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ABSTRACT

Aquatic resources within 13 National Parks were assessed as part of the National Park Service's Inventory and Monitoring Program (I&M). Fifty-eight sites in four states were sampled to characterize 5 stock dams, 23 small streams, 22 large rivers, and 8 springs. EPA's EMAP Western Pilot protocols were utilized for physical/chemical, habitat, and biologcal assessment at each of the sites. Mean percent bank erosion varied between 8% and 74%. Embeddedness varied between 52% and 100%. Canopy cover was highest at springs (64%), with mean canopy cover between 0% and 64% in all system types. Eleven percent of streams and 18 percent of stock dams had dissolved oxygen levels below 5 mg/L, the amount needed to sustain warmwater fisheries. Fecal coliforms ranged from below detection to 160,000 MPN per 100 mL. Average fecal counts were above water immersion limits within stock dams, springs, and streams (228, 7533, and 765 organisms/100mL, respectively). Of all macroinvertebrates sampled, insects accounted for over 60% of total abundance in all system types. Coleoptera (12 Families (F), 40 Genera (G)), Hemiptera (11F, 20G), and Ephemeroptera (9F, 22G) showed high familial and generic diversity in community composition. Small and medium sized streams had the highest insect community diversity with 9 orders, 33 families, and 52 genera. Results of this effort will provide baseline data to support aquatic system monitoring as part of the National Park Service's I&M program.