

WESTERN PEARLSHELL MUSSEL DISTRIBUTION & STATUS IN MONTANA: TWO YEARS LATER, IT'S WORSE THAN WE THOUGHT!

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Montana's only trout stream mussel, the western pearlshell (*Margaritifera falcata*), has disappeared from many of our watersheds in relatively recent times. During 2006 and 2007, we reviewed western pearlshell occurrence records and systematically resurveyed sites of current and historic occupation in watersheds throughout the state. Twenty-five of the original 40 site records proved to be either absent or had non-viable mussel populations; only seven of the 15 viable populations documented in 2007 were classified as having excellent integrity. Extensive field surveys and biologist training workshops continued in 2008, but only four additional viable populations were reported. Of the ~820 stream reaches (avg. length ~150 m) surveyed over the course of 3 yrs, western pearlshell populations were absent from 660 (76 %) of the reaches and non-viable to severely declining from another 139 sites (16%). Sites with excellent population viability (9) were rare and represented disjunct **metapopulations** with little ability to colonize other stream reaches in the watershed. **Because of this fact,** the evaluation of current vs. previously occupied river miles and the severity of the decline, we officially placed this species on the Species of Concern list in November ranked an S2 (vulnerable to extirpation in the state). Introduction of **non-native** fishes, reduction of westslope cutthroat populations, reduced in-stream flows **and warmer water** temperatures have all been implicated in the decline of populations of the western **pearlshe**ll. Reintroduction of western pearlshells into westslope cutthroat trout restored stream reaches is currently being investigated.