

NASCIO 2011 Recognition Awards Nomination Michigan

Title of Nomination:
**Mi-HUNT: Michigan's Interactive
Hunting Access Portal**

**Category: Digital Government:
Government to Citizen (G to C)**

Nomination Information

Project Manager: Nicholas Dohm
Job Title: Resource Analyst
Agency: Forest Management Division
Department: Department of Natural Resources
Address: Mason Building, 3rd Floor
PO Box 30257
City: Lansing
State: MI
Zip: 48909

Nominator: Eric Swanson
Job Title: Director, Center for Shared Solutions and
Technology Partnerships
Department: Department of Technology,
Management & Budget
Address: GW Romney Building, 10th Floor
111 S. Capitol Ave.
City: Lansing
State: MI
Zip: 48933
Phone: 517-373-7910
Fax: 517-373-2939
Email: swansone@michigan.gov



B. Executive Summary

Hunting is a critical foundation for wildlife and resource conservation programs in Michigan and across the country. What is often overlooked, however, is the fact that hunting is also a powerful economic engine, driving \$21 billion of the national economy. In Michigan, hunting annually directly or indirectly infuses \$1.3 billion dollars into the economy, supports 12,000 jobs and provides tax revenues of \$153 million. The challenge facing Michigan and states around the country since 1975 is that the number of participants involved in hunting has been declining. From a wildlife and natural resource perspective, this is having a negative effect on states' ability to keep up with conservation programs. From an economic perspective, it is adding insult to injury for states already struggling to balance the books.

Studies have shown that two root causes of the decline in hunting are lack of time and easy access to hunting lands. These two reasons can be highly correlated in a state like Michigan where most of the large available tracks of hunting land are hours away from most of the population. The Michigan Department of Natural Resources (DNR) has recently established a strategic objective to attract and retain hunters. Although they have established several specific projects designed to achieve these objectives, one in particular has embraced technology in an innovative way: Mi-HUNT.

The Mi-HUNT application, <http://www.mcgi.state.mi.us/mi-hunt/>, was rolled out in March 2010 as a 24x7 custom Internet mapping mash-up that enables individuals to locate prime hunting spots using a variety of search criteria. While there are many state online hunting license programs, very few address the root causes of hunting decline – time and access. Key elements of this ground-breaking approach:

- **Strategically Aligned:** Supports eight strategic policy objectives of the Natural Resources and IT departments, the Michigan Governor and NASCIO.
- **Shared and Cross-Boundary Enabled:** Builds on a \$2.5 million shared services web mapping architecture and leverages a public/private partnership.
- **Customer Service Centric:** Provides 24x7 availability for hunters or would-be hunters whenever they need the information (often after 5p.m. or on weekends)
- **Broad-based & Updated:** Prior methods and communication channels were over 35 years old and not attracting new hunters from different sectors of society. Through marketing campaigns and press releases, the web application has performed 1 million transactions during the first year of operation.
- **Revenue Generating:** From savings in the project startup, environment, staff time, new infusion of dollars, and retained jobs, the Mi-HUNT application has an estimated one-year return of \$10.2 million and a five-year return of \$42.3 million.

In conclusion, the Michigan Department of Natural Resources (DNR) has experienced very positive goodwill from the hunting community based on the Mi-HUNT application. In addition to making it easier for hunters to enjoy the sport, the DNR has established a solid foundation to effectively explore, track and ensure a healthy rate of attraction and growth of this revenue-generating activity for years to come.

C. Description of Solution

Problem Statement: It's widely known that the hunting industry is a foundation for and major contributor to conservation. What's not as well-known is the industry's significant economic impact. A 2001 congressional study found that hunters spend \$21 billion annually on equipment, food, dogs, travel expenses and licensing. Hunters spend over \$2 billion on food alone and directly support over ½ million jobs—more than all major US airlines combined. Unlike other industries, the economic impact of hunting is spread geographically to urban and rural areas alike. In fact, business generated by hunters is often the lifeblood of small communities.

Michigan is ranked third for our 750,000 current licensed hunters. Annually, these hunters contribute \$1.3 billion to the state's economy, generate \$153 million in tax revenue, and support over 12,000 jobs. Unfortunately for Michigan's struggling economy, the number of residents hunting has slowly declined over the last decade.

This decline in hunting participation is a national issue. Since 1975, nearly all states have seen similar declines. A 2001 national study by the Fish & Wildlife Service revealed that 46% of probable hunters did NOT become hunters. This was attributed in large part to not having enough time or enough access to hunting lands.

Additional Context: Many factors influence the decline of hunting and trapping as recreational activities. To address these issues, the Michigan DNR engaged a cross-boundary stakeholder workgroup to recommend and establish strategies. To this end, the group recommended that the DNR provide:

- More public access in southern Michigan (large percent of hunters reside here)
- Increased opportunities for a wider spectrum of society to participate in hunting

DNR leaders knew they must embrace technology to address these long-standing issues. They needed to dispel the myth that hunting was overly time consuming by showing hunters how they could hunt just "around the corner." They had to find a solution that worked with their existing retention/recruitment programs, such as the Hunter Access Program (HAP). With HAP, property owners (including farmers) open land for public hunting. Finally, they had to find a cost-effective and sustainable solution.

The Solution: Mi-HUNT is a cutting edge, interactive mapping application that was released in March 2010 to help increase the number and diversity of hunters in Michigan: <http://www.mcgi.state.mi.us/mi-hunt/>. Promoted broadly, the solution is a customized ArcGIS server application that uses BING maps as a backdrop and allows users to view public hunting lands, trails, state facilities, state campgrounds, and wildlife habitats. It allows users to route to their "prime" hunting spot, measure distances, insert coordinate locations from their GPS while out in the field, print maps, and view photos and topographic maps. It integrates state hunting properties and HAP program sites, with all map layers being managed and maintained by the DNR in a data mart.

In developing this solution, DNR executives knew they needed the Internet to maximize citizen reach and—in order to meet public expectations set by Google and BING

maps—they needed to provide geographic information using best practices of map mash-ups. The maps had to be continually updated with state lands and HAP sites and able to locate/route using a variety of search criteria, all with an affordable price tag. And through the partnership of the Center for Shared Solutions and Technology Partnerships (CSSTP) within the Michigan Department of Technology, Management & Budget (DTMB), they were able to do just that. As the lead for Geographic Information Systems (GIS), CSSTP was able to leverage a shareable technology using the State Unified Information Technology Environment (SUITE) software engineering methodology process with the Project Management Methodology (PMM).

Capability with Lower Costs—Leveraged Architecture, Services, and Licensing:

The actual cost for DNR to stand up Mi-HUNT was only \$65,000 (through a federal grant), with a development time of only three months. Thanks to the state’s \$32 million cross-boundary GIS investment over the past 15 years—of which approximately \$2.5 million represents enterprise web mapping technology development—DNR only paid for the custom development portion of their application without any costs to stand up and maintain their own environment. Since CSSTP’s common GIS Enterprise Services Bus allows applications and data stores to integrate with the common GIS and data platform, Mi-Hunt could leverage the existing Enterprise GIS in the ESRI ArcGIS Server platform and integrated Microsoft BING Maps (licensed through an enterprise contract). Mi-HUNT also benefits from the support of experienced GIS professional staff.

Unique and Innovative Approach—Untapped National Potential: Mi-HUNT is a proven standard mainline technology, with low-cost customization and maintenance; it is highly desirable and transferrable for any state interested in increasing this segment of their economic portfolio. It is also surprisingly unique. While a 2002 American Sportsman Association study found that Sportsmen spend enough that they alone would constitute the 11th biggest corporation in America, hunting applications like Mi-HUNT, designed to address root causes of hunting decline, are lacking in availability.

D. Significance of the Solution

Stakeholders: Michigan boasts an annual base of 750,000 hunters and according to the DNR has another 3 million potential hunters who are not yet participating. Designed around the familiar Bing/Google map interface—focused on making a gentle “on ramp” for the average user—the Mi-HUNT application is designed to retain current and recruit new hunters. Current statistics of web use show that for the first year, there were nearly **1 million transactions** against the site. In addition to the site users and the site sponsor (DNR), additional key stakeholders are the holders of the estimated 12,000 annual service jobs that are made possible through the impact of the hunting industry.

Policy, strategy, and goal alignment: Mi-HUNT was initiated to support DNR’s strategic initiatives to attract and retain hunters. The application’s significance as a best practice example is further underscored by strong alignment with Michigan Governor Rick Snyder’s key areas of focus, as highlighted in his inaugural state of the state address and as depicted in the corresponding statewide dashboard issued January 2011: <http://www.michigan.gov/midashboard>. This project aligns with the Governor’s

Value for Money Government and Quality of Life areas of focus. Additionally, as a “technology governor,” Snyder has also committed to relying heavily on Michigan’s ICT capability. To this end, the Mi-HUNT solution also supports the 2010-2014 ICT Strategic Plan: <http://michigan.gov/itstrategicplan>; aligning with four of its six goals.

- **Goal 1: Access - Provide exceptional service to Michigan citizens and businesses anytime and anywhere:** Mi-HUNT is used 7x24x365, on one site. User feedback reveals a very positive experience for a majority of users.
- **Goal 2: Service - Deliver efficient and effective technology services and shared solutions:** Mi-HUNT’s core ArcGIS server and several terabytes of spatial data are housed within a \$35 million enterprise warehouse, which is shared (and funded) across all state agencies. DNR leverages this resource to support their business through its custom, yet inexpensive, Mi-HUNT application.
- **Goal 5: Cross-Boundary Solutions - Accelerate partnerships across and beyond state government:** Mi-HUNT also leveraged an innovative public-private partnership with Microsoft, enabling the collection of local government orthophotography and an “unlimited use” license for the BING maps API. In addition to acquiring more mapping data than would otherwise be possible, the partnership also allowed Michigan to avoid expensive “per hit” site charges.
- **Goal 6: Innovation & Transformation - Drive innovation and technology to transform Michigan government:** Michigan’s first direct hunting service application designed for the broad hunting community; Mi-HUNT has increased awareness and access to hunting resources. Significantly reducing calls regarding hunting access and other manual work; it has saved the state 1 FTE.

Value of Shared Services to Mi-HUNT: Mi-HUNT not only benefited from a federal grant of \$65,000 to cover the custom application development, but more significantly, it benefited from an incredible shared services toolset and support system valued at \$38 million, without which the solution would not have been possible.

Value of Shared Services Tools Leveraged

	Payer	Investments
Enterprise Warehouse	Shared Services	\$35,000,000
SOM Web-mapping Environment	Shared Services	\$2,500,000
Bing Licensing-1yr	Shared Services	\$400,000
Hosting Support Costs	Shared Services	\$50,000
GIS Data (Custom Development Cost)	Shared Services	\$50,000
		\$38,000,000

Annual Costs to the Agency (DNR)

	Payer	Paid/Avoided
Tier I Shared Service Rate (Annual)	DNR	\$250,000
Ongoing Application Support (Annual)	DNR	\$5,000
Staff Phone Support (1/2 FTE) (Annual)	Cost Avoidance	-\$50,000
Staff Map Compilation (1/2 FTE) (Annual)	Cost Avoidance	-\$50,000
		\$155,000

In sum, for only \$155,000 in annual investment, DNR has access to over \$38 million in technology assets.

Shared and Cross-Boundary Solution: The application—and underlying business model for standing up common environments, spreading the costs, and partnering across public and private boundaries—is a prime example of the power of shared solutions. Once established, each program area like Mi-HUNT can then leverage the rich data, technology toolset, and contracts or local partnership agreements, with only a nominal cost of building and supporting a business-specific front-end interface.

Transferability to Other States: Hunting is big business, yet surprisingly even though the hunting population is declining, many states have only invested in online services for hunting licenses. The Mi-HUNT application is a proven approach to addressing hunter access issues, using standard mainline mapping services with a low-cost customization and maintenance plan—allowing universal and abbreviated ramp time.

E. Benefit of the Project

Alignment to Priorities: The project aligns well to leadership priorities, including NASCIO's CIO priority of leveraging IT Shared Services; Michigan's ICT Strategic goals of supporting Improved Access, Innovative Government, Cross-Boundary Initiatives, and Enhanced Service; Governor Snyder's Priorities of supporting Value for Money Government and Quality of Life, and DNR's hunter recruitment/retention goals.

Innovative, Economical, and Effective: As demonstrated above, the 14-month-old Mi-HUNT application has tapped into a robust toolset at an extremely low cost. Mi-HUNT is innovatively reaching untapped demand for an industry that supports both rural and urban areas. It is attacking root causes of Michigan's hunting decline with a design and architecture highly transferrable to most states suffering from the same dilemma.

Benefits Realized by Service Recipients, Taxpayers and Government Agencies: The Mi-HUNT application is positively impacting all intended stakeholder groups. DNR's small project investment has seen financial and non-financial returns ripple throughout all sectors of the state. In addition to the hunter who finds the perfect "hunting spot", there are also a series of economic stakeholder beneficiaries as well:

- ***Service Recipients/Hunters:*** Users can locate desired public hunting lands by county, community, GPS coordinates, game habitat or address. Hunters can plan trips—including overnight camping trips—at their convenience, using timely data.
- ***Agency Conservation Programs:*** According to DNR, there are 750,000 current hunters, generating \$153 million in tax revenue. Even if a conservative 1% would have chosen to do something other than hunt this past year, \$1.53 million would have otherwise not been realized to support key conservation programs.
- ***Public Sector Revenue:*** Hunters annually contribute (directly and indirectly) \$1.3 billion to the Michigan economy. A 2006 US Fish & Wildlife national survey indicated that 87% of hunters directly spent an average of \$617 annually. In the same survey, 74% of hunters spent an average of \$578 annually. Applying this to Michigan's current hunting base of 750,000, spending is \$723.4 million.

	# of Hunters Spending	Average Direct Spending
Trip	750,000 * 87%= 652,500	652,500 * \$617 = \$402.6 million
Equipment	750,000 * 74%= 555,000	555,000 * \$578 = \$320.8 million
		\$723.4 million

It follows then, that a conservative 1% retention of Michigan hunters would result in a direct hunter spending increase of **\$7.23 million**.

- **Hunting and Tourism-related Businesses:** Mi-HUNT directly supports the \$1.3 billion hunting industry by facilitating trip planning and maximizing recreation spending. This provides significant income for hospitality and retail businesses across Michigan. Hunting also supports 12,000 jobs, which equates to \$108K in spending per job. Using this factor, the \$7.23 million estimated increase in spending would result in approximately 66 jobs in Year 1 and 264 for Years 2-4, for a total of 330 jobs over a five-year horizon.
- **Taxpayers:** Mi-HUNT has also reduced the costs of providing hunting lands information to the public by relieving DNR staff of duties related to manual updates and phone call responses. The 5-year cost reduction is \$500K. Subtracting the \$65,000 one-time application development cost and \$5,000/year support cost, the total overall **5-year savings is \$410K**.

Savings Estimates: Based on the information above, 5-year savings is estimated at **\$41.3 million**, including agency staff, project/system and economic-related elements.

	Year 1	Years 2-4	Years 1-5
Agency Staff Savings	\$30,000	\$380,000	\$410,000
Project/System	\$2,930,000	\$1,780,000	\$4,710,000
Economic Infusion	\$7,230,000	\$28,960,000	\$36,200,000
	\$10,190,000	\$31,120,000	\$41,320,000

Non-Monetary Savings: The Mi-HUNT application has also benefitted constituents and state government operations in a number of non-financial ways, including:

- **Qualitative:** Finally, hunters have an application that caters to their specific hunting needs. User feedback has been overwhelmingly positive.
- **Availability:** Placing the application on the web and making it available 7x24x365 has made it possible for hunters to get the information they need closer to the time they need it (after 5pm and on weekends).
- **Accessibility:** Prior to Mi-HUNT, much patience and expertise was needed to integrate disparate information that is now available using a few clicks.
- **Speed:** To get the same information that is produced in minutes using Mi-HUNT, one would have had to spend many hours (or days), pulling together the number of maps, photos, and places of interest necessary to make all of the hunting decisions—a task that most users would never be able to without Mi-HUNT and one that will no longer be holding back this key industry in Michigan.