

Sockeye salmon MSA is enhanced by SNPs at both selective and neutral loci

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We have identified 115 SNPs and developed Taqman assays for 26 for sockeye salmon. We have screened 100 individuals from 10 collections – two from each of five regions (Washington, Southeast Alaska, Cook Inlet, Bristol Bay, Norton Sound and the Kamchatka peninsula) for the 26 SNPs. Some loci allowed for excellent resolution among collections within regions, while other provided good region-to-region resolution. We also screened one pair of SNPs in the major histocompatibility complex locus for the entire Bering Sea baseline of over 100 collections. These loci drastically increased our ability to distinguish populations among drainages within Bristol Bay which we were unable to distinguish using neutral loci. These results highlight the power of SNPs both to screen putatively selective loci while allowing for full transportability among laboratories.