This is a copy of a previous poster that we presented at the International Symposium for Society and Natural Resources (ISSRM) in Ostersund, Sweden in June 2005. We plan to revise the poster for PAA 2006 to include our results of the analysis for the entire state of WI. In addition, we would like to critically examine the process of working with the state agency to define methods for the study and to examine the program implications of this work.

Prioritizing Places

How Wisconsin SCORP is using Demographic Analysis to Guide Natural Resource Management

A collaborative effort of applied social science and recreational resource management by:
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Background Information

Every five years the Wisconsin Dept. of Natural Resources (DNR) prepares a State Comprehensive Outdoor Recreation Management Plan (SCORP) to aid in planning and management of outdoor recreation resources across the state. The DNR is currently working on the 2005-2010 SCORP.

One component that has, in the past, been left out of the SCORP is a detailed analysis of demographic, social, and economic characteristics of the population. For the current plan, the WDNR has joined with the Applied Population Lab in order to better understand the demographic context within which outdoor recreation occurs.

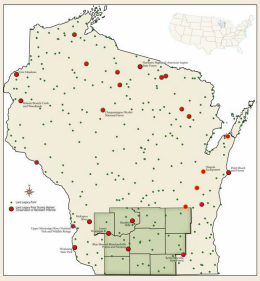
The APL created regional demographic profiles for each of the SCORP Regions, and they are working with the DNR to prioritize places for acquisition and development. The premise of the project is that it is important for planners to consider social and economic information when planning for outdoor recreation, because people are inextricably linked to the natural environment, its use (recreational or otherwise), and its protection.

Land Legacy Places

Starting in 1999, the Wisconsin DNR initiated a three-year study to identify, with considerable input from the public and non-profit groups, places in the state that will be critical in meeting Wisconsin's long-term conservation and recreation needs. The resulting 229 "Legacy Places" collectively are the special places that "make Wisconsin Wisconsin."

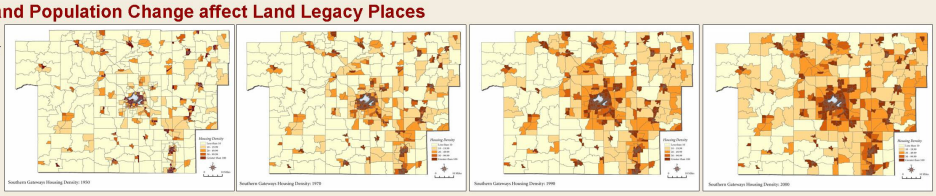
Through the SCORP process, the WDNR hopes to gain a better understanding of how best to prioritize each Legacy Place. Which Places can potentially provide access to the most people? And which places are most at risk for development?

The WDNR represents the Legacy Places as simple points because specifically identifying which lands and waters associated with each place are most appropriate to maintain and protect is most appropriately left to a locally-focused planning process.



Housing Development and Population Change affect Land Legacy Places

- Demographic factors are important to consider in prioritizing Places for acquisition and development.
- Growth has occurred quickly over last several decades.
- Growth and development put pressure on recreation resources
- Land available for recreation and conservation has diminished.

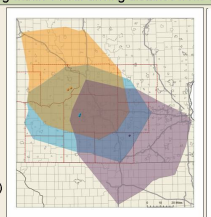


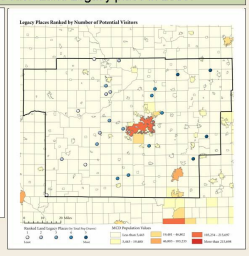
Land Legacy Place Analysis: Three Questions

1: Which Legacy Places have the most potential visitors?

Ideally, places preserved for outdoor recreation offer relatively easy access for a large number of potential visitors. Most people recreate within an hour's drive from their home, so we analyzed the number of people living within 1 hour driving distance from each Land Legacy place in 2003.

- Create 1-hour drive time buffer using Spatial Analyst
- Use roads data with miles per hour for road segments to estimate buffers
- Estimate potential visitors using 2003 estimated population by municipality (MCD)
- Sum estimated pop for all MCD's that intersect the buffer.

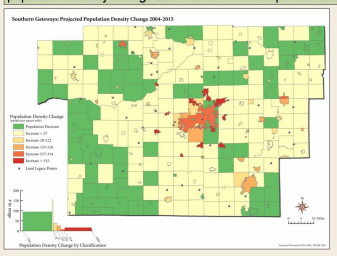




Above: Example shows 3 Land Legacy Places in colored dots and their corresponding 1-hour drive time buffer. Buffers extend following major roads.

2: Which Legacy Places are most at risk of development?

Population pressure is particularly strong in distinct areas of the state, and places with high development pressure may need to be preserved quickly, if ever at all. We analyzed projected population density change 2004-2015 for municipalities surrounding Land Legacy Places.

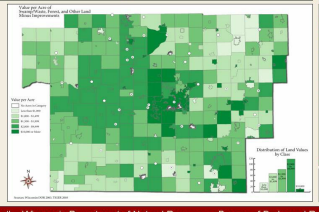


- Measure projected population density change for all WI (MCD's):

  Density2015 – Density2004= Change
- Determine which MCD's surround each Land Legacy Place by running an intersect in Arc GIS
- Model Builder Picture
- Model Builder Picture
- Analyze density change in MCD's surrounding Land Legacy Places to rank Places by likelihood of facing development pressure

3: Around which Legacy Places is land relatively affordable?

- Cost of purchase is important component in land acquisition
- Examine value per acre of land in MCD's
- Use tax assessment data from Dept. of Revenue collected in 2003
- Figure average value per acre for undeveloped land- agricultural land is not included because it is assessed for use value only
- Right: Map shows value per acre in 2003



Scoring Places & Results:

Selected Land Legacy Places	Potential Visitors	Develop Risk	Land Value	Conservation Potential	Rec Potential	Summary Score
Glacial Habitat Restoration Area	5	4	4	4		17
Baraboo Hills	3	5	2	5		15
Horicon Marsh	5	1	4	5		15
Monroe Mound Prairie	4	2	3	5		15
Blue Mound-Blanchardville Prairie	3	4	2	5		14
Driftless Area Woods	3	2	2	3		13
Crex Meadows	3	2	3	3		13
Quam Bluffs of Savanna and Potholes	4	5	1	3		13
Pecor River Hardpan/Mill Prairie	1	4	5	3		13
L. Kashkonong to Kettle Moraine	5	3	3	2		13
Pecatonica River and Greenland	2	4	3	4		13
Blue Mound State Park	2	3	2	4		11
Patrick Marsh	4	5	1	1		11
Arlington Prairie	4	1	3	2		10
Badger Army Ammunition Plant	2	2	2	4		10
Spring Green Prairie	1	2	2	5		10
Lewiston Marsh	2	1	3	3		9
Shoreline Lakes-Black Earth Trench	3	3	1	2		9
Badlands	1	2	3	2		8
Yellowstone Lake	1	1	4	1		7

MAP showing places by how they score

- Institute 1-5 score for each component
- 5= best case scenario for acquisition and development
- 1= worst case
- Conservation and Rec scores

WDNR is interested in 5 components for prioritizing Places: (1) Number of potential visitors, (2) Development risk, (3) Cost of land, (4) Conservation potential, and (5) Recreation potential.

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Sources: Census 2000, TIGER 2000, TIGER 2003, Wisconsin Department of Administration Population Estimates and Projections 2004, Wisconsin DNR Land Legacy Places Project, Wisconsin Dept. of Revenue Equalized Property Values 2003