Foraging behaviour explains characteristics of Olive-sided Flycatcher (*Contopus cooperi*) breeding habitat in Nova Scotia

Emilie McBeath[1,2], Caleb Gibbons[1,3], Cindy Staicer[1]

[1] *Biology Department, Dalhousie University, Halifax, NS*
[2] *Mersey Tobeatic Research Institute, Kempt, NS*
[3] *WSP Canada Inc, Dartmouth, NS*

Understanding breeding habitat of a Species At Risk (SAR) is key to designing effective conservation tools, such as Beneficial Management Practices (BMPs). The draft Forestry BMPs for the SAR forest bird, the Olive-sided Flycatcher (OSFL; *Contopus cooperi*), recommend leaving clumps of tall trees but lack specific recommendations for retention. This research was undertaken to address this gap. Trees >5m tall were mapped and measured in 10x50 m plots in 20 OSFL territories across Nova Scotia. The forest was typically wet, with low canopy cover (38%), dominated by spruce (55%) and fir (25% of trees). Heights averaged 8.5m for trees and 5.6m for snags;18% of standing trees were dead. Behavioural observations showed perch trees averaged 16.3m and birds tended to sit on treetops adjacent to small gaps. Nearly a third of perch trees were snags; most live perch trees (70%) had emergent crowns. These results suggest OSFL select taller trees and more snags for perches than are available. Results are consistent with the hypothesis that OSFL need relatively open spaces with tall, coniferous or dead perches to effectively hunt for flying insects. To quantify clumping of potential perch trees (live or dead, $\geq$8m tall), Spatial Point Pattern Analysis was conducted using the software Programita. Results showed these trees tended to be clumped (2-11 per clump), approximately 0.5-1.5m apart, or randomly distributed, providing a mix of clumps, scattered trees, and open spaces for foraging. These findings can be incorporated into revised BMPs and inform breeding habitat models for OSFL in Nova Scotia.

Keywords: Species At Risk, habitat, aerial insectivore, foraging behaviour, spatial distribution of trees, BMPs