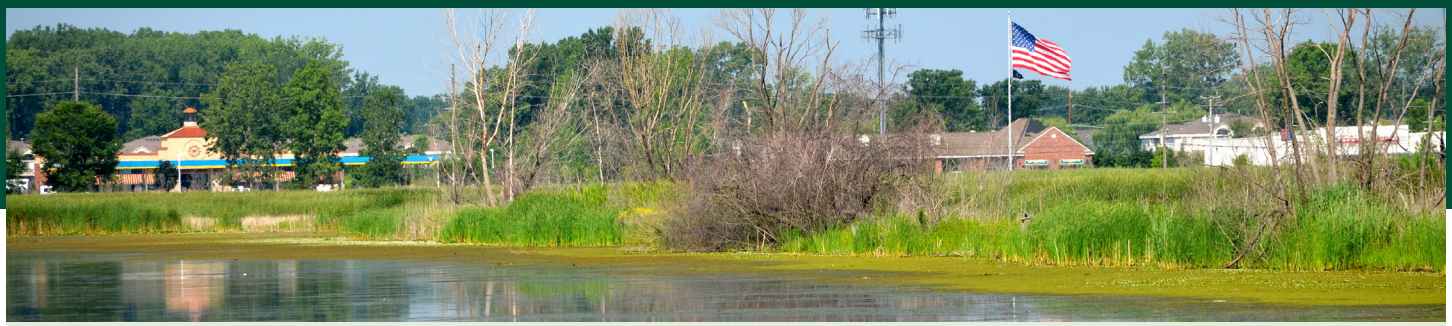
COMMUNITY PLANNING AND ZONING CAN SUPPORT WILDLIFE CONSERVATION



Why?

Local units of government play an important role in setting parameters for land use and development that affects landscape scale conservation. In Michigan, local governments utilize plans as guiding documents and zoning as the legally enforceable development program. Inclusion of ecosystem services, or specific wildlife management areas (WMAs), in local plans signals the value and opportunity for collaborative conservation across public and private lands and community benefits.

Objectives

- Identify extent of ecosystem services and WMAs present in local planning documents.
- Explore the relationship between community characteristics and plan content.

Background

The study area included five state-owned WMAs and one federally owned WMA located in southeastern Michigan from Lake Huron's Saginaw Bay region south to western Lake Erie (Figure 1). While the five state-owned lands are managed primarily for wetlands conservation for waterfowl and waterfowl hunting, these lands provide ample non-hunting-related wildlife recreation opportunities. The federally owned lands are primarily managed for wildlife habitat for migratory birds. Three of the state WMAs are located in top birdwatching areas in Michigan. State and federal investment in infrastructure for wetland and habitat management occurs to achieve WMA objectives.

Methods

We identified 71 community plans between October 2020 and June 2021 from six counties (Bay, Monroe, Saginaw, St. Clair, Tuscola, and Wayne) proximate to the WMAs. Fifty-five were master plans, 13 parks and recreation plans, 1 water trail plan, 1 economic development plan, and 1 resiliency plan. Dedoose version 8.3 was used in the two-step content analysis of exploring definitions of ecosystem services and identifying recurring themes related to what and how communities relate to natural resources.

Results

Percentage of community plans including these ecosystem services:

- 59% wildlife habitat.
- 45% recreational potential.
- 45% flood control.
- 34% mitigating water pollution.
- 25% controlling erosion.
- 24% mitigating air pollution.
- 23% addressing groundwater recharge.

Community proximity to WMAs

Having a WMA proximate to the community correlated with the communities mentioning WMAs in their document. In contrast, communities not near WMA included more language about creating and maintaining wildlife habitat than communities near WMAs.

Community characteristics

Plans produced 2010 or after included more content related to:

- Bringing in more visitors or tourists.
- Increasing or enhancing multi-use trails.
- Increasing access to or use of waterways.
- Using green energy or technology.
- Providing amenities via state or federal lands.
- Providing hunting or fishing opportunities.
- Providing wildlife watching opportunities.
- Creating or maintaining wildlife habitat.

Plans completed prior to 2010 had more content related to:

- Erosion control.
- Air pollution.
- Water pollution.
- Noise pollution.
- Flood control.
- Groundwater recharge.

Professional assistance in plan development

Four items where professional assistance in plan development resulted in higher rates of content:

- Erosion control.
- Air pollution mitigation.
- Noise pollution mitigation.
- Creating or maintaining wildlife habitat.

Population size

Of ecosystem services, differences were detected between community resident population sizes for:

- Erosion control.
- Groundwater recharge.

Of emergent themes, differences were detected between community resident population sizes for:

- Increasing access to parks or open spaces.
- Creating or maintaining wildlife habitat.
- Increasing or enhancing use of multi-use trails.

Figure 1. Lake Huron's Saginaw Bay region south to western Lake Erie

Region

Of emergent themes, we found differences among regions for:

- Preserving access to parks/open spaces.
- Providing amenities via state or federal lands.
- Creating or maintaining wildlife habitat.
- Providing wildlife watching opportunities.

Of ecosystem services, we found differences among regions for:

- Water pollution mitigation.
- Noise pollution mitigation.
- Erosion control.
- Flood control.
- Groundwater recharge.

Discussion

Communities are including WMAs in their planning and zoning documents, yet more opportunities are possible. Plans produced more recently include recreation more fully. Opportunities to link wildlife conservation to other mechanisms available to communities or private landowners would be beneficial. Because communities do include creating and maintaining wildlife habitat, access to data and decision-support tools would be beneficial, as well as general wildlife education or planning education to support wildlife conservation. Similarly, because communities proximate to WMAs include them in their documents, intentional relationship building between WMA staff and local community leaders would likely be fruitful.

Adapted from original research: Triezenberg, H.A. and B.A. Avers. (2023). Using content analysis to examine ecosystem services in local plans. Department of Fisheries and Wildlife; MSU Extension, Michigan Sea Grant, Michigan State University.

Key findings

- Community planning and zoning does support wildlife conservation.
- Communities nearer to wildlife management areas (WMAs) include them in their plans, but additional zoning work could be beneficial for conservation or community development.
- Communities farther from WMAs include creating or maintaining wildlife habitat.
- Plans developed more recently had more content related to wildlife, habitat, or recreation aspects.

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