Landbirds

Lewis and Clark, Mount Rainier, North Cascades, Olympic, San Juan Island

I & M RESOURCE BRIEF

Importance

Landbirds are vital to every Pacific Northwest ecosystem. They are critical components in a complex food web, eating millions of seeds and insects and in turn, providing food for other creatures. Because they have specific requirements for food, nest sites, and habitats, they respond to subtle changes to their environment. For these reasons, birds are among the most sensitive indicators of ecosystem health and monitoring them is one of the most efficient ways to take the ecological pulse of an area. Bird populations are widely used as indicators of ecosystem health, and monitoring methods have been standardized, giving scientists a relatively low cost and statistically rigorous monitoring tool. Whether year-long residents or spring and fall migrants, birds bring color and song to our national parks. They have high and growing public interest and are the most visible faunal component of many park ecosystems. This broad public interest in birds ensures that landbird information gathered over time will be relevant to the public and to resource managers.

Despite many international treaties, domestic laws, and initiatives protecting resident and migratory bird species, landbird populations continue to decline. Because national parks provide relatively stable and protected habitat for birds, parks are among the few remaining places to study regional and global effects on bird populations. North Coast and Cascade Network parks represent excellent reference sites for comparison with more heavily managed lands. Monitoring landbird populations in Pacific Northwest national parks fills gaps in other regional monitoring programs, for example, collecting information in high elevation subalpine habitats which are virtually unmonitored by other programs.

Trends

The NCCN Landbird Monitoring Program completed its fifth year of long-term landbird monitoring in 2011. During the first five years of sampling, we documented over 100 bird species breeding in the five parks. The six most commonly detected breeding species include pine siskin, dark-eyed junco, red crossbill, varied thrush, winter wren, and Townsend's warbler.

Discussion

In 2007, NPS biologists working with The Institute for Bird Populations and the US Geological Survey established a Landbird Monitoring Protocol for national parks in the NCCN. The NCCN Landbird Monitoring Program has completed five successful years of sampling with the comprehensive, field-tested protocol.

Preliminary results indicate the monitoring program will provide a robust dataset for evaluating a 5-year trend analysis to be completed in 2012-2013, and that the monitoring program is detecting substantial annual fluctuations in bird populations. These fluctuations, when analyzed in the context of annual weather variation and perhaps other factors, should yield interesting and useful findings about the drivers of population dynamics in birds of Pacific Northwest forests.

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Top Left Rufous hummingbird on Nest GLAC/Hayden
Top RIght Red crossbill male. OLYM/Freilich
Below Landbird crew members in spring training. NPS/NOCA