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SPATIAL DISTRIBUTION OF INVASIVE PLANT SPECIES IN THE LUCKIAMUTE WATERSHED, CENTRAL OREGON COAST RANGE: VEGETATIVE RESPONSE TO GEOMORPHIC PROCESSES AND DISTURBANCE REGIME IN THE RIPARIAN CORRIDOR

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A reconnaissance survey of understory vegetation was conducted in the riparian corridor of the Luckiamute Watershed, central Oregon Coast Range. The purpose of this study is to delineate associations between disturbance regimes (geomorphic and anthropogenic) and distribution patterns of invasive plant species. Invasive plants are problematic due to their ability to out-compete native species and degrade watershed ecosystems.

Twenty survey transects (~100 sq. m each) were conducted at discrete locations along the main channel system (Ad = 815 sq. km), in riparian zones covered by variable-aged tree canopy. The twelve most commonly occurring invasive species were identified at both transect and watershed scales. These include in decreasing frequency of occurrence: *Rubus armeniacus* (Himalaya blackberry), *Phalaris arundinacea* (Reed canarygrass), *Solanum dulcamara* (Bittersweet nightshade), *Cirsium arvense* (Canada thistle), *Hieracium sp.* (Hawkweed), *Convovulus arvensis* (Bindweed), *Daucus carota* (Wild carrot), *Lapsana communis* (Nipplewort), *Cirsium vulgare* (Bull thistle), *Glechoma hederacea* (Ground ivy), *Brachypodium sylvaticum* (False brome), and *Digitalis purpurea* (Foxglove).

The above twelve invasives are most abundant in those transects with the lowest degree of species richness. Changes in transect richness are associated with the percent cover of invasive plant species, which in turn controls distribution patterns at varying spatial scales. These patterns are dependent on a suite of environmental factors including canopy gaps, light availability, and disturbance history. Consequences due to long term anthropogenic practices and geomorphic disturbance, primarily the creation of corridors and canopy disruption, is leading toward an increase in invasive species abundance, decreased richness, and riparian ecosystem degradation.