road	Haida Gwaii	-132.167	53.5
Copper Creek	Haida Gwaii	-131.8	53.13333
Moresby Camp	Haida Gwaii	-132.067	53.05
Tasu Creek	Haida Gwaii	-132.083	52.86667
Jedway	Haida Gwaii	-131.217	52.28333
Kilbella river	Costal British Columbia	-127.317	51.78333
Noeick River	Costal British Columbia	-126.833	51.76667
Holberg	Vancouver Island	-128.083	50.6
Salmon Bay	Vancouver Island	-125.95	50.38333
Fair Harbor	Vancouver Island	-127.033	50.05
Squamish River	Costal British Columbia	-123.25	49.88333
Thasis Inlet	Vancouver Island	-126.667	49.83333
Big Qualicum River	Vancouver Island	-124.617	49.38333
Haney	Costal British Columbia	-122.6	49.26667
Vedder	Costal British Columbia	-121.933	49.11667
Blenhiem Mountain	Vancouver Island	-124.95	48.9

Bellingham	Washington straits	-122.633	48.75
Port Renfrew	Vancouver Island	-124.4	48.58333
Muir Creek	Vancouver Island	-123.867	48.38333
Port Angeles	Washington straits	-123.733	48.15
Stillaguamish road	Washington straits	-123.75	48.11667
Forks	Olympic Peninsula	-121.3	48.06667
Brinnon	Washington straits	-124.883	47.7
Kalaloch	Olympic Peninsula	-124.417	47.7
Shelton	Washington straits	-122.15	47.35
Humtulpis	Olympic Peninsula	-123.95	47.23333
Hoquiam	Olympic Peninsula	-123.05	47.05
Raymond	Washington	-124.867	46.68333
Naselle	Washington	-123.783	46.36667
Astoria	North Oregon	-123.967	46.2
Necanium	North Oregon	-123.767	45.66667
Tillamook	North Oregon	-123.883	45.33333
Newport	Central Oregon	-124.067	44.7
Florence	Central Oregon	-124.117	44.11667
Denmark	South Oregon	-124.45	42.85
Gold Beach	South Oregon	-124.417	42.5
Brookings	South Oregon	-124.383	42.25
Crescent City	California	-124.183	41.66667
Big Logoon	California	-124.15	41.13333