

EVALUATING THE USE OF GEOGRAPHIC INFORMATION SYSTEMS IN URBAN  
PLANNING FOR WILDLIFE HABITAT MANAGEMENT

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## ABSTRACT

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The United States (U.S.) population is growing, especially in urban areas. Growth in many urban areas is of concern because urban population density is decreasing, resulting in what is commonly referred to as urban sprawl. To better manage urban growth and development and to meet the public's demand for conservation, many urban areas are incorporating smart growth principles, such as green infrastructure and using technology like geographical information systems (GIS) in their urban planning.

Green infrastructure is a network of large green spaces and natural areas that are connected by smaller corridors. GIS is a computer-based technology that allows layers of information to be combined to answer questions and solve problems, such as identifying suitable habitat for red-headed woodpeckers (*Melanerpes erythrocephalus*, C.L.) in the future growth areas of Fargo, North Dakota.

GIS has become a commonly used technology, so common that it impacts most Americans on a daily basis. However, questions remain: does GIS live up to all its promises? Can it be an effective component of wildlife management in urban areas? Although GIS is not perfect and may not be appropriate for implementation in all types of environmental planning, it can be effectively used in many aspects of wildlife management, both in urban areas and in more rural or natural settings.