



Appendix A: Glossary of Terms Used in this Report



Glossary of Terms Used in This Report

Biodiversity: the variety of life forms, especially number of species, but including number of ecosystem types and genetic variation within species (from Forman 1995).

Connectivity: The concept of connectivity is used to describe how the spatial arrangements and the quality of elements in the landscape affect the movement of organisms among habitat patches (Merriam 1984, 1991; Taylor et al. 1993; Forman 1995 in Bennett 2003). In an urban context, connective landscapes are described in terms of relatively permeable habitat patches and linkages, separated by a less permeable matrix, or several matrices, and barriers.

Core Area: A patch of habitat that contains a sub-population from which species could disperse to other smaller habitat patches, thus contributing to sustainable population at the landscape scale (Forman 1995). Core areas vary with species, due to species specific habitat requirements, thus discussion of management of Core Areas must be tied to species of management concern, or indicators representative of a more diverse suite of species.

Corridor: Any space, usually linear in shape, that improves the ability of organisms to move among patches of their habitat (Hilty *et. al* 2006). Although naturally-vegetated, linear strips can also be corridors (Bennett 2002), for this assessment we identified only disturbed corridors (transportation and utility rights-of-way) (i.e., we excluded linear Natural Areas).

Ecological Network: A means of achieving connectivity within a landscape, through a linked system of habitat (patches, linkages and permeable matrix types)(Forman 1995, Hilty *et al.* 2006). In Edmonton's case we have place little emphasis on permeable matrix type.

Edge: The portion of an ecosystem near its perimeter, where influences of the surroundings prevent development of interior environmental conditions. (Edge effect refers to the processes creating the distinctive species composition or abundance in this outer border of the ecosystem.) (Forman 1995)

GIS: Geographic Information System, computer software that allows spatial analysis and display of the qualities and characteristics of a landscape.

Habitat: The ecosystem in which a given species lives, or the conditions within that ecosystem that provide resources suitable for a given species (modified from Forman 1995).

Habitat Patch: A relatively homogenous, unfragmented, nonlinear area of habitat that differs from its surroundings (Forman 1995). Habitat patches are all considered capable of sustaining populations of plants and wildlife. For the purposes of Edmonton State of



Natural Areas Project, we considered the following to be habitat patches: Natural Areas within Edmonton's tablelands and river valley system and within the Intermunicipal Zone; provincial parks; regionally significant Natural Areas; and native habitat patches larger than 1 ha.

Linkages (Linkage Habitat): Arrangements of vegetated areas that enhance connectivity for species, communities or ecological processes (modified from Bennett 2003). In an urban, highly disturbed environment, linkage is typically provided by Stepping Stones or Corridors. In the context of our assessment, we have considered Stepping Stones and Corridors as distinct forms of linkage habitat.

Landscape: An area (usually large and at a regional scale) where a cluster of local ecosystems is repeated in similar form (Forman 1995). In this analysis, we considered Edmonton and the adjacent Intermunicipal Planning Fringe to comprise a landscape.

Matrix: The matrix is the background ecosystem or land use in which habitat patches lie on a landscape (Forman 1995, Hilty et al. 2006). The matrix in a developed landscape can be quite complex given the variety of land uses present and is best thought of as comprising a gradient of permeability that can range from very permeable to a complete barrier (Hilty et al. 2006). Permeability is related to the quality of the matrix and the distance separating more suitable habitat patches, and is therefore, species-specific.

Natural Area: Naturally-vegetated areas within the City of Edmonton (on the Tablelands and in the North Saskatchewan River valley system) that are greater than or equal to 1.0 ha. These areas are surrounded by human-modified lands and are readily distinguishable by a well-defined edge.

Natural Vegetation: Plant species composition and cover comprising predominantly native species not planted by humans. Human impacts and exotic species are often present, but native species are usually dominant (Forman 1995)

Restoration: Efforts to restore or re-establish habitat in lands degraded by past land use to improve connectivity or other ecological processes. Restoration can be either passive (relying on succession to replace natural vegetation) or active (planting or managing habitat to restore natural vegetation)(Hilty *et al.* 2006).

Source: A growing or stable population in which reproduction is greater than mortalities, such that individuals must disperse to new habitat.

Stepping Stone: A vegetated area that may provide resources to sustain an organism for some time, but is generally used as a temporary stop while moving through the matrix route toward more suitable habitat patches (modified from Forman 1995). Stepping stones are separated by short gaps from each other, corridors or habitat patches and are most useful for mobile, relatively disturbance-tolerant species (Bennett 2002).



Sustainability: The ability of a site to continue to exist as a vigorous, biologically diverse site that will continue along a natural trajectory of change, regulated by natural process and dominated by native species, even when future conditions on surrounding lands have changed.

Wildlife : Vertebrate and invertebrate animal species.