

DESIGNING FUNCTIONAL HABITAT USING WILDLIFE HABITAT RELATIONSHIPS: A MISSING CURRICULAR CONCEPT IN LANDSCAPE ARCHITECTURE EDUCATION

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ABSTRACT

The purpose of this paper is to describe wildlife habitat relationships (WHR) and its basis for use in landscape architecture and habitat design. An 'ecological greenway' design process, within a landscape planning and design studio context, provides examples of student work using WHR models in three river case studies in the Central Valley, California. WHR modeling is species-specific life history information that links vegetation communities and their structure to individual wildlife species suitability models. Without incorporating WHR models for focal species in a design process to predict functionality for wildlife species of concern, it is unlikely a landscape will effectively function for them. None of the major textbooks in landscape architecture have an adequate description of WHR models despite their utility in ecological design. Students implemented an integrated dual-track design process, one track focused on natural systems and the other on cultural systems. For these exercises emphasis was placed on natural systems conservation planning and design using a set of focal species. To design habitat areas for each focal species, a California-specific WHR system was utilized. Students created a GIS database for each case study by collecting a variety of data layers including land use, land cover, roads, 100-year floodplain, and soils. Techniques utilizing GIS, CAD, and illustration software were combined to create site analyses and phased master plans for each river system. GIS was used effectively to communicate phasing in an animated sequence. WHR is a vital concept in ecological design and should be included in landscape architecture curricula.

Key Words

Ecological greenway; wildlife habitat relationships; habitat design; migration corridor; rivers