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Competition between eastern and western gray squirrels in the Puget sound lowlands, Washington

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Populations of State-threatened western gray squirrels (*Sciurus griseus*) have declined in areas invaded by introduced eastern gray squirrels (*S. carolinensis*) in the Western United States, but little is known about competitive interactions between these species. The western gray squirrel is an ecologically important member of oak woodlands, and intensive efforts to recover this species are underway in Washington. We tracked eastern and western gray squirrels with radiotelemetry for over four years to investigate resource use and interactions between species on Joint Base Lewis-McChord near Tacoma, WA. We experimentally removed eastern gray squirrels from two sites and radiotracked both species at two control sites to measure competitive effects on western gray squirrels based on spatial-partitioning metrics and fitness correlates (e.g. mass, fecundity, survival). Results of preliminary analyses suggest eastern and western gray squirrels did not share space and had little overlap in their selection of habitat types. Western gray squirrels were found primarily in coniferous uplands with little cover of understory vegetation, whereas eastern gray squirrels were in riparian areas characterized by conifers, oaks, and moderate cover of understory

vegetation. Following removal of eastern gray squirrels, use of their former territories by western gray squirrels remained low. Although interspecies avoidance or competitive interactions may occur in habitat suitable for both species, the prevailing pattern we observed was differential habitat selection. Where distinctly different upland and riparian habitats occur in an area, coexistence of both species appears possible.