Sampling for Aquatic Invertebrates
Upper Snake River Basin
August 22, 2001

by
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Site #1 - Snake River ¼ mile upstream from Porcupine Rock
11:20 am
Aquatic invertebrates found:
   Diptera Chironomidae
   Ephemeroptera Baetidae Baetis
   Ephemeroptera Heptageniidae Heptagenia
Sample density: 10 per square meter

Site #2 - Snake River at Grizzly Gulch
11:45 am
Aquatic invertebrates found:
   Diptera Chironomidae
   Ephemeroptera Baetidae Baetis
   Ephemeroptera Ephemerillidae Drunella
Sample density: 7 per square meter

Site #3 - Snake River at confluence with Peru Creek
12:15 pm
Aquatic invertebrates found:
   Ephemeroptera Ephemerillidae Ephemerella
Sample density: 15 per square meter

Site #4 - Sts John Creek 1 mile above Montezuma
12:45 pm
Aquatic invertebrates found:
   Diptera Chironomidae
   Ephemeroptera Ephemerillidae Ephemerella
Sample density: 30 per square meter
Site #5 - Deer Creek 1.5 miles above Montezuma
1:15 pm
Aquatic invertebrates found:
  Diptera Chironomidae
  Ephemeroptera Ephemerillidae Ephemerella
Sample density: 130 per square meter

Site #6 - Peru Creek 2 miles above trailhead parking lot
2 pm
Aquatic invertebrates found:
  Diptera chironomidae
  Ephemeroptera Ephemerillidae Ephemerella
  Trichopteraa Ryacophilidae Ryacophila
Sample density: 16 per square meter
Conclusions

To paraphrase Mark Twain, the reports of the death of this river have been greatly exaggerated. Aquatic life and zooplankton are present in the Snake River basin (we did not test for zooplankton due to lack of equipment; however, their presence may be presupposed by the existence of aquatic invertebrates which feed on them). While the numbers of aquatic invertebrates are not high, the environment appears to be moderately healthy. Aquatic invertebrates were found even in areas where the presence of heavy metals was evident.

This sampling was done at the optimum time to detect aquatic life due to decreased runoff. Sampling in spring would show lower yields due to runoff short-circuiting the system with an increase in sulfuric acid from mine drainage.

If the pH could be raised to a consistently high level this drainage could support a healthy trout population.
Methods of Sampling

Capture Screen:
750x500 cm (1x1 mm sieve opening)

Collection Sequence:
Two persons, one holding screen to stream bottom, one using shovel to dislodge and overturn stones in an area 50x100 cm upstream of stationary screen

Sampling Standard:
Three samples taken in each site recovering debris in screen comprising approximately 1 square meter of stream base
Map Legend

USGS Keystone, Colorado
SW/4 Montezuma 15’ Quadrangle
N3930-W10552.5/7.5

Sampling sites 1, 2, 4

USGS Montezuma, Colorado
SE/4 Montezuma 15’ Quadrangle
N3930-W10545/7.5

Sampling sites 3, 5, 6