

# BIRD USE IN A RESTORED RIPARIAN CORRIDOR, SOUTHWEST MONTANA<sup>1</sup>

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**Abstract:** One century after mine waste left 32 km-long Silver Bow Creek and its floodplain contaminated with acidic heavy metals, the State of Montana reclaimed it. While limited bird use occurred before remediation, large and varied populations quickly repopulated. Three of the most important habitats are open water, wetlands, and tall shrubs, but nearby habitats and land uses are also important. Migrations set the vernal monthly trends. Bird data were summarized over 1.5 decades for four five-mile subareas, which are sets of habitats, not replicates. Sampling followed the Region 1 Forest Service monitoring procedure with fewer environmental descriptors. Twenty stations per subarea were sampled from March-June, which took about four hours per session starting just after dawn. Data analysis focused on bird abundance and diversity,

- March bird use is indicative of winter residents. Migratory birds swell the April census, which roughly doubles in May and June.
- Species compositions within subareas are weakly similar even for proximate years. This presages weak temporal trends.
- Birds quickly colonize fresh revegetation with no convincing trend in bird counting during the ensuing decade. Assigning birds to trophic levels likewise evidenced no decade-scale temporal trends.
- Analyzing bird use in the two main habitats, fluvial tall shrubs and wetlands, bird counts again revealed no temporal trends. In conjunction with low similarities, this indicates relatively steady abundance with variable composition.
- Species diversity (richness and evenness of relative abundance) increased over time beginning at about six years in wetlands and eight years in the fluvial-tall- shrub type. Time keys for vegetational development.
- While most species' needs can be met by numerous habitat combinations, habitat specialists demonstrate convincing temporal trends in relation to specific vegetational development. The willow flycatcher and marsh wren require mid-seral to mature vegetation. Spotted sandpipers decline as gravelly shorelines fill with plants.<sup>3</sup>

**Key Words:** Restored bird habitats, temporal trends, species diversity, trophic levels, revegetation, vegetational development, habitat specialists.

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  3. This work was conducted near 46°0'23" N, 112° 42'48" W.