Who's Yer Daddy? Photo Documentation Of Bull Trout And Brook Trout Hybridization

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Field survey and genetic sampling of fish in Goat and Lion Creeks, two tributaries of the Swan River in northwest Montana, indicated hybridization between bull trout *(Salvelinus confiuenlus)* and brook trout *(S.jontinalis)*. In 2006 I used an easily-constructed Plexiglas streamside solarium and a digital camera to individually photograph each of 336 Salvelinus specimens that were randomly captured by electrofishing crews at five sites in the two drainages. Finclip samples from each fish were analyzed, using a set of 13 microsatellite loci previously identified as being useful to distinguish between bull trout, brook trout, and hybrid individuals. Preliminary results of the genetic analysis determined that about 53 percent of sampled fish were bull trout, 38 percent were brook trout, and 9 percent were hybrids. Field identification matched closely with these proportions and well-trained observers adequately identified hybrid specimens. However, nine field misidentifications that were detected by genetic analysis were correlated to hybrids; some due to inability to recognize larger fish(> 200 mm) as hybrids, and several due to smaller brook trout(< 100 mm) that were improperly identified as hybrids. Additional evaluation of the genetic attributes of hybrid individuals will determine more about individual ancestry and spatial and temporal patterns of hybridization. The unique archive of broadside digital photos of which most provide good or excellent representation of phenotypic characteristics, will allow us to use "visual virtual recall" to re-examine phenotypic characters of each fish. e.g., coloration and spotting patterns, and may be useful as future training aids.