Approach (IPA) as a framework. The IPA is a feedback loop that is founded upon monitoring, research, conservation action, and evaluation. BSC monitoring programs focus on a wide variety of bird species, sample a wide variety of habitats, and cover a large geographic area. Monitoring focuses on several life cycle stages including breeding ground studies, migration monitoring, and winter bird monitoring. In this presentation, I will provide an overview of BSC's programs with a particular emphasis on the Ontario Nocturnal Owl Survey, Ontario Birds at Risk *and the* Canadian Migration Monitoring Network.

Impact of a Wetland Restoration on Groundwater in the Norfolk Sand Plain

Sarah Bod and Chris Smart
University of Western Ontario

Abstract

Efficient agricultural drains and intensive irrigation coupled with drought conditions have resulted in the depletion of water supplies and wetlands on the Norfolk Sand Plain. In response, the Ontario Ministry of Natural Resources is attempting to restore drained wetlands by damming agricultural ditches. A wetland research site has been established in Frogmore, Norfolk County, where groundwater conditions associated with a dammed ditch are compared to a nearby open ditch site. At both sites, rainfall, surface water levels and fluxes, soil moisture changes and groundwater levels are being measured over a one year period. The distribution of groundwater in both sites is being mapped and used to determine patterns of groundwater recharge and flows arising from drain and dams. The interim results from fall and winter ground and surface water monitoring will be presented.

Is "Is 12% Enough?" The Right Question?

Yolanda F. Wiersma and Thomas D. Nudds
University of Guelph

Abstract

Protecting twelve percent of a given land area has been advocated as a conservation goal by various agencies and organizations, but it has been based on targets set for political, rather than ecological regions. Past analyses of minimum requirements for achieving conservation targets have emphasized representation, but not addressed whether what is represented in 12% of a landbase might persist. We test assumptions about targets for representation for the

Alleghenian-Illinoian mammal province (in southeastern Canada). We use estimates of the minimum reserve size predicted to contain historic mammal species richness for this region as an a priori constraint in the design of a hypothetical reserve network. We find that the minimum percentage ranges from 2-58%, depending on the algorithm used to select reserves and how the target for achieving representation is defined. These results suggest that a more appropriate target for achieving conservation goals may be the number of protected areas that meet minimum size criteria, rather than a fixed percent within an ecologically defined region.

The Big Picture, 2002: Identifying Key Natural Areas and Linkages in Southern Ontario

Mike McMurtry[1], J.L. Riley[2] and P.J. Sorrill[1]
[1]Ontario Ministry of Natural Resources
[2] Nature Conservancy of Canada

Abstract

The Big Picture, 2002 is a Geographic Information System (GIS)-based landscape analysis, aimed at identifying the key natural heritage areas in southern Ontario and the most promising linkages between them. The maps produced through this project are intended to help guide conservation efforts such as restoration, land securement and land-use planning. Numerous digital data layers covering southern Ontario plus a portion of the Canadian Shield were compiled for the analysis. These layers included evaluated wetlands, forest cover, old growth forest, rare species and communities, waterbodies and watercourses, parks and protected areas, Areas of Natural and Scientific Interest (ANSIs) and others. The data layers were overlain in a GIS system and points assigned to the features in each layer according to their conservation value. Core natural areas were identified by a combination of minimum size and a minimum point score per pixel. Potential linkages between these cores were computed by assigning scores to the landscape surrounding the cores based on the probable resistance to wildlife movement.

Using Prometheus to Model Fire in Algonquin Provincial Park

Harry Doran
University of Waterloo

Abstract

Park planners and resource managers are often challenged by the paradoxical nature of forest fires. Allowing fire to perform its ecological role, while balanc-