

# **Planning for Sustainable Development in Coastal Michigan**

## **An Evaluation of Local Master Plans**

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Over the last two decades, several state-level study commissions on environmental and natural resource conditions state-wide, and particularly within Michigan's coastal region, have concluded that local governments need to play a greater role in ensuring the long-term sustainability of those resources through their local planning, zoning, and infrastructure policy-making efforts. This study presents the results of a comprehensive evaluation of 62 coastal counties, townships, cities, and villages, conducted to determine the extent to which those plans incorporate policies demonstrating a clear focus on planning for sustainable development. The plans were evaluated in terms of their procedural policies for growth management, the extent to which their substantive policies focus on promoting vital urban centers, conserved rural areas, and protected coastal area resources, and their analytical quality and inherent consistency. The findings suggest that coastal communities in Michigan, taken altogether and on average, are neither planning for sustainable development, nor are the plans sufficiently "good" to inform and support a transition from conventional development management and toward sustainability.

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### **Executive Summary**

Over the last two decades, several state-level study commissions on environmental and natural resource conditions state-wide, and particularly within Michigan's coastal region, have concluded that local governments need to play a greater role in ensuring the long-term sustainability of those resources through their local planning, zoning, and infrastructure policy-making efforts. These studies and other recent work suggest that local planning and zoning in coastal Michigan communities is quite extensive. None of this recent work, however, has addressed systematically the quality or character of those planning efforts. This study was conducted to do such an evaluation of local planning.

Local master plans were collected from 62 coastal counties, townships, cities, and villages and evaluated to determine the extent to which those plans incorporate policies demonstrating a clear focus on planning for sustainable development. Policy content was assessed in terms of the plans' procedural policies for growth management and the extent to which their substantive policies focus on promoting vital urban centers, conserved rural areas, and protected coastal area resources. The plans were also evaluated in terms of their analytical quality and inherent consistency. This evaluation was conducted to determine the extent to which the plans themselves provide adequate support to ensure that their corresponding policies are reasonable and defensible.

In brief, the study findings demonstrate that coastal communities in Michigan, taken altogether and on average, are not currently planning for sustainable development. Nor are they sufficiently "good" to inform and support a transition from conventional development management and toward sustainability. Two of the most important aspects of planning for sustainability in coastal regions—and two of the most lacking aspects of current coastal planning efforts—are a sufficient focus on coastal area resource protection policies and the sufficient use of rigorous land suitability analysis to guide land management policies.

## Introduction

About 10 years ago, a blue-ribbon commission of scientists, private citizens, and state officials issued a report entitled *Michigan's Environment and Relative Risk*. The report concluded “to the surprise of many...that an ‘*absence of land use planning that considers resources and the integrity of ecosystems*’ was among the most critical environmental problems facing Michigan.”<sup>1</sup> In 2001, the Michigan Department of Environmental Quality concluded that cumulative and secondary impacts from coastal development constituted the highest priority issue in coastal Michigan, and that “fragmentation of coastal habitats, loss of agricultural and forestlands, increased impervious surfaces and resulting stormwater runoff, and the increased development in coastal hazard areas, wetlands, and Great Lakes Islands, could be improved through better coastal land use planning.”<sup>2</sup> In 2002, the Michigan State Senate’s Great Lakes Conservation Task Force concluded that the “quality of the Great Lakes is strongly impacted by activities that occur on the land” and that one aspect of land use that “has not been fully integrated with water impact is land use planning and zoning.”<sup>3</sup> In 2003, Governor Granholm appointed a blue-ribbon commission on land use in response to growing concerns about the environmental, social, and fiscal impacts resulting from suburbanization occurring throughout the state. This ad-hoc commission produced a report premised on the tenets of smart growth and sustainable development. It incorporated a wide array of recommendations designed to improve and re-focus local planning and policy-making efforts to achieve more sustainable landscapes and communities state-wide.<sup>4</sup>

All of these studies and events point to two key conclusions: first, that the wise use of local planning, zoning, and other development management activities is vitally important for protecting the state’s coastal and other natural resources; and second, that communities across Michigan—and especially within its coastal region—do not appear to be using their planning and land management authorities to provide the protections needed. Despite widespread consensus on these conclusions, however, there remains much we do not know about current local planning and land management efforts throughout Michigan, including its coastal region.

The most recent and extensive study on this topic was conducted by the Michigan Sea Grant College Program in 2002.<sup>5</sup> It consisted of a state-wide survey of public officials in coastal counties, townships, cities and villages (hereafter “communities”). It analyzed and reported on coastal communities’ use of local master planning, zoning, professional planning staff, coastal-specific resource protection regulations, and geographic information system (GIS) technologies. In brief, it found that about 80% of Michigan’s coastal communities reported having adopted master plans as of 2002 (ranging from about 76% of the townships to 95% of the cities), while about 75% of those communities

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<sup>1</sup> Smyth (1995:1) (emphasis in original).

<sup>2</sup> Klepinger (2002:7), citing MI DEQ (2001).

<sup>3</sup> Great Lakes Conservation Task Force (2002:64).

<sup>4</sup> Michigan Land Use Leadership Council (2003).

<sup>5</sup> Klepinger (2002).

reported having adopted zoning codes (ranging from 33% of the counties to 93% of the cities and villages). Excluding counties, which have more limited zoning authorities, about 90% of the townships, cities, and villages reported having zoning. The study also found that only about one-third of the coastal communities employed professional planning staff, while about two-thirds employed full-time zoning administrators. Finally, it concluded that while the use of coastal resource regulations was “uncommon,” there was evidence of growing use of planning, zoning, coastal-specific regulation, and GIS technology over time.

This Sea Grant study provided a useful snapshot of the extent of current land use planning and development management efforts across coastal Michigan. Its findings suggest that local planning and zoning are actually quite extensive. Nonetheless, the study did not address in detail the quality or character of those efforts. The purpose of this study was to extend that earlier effort by assessing in greater detail the policy content and analytical quality of local master planning in coastal Michigan communities.

Building on recent scholarship on the evaluation of local master plans, this study focuses in particular on the extent to which the policies of local plans support a movement toward “smart growth” or the “sustainable” development and use of land. It also focuses on the extent to which coastal plans pay special attention to coastal area resource protection. Finally, in addition to evaluating policy focus, it presents a systematic evaluation of the analytical quality and consistency of local master plans in coastal Michigan communities.

This report first discusses briefly the importance of thinking about local master planning in terms of policy content, analytical quality, and consistency, and then presents the criteria used to evaluate those attributes for this study. It then describes the methods used to evaluate coastal master plans and the process used to select communities for study. Finally, it presents the findings from that analysis and discusses the implications of those findings for local planning and coastal area resource management in Michigan.

## **Evaluating Local Master Plans**

Recent calls for improving local land use planning and management in order to better address environmental and coastal resource problems raise two important considerations. First, such an effort will likely require shifting the *policy focus* of local planning and development management from a “conventional” model to a “sustainable development” model. Second, it will also likely require improving the *quality* of the planning efforts used by communities to inform and justify their development management decisions. This section explains and justifies the importance of these two concepts and presents the criteria used to evaluate attributes of policy focus and plan quality for this study.

## *Policy Focus: Planning for Sustainable Development*

Contemporary debates on land use planning often begin with critiques of the now-conventional form of suburbanization occurring over much of the U.S., popularly referred to as “sprawl.” This form of landscape is generally characterized by the unlimited and outward expansion of development; low density residential and commercial settlements; leapfrog development; the dominance of transportation by private automobiles; widespread strip commercial development; and the segregation of land use types into different zones.<sup>6</sup> It constitutes a form of urbanizing land development that pays little heed to the natural features of landscapes or the availability and efficient use of existing infrastructure like roads, water systems, and wastewater systems. A number of related issues have been attributed to this form of development as well, ranging from the ongoing decline of urban centers to the fragmentation and loss of rural landscapes, along with attendant social impacts such as increased socio-economic segregation.<sup>7</sup>

As described above, this phenomenon of sprawl is prompting calls for change in Michigan, as well as throughout the U.S. These calls for change envision alternative landscapes, and they look to local development management as a means to effect that change. They have taken several forms, including most notably calls for “smart growth” or “sustainable development,” each of which has its own particular focus and each of which has been politicized to some extent through popular movements.

Recognizing those differences, a theme that unifies them is their collective vision of landscape that harks back to the early 20<sup>th</sup> century—before the widespread use of both local zoning and automobiles. This landscape consists of compact, relatively dense, and mixed use urban centers surrounded by largely undeveloped natural and working agricultural landscapes.<sup>8</sup> This vision is not strictly a throw-back to early 20<sup>th</sup> century living, however, because while premised on a town-and-country landscape form, it nonetheless incorporates modern automobile travel and some continued use of separated single-use districts (e.g., single family residential districts distinct from downtown commercial districts).

Given this change in desired landscape form, expectations regarding the role for local planning and development management are changing as well. Prior to the rise of local zoning, automobiles and the industrial economies of the 20<sup>th</sup> century, “walkable” mixed-use urban centers evolved and thrived with minimal regulation by the government (compared to today), while working and natural rural landscapes were “protected” from urbanizing development largely by the lack of easy transportation from urban to rural settings.<sup>9</sup> After a century of technological advances and extensive efforts by state and local governments to shape landscape development, the recommendations made by advocates for sustainable landscapes today focus especially on policy reform. Their

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<sup>6</sup> Downs (1999); Burchell (1998); Galster et al. (2001).

<sup>7</sup> See, e.g., Nelson and Duncan (1995), 1995; Downs (1999).

<sup>8</sup> See, e.g., Freilich (1999); Platt (2004); Kob (2000); Smart Growth Network (2002; 2005); National Association of Home Builders (2000).

<sup>9</sup> Juergensmeyer and Roberts (2003). See also Platt (2004).

proposed reforms attempt to re-create unconstrained and pedestrian-friendly urban development and redevelopment processes within urban centers, such as by allowing mixed use zoning, facilitating brownfield redevelopment, and providing public urban transit. They also attempt to protect rural areas by limiting easy access to and the urbanization of those settings, such as by restricting the extension of infrastructure into those areas through urban service boundaries or, in the extreme, constraining suburbanization through regulation.<sup>10</sup> Again, this growth management approach is not strictly a throwback to early 20<sup>th</sup> century living, because while focused on shaping more traditional town-and-country landscapes, it necessarily continues the expanded role for government that came with the 20<sup>th</sup> century and continues to accommodate reliance on automobile travel and other realities of our modern technological economy (e.g., non-local food production, flexible live-work commuting).

Given this shift in focus toward local planning for sustainable development, the question becomes how to evaluate local master plans to determine whether they are actually working toward that end. One way to do so is to ask two parallel questions. The first question is whether the “procedural” policies of a given plan (i.e., policies establishing analysis and/or decision-making procedures), taken altogether, appear to be designed to promote the development, redevelopment, and conservation of land in ways that comport with the idea of sustainable landscapes over time. In other words, does the plan appear to adopt a sustainable growth management approach through its policies? The following criteria were used to evaluate coastal community plans for this study in terms of the extent to which they incorporate a growth management approach consistent with planning for sustainable development (the evaluation items used to measure these criteria are presented in Appendix Table A-1):

- *Development Management*: Procedural policies addressing how land development or redevelopment will be shaped or managed (e.g., use of infrastructure and land suitability analyses to guide development decisions through the mapping of development and conservation zones, etc.).
- *Land Use Management*: Procedural policies establishing the various land uses or land use forms that the community will ultimately take (e.g., use of planned unit development provisions, site plan revision provisions, etc.).
- *Infrastructure Management*: Procedural policies addressing the range of infrastructure services under the control of the local government (roads, water, wastewater), including “green” infrastructure such as parks and trails (e.g., traffic management and coordination policies, water conservation policies, etc.).
- *General Environmental Quality*: Procedural policies on the control of environmental pollutants (e.g., use of environmental impact assessments, control of contaminated stormwater runoff).

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<sup>10</sup> American Planning Association (2000; 2002); Smart Growth Network (2002; 2005).

The second question to ask is whether the “substantive” policies of the plan (i.e., policies focused on promoting a particular landscape type), taken altogether, appear to be designed to facilitate and support the kinds of landscapes themselves that define a sustainable community.<sup>11</sup> That is, to what extent do they promote vital urban centers along with conserved rural areas? In a coastal setting, it is also important to ask to what extent the substantive policies of the plan focus specifically on and work toward protecting important coastal resources such as shorelines and dunes.

The following criteria were used for this study to evaluate the extent to which coastal Michigan plans promote sustainable *urban* landscapes (see Table A-2):

- *Development and Redevelopment*: Procedural policies promoting the development and redevelopment of compact, mixed-use urban centers.
- *Land Use Management*: Substantive policies promoting attractive, viable, and compatible urban land uses and forms.
- *Transportation & Connectivity*: Substantive policies promoting multiple and connected transportation systems between residential, commercial / business, and recreational centers.
- *Housing Variety*: Substantive policies promoting a variety of housing types across price range and location.
- *Urban Environmental Quality & Community Character*: Substantive policies promoting environmentally and culturally healthy and desirable urban forms.

The following criteria were used for this study to evaluate the extent to which coastal Michigan plans promote sustainable *rural* landscapes (see Table A-3):

- *Development Management*: Procedural policies promoting the development of compact urban areas and the conservation of rural areas.
- *Land Use & Environmental Quality*: Substantive policies promoting access to rural / natural areas and the protection of those areas from environmental degradation.
- *Resource Production Area Protection*: Substantive policies promoting the identification and conservation of contiguous and economically viable resource production areas.

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<sup>11</sup> The measures described for these different landscape types incorporate primarily substantive policies, but also include a limited number of procedural policies that are addressed specifically to the given landscape type.

- *Open Space / Natural Area Protection*: Substantive policies promoting the identification and conservation of contiguous and ecologically viable natural areas.

The following criteria were used for this study to evaluate the extent to which coastal Michigan plans promote sustainable *coastal area* resources (see Table A-4):

- *Water Quality, Wetlands, Habitat*: Substantive policies promoting the protection of coastal waters, wetlands, and habitat.
- *Shoreline Management*: Substantive policies promoting the protection of coastal shorelines.
- *Erosion and Flood Control*: Substantive policies minimizing coastal erosion and flooding hazards.
- *Dune Management*: Substantive policies promoting the protection of coastal dunes.

Each of the criteria presented above represents a distinct concept or attribute of local planning for sustainable development. These evaluation criteria were developed from the large body of current academic work on planning for smart growth and sustainable development.<sup>12</sup> The items listed in the “measurement” column in the appendix tables describe the policies that were looked for in a given plan to measure the extent to which the corresponding attribute was advanced by that plan. The specific plan policies used to develop these measurement scales were also drawn from the academic literature, as well as from practice-oriented guidance documents that have been developed to identify policies that local governments might employ to promote smart growth and sustainable development within their communities.<sup>13</sup>

It is important to note that while each of the criterion for each of the attributes of local planning presented in these tables are distinct conceptually, they are all closely related. There is some overlap in the specific plan policies used to measure the various criteria, therefore, and the criteria should not be viewed as being strictly exclusive of each other.

### ***Plan Quality: Ensuring that Plan Policies are Effective and Reasonable***

Advancing sustainable development through local planning requires attending to the policy focus of a plan. But addressing the plan’s policies alone is not sufficient. It is equally important to consider the *quality* of the planning effort used to inform and justify those plan policies. To see why this is so, consider the role played by local planning in

<sup>12</sup> See, e.g., Berke and Manta Conroy (2000); Wheeler (2001), Norton (2005b).

<sup>13</sup> American Planning Association (2000; 2002); Smart Growth Network (2002; 2005); Arendt (1994); Juergensmeyer and Roberts (2003); Nelson and Duncan (1995); National Association of Home Builders (2000); Meck (2002); Oregon Department of Land Conservation and Development (2004).

Michigan, along with most U.S. states. Local master planning—by itself—is not a legally enforceable means to manage land use. Rather, local governments manage the development and use of public and private lands within their jurisdictions through the zoning, subdivision, and other regulations they adopt, along with the roadway, water, wastewater, and other infrastructure services they provide. (These various regulatory and infrastructure decisions taken together comprise a community’s “development management” program, as distinct from its master plan.)

The master plan—and specifically its policies—provide guidance to local officials on how best to make those regulatory and infrastructure decisions. In order to ensure that the plan policies—and ultimately the development management decisions made to implement them—are effective and reasonable, the plan should ideally provide a coherent vision of how the community wants to develop along with compelling arguments that demonstrate why the plan’s various policies are necessary and how they will achieve that vision. The concept of plan quality speaks to how well the plan does just that.

Two aspects of plan quality are worth noting. First, the courts have long recognized the important role that a community’s master plan plays in ensuring that its development management decisions—especially its regulatory decisions—are *reasonable*, and thus *defensible* both legally and politically.<sup>14</sup> From that perspective, the quality of the plan has always been important. Even so, in transitioning from a “conventional” model of development management to a “sustainable development” model, the plan policies a community adopts and the development management decisions it makes also tend to diverge from the conventional development expectations of private land owners. Frustrated expectations are often the motivation behind litigation, and the quality of the planning effort used to support the plan’s policies and justify the community’s land management decisions thus becomes all that more important.

Second, the concept of plan quality is closely related to policy focus and the two concepts are often conflated in peoples’ minds. That is, “good planning” is often assumed to mean “good planning for” some particular end. But planning means different things to different people, and it is possible for equally “good” plans to plan for very different landscapes.<sup>15</sup> It is important, therefore, to keep the concepts of policy focus and plan quality distinct.

For evaluation purposes, the concept of overall plan quality can be divided into two important components: the analytical quality of the plan and plan consistency. Each of these attributes of overall plan quality is discussed in more detail next.

### Analytical Quality

Analytical quality or the degree of analytical rigor of a plan is based in part on the process that was used to develop the plan, as can be discerned from the plan itself, and the comprehensiveness and coherence of the various analyses presented in the plan.

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<sup>14</sup> See, e.g., Crawford (1998); Mandelker (1997); Juergensmeyer and Roberts (2003).

<sup>15</sup> See, e.g., Norton (2005a; 2005b).

Building on scholarship on the planning and development management process<sup>16</sup> and on plan evaluation,<sup>17</sup> seven distinct attributes of plan quality can be identified. All of these criteria are premised on the idea that a plan both documents the plan-making process employed and provides the background analysis and justifications used to support the plan's policy recommendations. These seven criteria include (see Table A-5):

- *General Presentation*: The comprehensibility and completeness of the plan as an informational document.
- *Articulation of Purpose, Goals, and Policies*: The clarity and thoroughness of the plan's statements about the role of planning and the plan itself.
- *Public Participation*: The extent to which multiple and meaningful avenues for public participation were provided in the plan-making process in order to leverage local citizen knowledge, leverage the "social learning" function of planning, and increase the legitimacy of the plan.
- *Fact Base*: The overall thoroughness and clarity of the descriptive information about the community presented in the plan, provided to describe where the community is now, where it appears to be headed, and what the status is of past planning efforts.
- *Infrastructure Capacity Analysis (Average)*: The identification of services currently available and analysis of both the likely impacts from infrastructure decisions on population and land development trends and the reciprocal impacts from those trends on long-term capacities (see below).
- *Land Suitability Analysis (Average)*: The analysis of inherent land attributes to identify areas both most suitable and least suitable for urbanized land development and for rural area conservation (see below).
- *Implementation*: The extent to which the plan identifies the timeframes, mechanisms, and responsible parties for implementing the plan policies.

Two of these components warrant additional discussion. The first is the infrastructure capacity analysis. One of the fundamental purposes of a plan is to provide information and guidance on local infrastructure decisions, such as deciding whether to provide public roads, water and wastewater services. In order to provide such guidance, a good plan should first document what services are currently available, where they are located, what their current capacities are, and how long they might be expected to operate within capacity given anticipated trends in population, economic development, and so on. It should then assess how public infrastructure decisions, such as the extension of new

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<sup>16</sup> Kaiser, Godschalk, and Chapin (1995); Randolph (2004).

<sup>17</sup> Talen (1996); Baer (1997); Burby and May (1997); Norton (2005a; 2005b).

roads or water service, will likely affect those trends in population and land development, which will in turn affect the long-term capacity of that infrastructure.

This component of the plan is similar to the fact base in that it provides necessary foundational information, but it differs from the fact base component, which is primarily descriptive, in that it builds upon the fact base and is more analytical, employing the use of assumptions and informed judgment to make reliable statements about existing and predicted capacities. The following criteria were used to evaluate the infrastructure capacity analyses of coastal plans for this study (see Table A-6):

- *Transportation*: The identification of current transportation system elements and capacities and the analysis of those systems with regard to potential development.
- *Water / Wastewater*: The identification of current water and wastewater system elements and capacities and the analysis of those systems with regard to potential development.
- *Parks, Recreation, Greenways*: The identification of current active and passive recreational facilities and greenways and the analysis of those facilities with regard to potential development.
- *Other Infrastructure*: The identification of other services not generally related to land use or directly under local government control—historic and cultural resources, public safety, solid waste, schools—and the analysis of those facilities with regard to potential development.

The second component warranting discussion is the land suitability analysis. A common aphorism in real estate is “location, location, location.” Proximity to things like highway interchanges and natural amenities matters, and those factors can have a large impact on the market value of land. But land has social and other non-market values as well. Wetlands, for example, provide valuable benefits to public health by filtering out excess nitrogen and other pollutants from stormwater runoff before they can reach streams and lakes. Thus location matters both in terms of the built environment and the natural environment. From that perspective, there are good places to urbanize and good places *not* to urbanize. In order for a plan to inform local decision making on regulations and infrastructure policy, a good plan first provides a rigorous and reliable assessment of where those places are.

Building on the infrastructure capacity analysis, which should identify the current distribution of “hard” public services like water and wastewater, a land suitability analysis identifies areas that are *most* suitable for future urban development given their proximity to current urban areas and infrastructure or their low value for natural and resource production purposes. It also identifies areas that are *least* suitable for development given their remoteness from current urban areas and infrastructure or their high value for natural and resource production purposes. This type of analysis requires technical expertise, particularly for identifying and assessing the importance of natural

and resource production areas, but it is becoming easier given the development of GIS technologies. Like the infrastructure capacity analysis, it provides vital background information for the plan, but is more analytical than the descriptive fact base component. The following criteria were used to evaluate the land suitability analyses of coastal plans for this study (see Table A-7):

- *Water Resources Identified:* The identification of high-quality, threatened, and unique water resources.
- *Natural Areas Identified:* The identification of high quality, fragile, and threatened natural resource land areas.
- *Resource Production Areas Identified:* The identification of existing and high-value agricultural production areas (including productive forestlands).
- *Water and Related Hazards Impacts Analyzed:* The analysis of potential threats to water resources and hazards posed by water bodies (i.e., water and water-related hazardous settings).
- *Land and Other Hazards Impacts Analyzed:* The analysis of potential threats to land resources and hazards posed by land use (i.e., hazardous activities per se and lands potentially made hazardous through development activities).
- *Development Constraints Analyzed:* The analysis of potential constraints to development posed by natural landscape and water resource features.

### Plan Consistency

Like policy focus and analytical quality, plan consistency has several dimensions, including the consistent deployment of a plan and the inherent consistency of the plan (or overall planning effort) itself. The need for consistency in the use of a plan to justify development management decisions has been recognized for a very long time. Indeed, the Michigan Zoning Enabling Act, like the zoning enabling laws of most states, requires that the “zoning ordinance shall be based upon a plan...”<sup>18</sup> From a planning-as-policymaking perspective, this requirement makes good sense. To the extent that a zoning code is used to implement the policies articulated in a local master plan, the plan serves little purpose if the code is not consistent with those policies, and the code itself arguably exceeds the boundaries of reasonable governmental regulation if it is inconsistent with the underlying rationale provided by the plan. Even so, the consistency requirement has proven difficult for courts to interpret given that widely-practiced zoning came before widely-practiced planning and especially when a community has adopted a zoning code but not a plan.

Nonetheless, since the advent of growth management programs that rely on local master planning to advance sustainable development goals, planning scholars have been giving

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<sup>18</sup> 2006 PA 110 §203(1). See also Meck (1996); Crawford (1998); Juergensmeyer and Roberts (2003).

more attention to the concept of consistency.<sup>19</sup> Rather than addressing the consistent deployment of the plan alone, this attention has focused also on the degree of consistency inherent within the plan itself. Building on this scholarship, the following criteria were used to evaluate the consistency of coastal master plans for this study (see Table A-8):

- *Vertical Mandate Consistency (All)*: Presence of plan elements mandated of all local units of government in the state’s planning enabling laws.<sup>20</sup>
- *Vertical Mandate Consistency (Cities / Villages)*: Presence of plan elements mandated only for cities and villages in the state’s planning enabling laws for cities and villages.
- *Vertical Coordination*: Extent to which the plan demonstrates consultation and/or coordination between the community and “higher” units of government (e.g., state coastal area management programs).
- *Horizontal Consultation and Coordination*: Extent to which the plan appears to be compatible with the policies and spatial characteristics of neighboring jurisdictions and extent to which the community is consulting and/or coordinating with neighboring jurisdictions or other “horizontal” units of government.
- *Internal Policy, Spatial & Implementation Consistency*: Degree of internal coherence between the plan’s facts, goals, and policies and between multiple plan documents in a jurisdiction with multiple plans (e.g., subarea plans). Several attributes of internal consistency include inter-goal, inter-policy, goal-policy, inter-plan, and spatial consistency (i.e., degree to which the stated goals and policies of the plan are consistent with the limitations on and opportunities for development based on the infrastructure capacity and land suitability analyses). Also, the extent to which the implementation steps identified in the plan are consistent with (or are reasonably designed to advance) the plan’s articulated goals and policies.

The concept of spatial consistency—an attribute of the “internal” consistency of the plan—is especially important, and especially difficult to measure. Spatial consistency describes the extent to which the stated goals and policies of the plan, particularly as articulated through the use of a future land use map, are “compatible” spatially with the constraints on and opportunities for development imposed by infrastructure and land suitability, encouraging development where it is most suitable and discouraging it where least suitable. Assessing spatial consistency is necessarily subjective, requiring the analyst to compare abstract goals to the specific built and natural landscape characteristics identified through the infrastructure capacity and land suitability analyses. Nonetheless, spatial consistency is especially important to the extent that one purpose of

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<sup>19</sup> Compare Burby and May (1997); Weitz (1999); Norton (2005a; 2005b).

<sup>20</sup> Local governments in Michigan are not required to plan, but when they do plan, the state’s planning enabling acts mandate that they incorporate a number of planning elements. See 1945 PA 282, Sec.4(2) (County Planning); 1959 PA 168, Sec. 7 (Township Planning); 1931 PA 285, Sec. 6 (Municipal Planning).

the plan is to manage land use and development in a way tailored to the unique characteristics of a particular community.

More broadly, the overall concept of internal consistency is vitally important from the policymaking perspective for the sake of ensuring the coherence, rationality, and usefulness of the local plan. It is equally important from a legal perspective to the extent that plan policies bearing no apparent relationship to the plan's fact base, analyses, and stated goals may command little respect by a court should a local regulation premised on those policies be challenged.

## **Research Methods**

Following the methodology commonly employed for the evaluation of local master plans, the plan policy focus, analytical quality, and consistency components of each plan for this study were evaluated by looking for the presence of each of the various items illustrated by the "measurement" column of Appendix Tables A-1 through A-8. When present, each of these items was assessed in terms of its level of detail. Policies were also evaluated in terms of their level of prescriptiveness. "Prescriptiveness" refers to the whether the policy was prescriptive (e.g., "the community shall take the following steps...") rather than merely exhortative (e.g., "the community should consider taking the following steps...").

For example, in assessing the land suitability analysis of a plan, the prime farmland item was scored as "0" if absent, "1" if present but not detailed, "2" if present and detailed, or "3" if present, detailed, and mapped. For the policy focus component, a given evaluation item such as a policy of establishing an urban services boundary was scored for level of detail as "0" if absent, "1" if present but not detailed, or "2" if present and detailed, and for level of prescriptiveness as "0" if low, "1" if moderate, or "2" if high. These scores were then summed according to the groupings of analysis categories corresponding to each of the separate criteria to create separate indices, and then standardized by dividing the actual score by the maximum possible score and multiplying by 100. The standardized score for each evaluation criterion thus indicates the degree to which a plan meets the given criterion relative to the total score that could be achieved, measured as the "percent of the possible score."

Because this type of plan evaluation is very time consuming, a sample of coastal Michigan plans—rather than an entire census—was collected for assessment between mid 2003 and late 2005. To identify a representative sample of communities, a sample frame of 149 coastal communities was first developed through two rounds of sampling. This frame represents about 44% of the 338 coastal communities adjacent to a Great Lakes water body. The first sampling round consisted of a census of 6 different coastal counties, which were selected for unique attributes of their settings, including Berrien County (coastal erosion hazards), Ottawa County (coastal micro-climate agriculture), Benzie County (coastal dunes), Leelanau County (coastal micro-climate agriculture), and Macomb/St. Clair Counties (coastal wetlands). This group includes a total of 67

communities. The second round consisted of a selection of 82 communities drawn randomly from the remaining coastal jurisdictions.

Of the total 149 coastal communities in the full sample frame, the complete master plan (i.e., text and maps) was successfully collected for 62 communities, representing about 42% of the sampling frame or 18% of all coastal communities. These 62 communities are referred to hereafter as the “study communities.” The final selection of study communities is randomly distributed spatially around the Lower Peninsula of Michigan (with only several from the Upper Peninsula) and thus is reasonable representative of coastal Michigan planning efforts within the Lower Peninsula at least on that dimension.

## **Findings**

One of the reasons for using a simple “percent of possible score” measure for plan components or attributes is that it is both easy to calculate and easy to interpret. In addition, the evaluation criteria were developed so that each has a comparable total raw score, making comparisons of relative scores across criteria reasonable. The findings from this type of plan evaluation study are presented most readily using bar graphs. For this study, the plan scores were averaged by jurisdiction type—county, township, city, and village—to facilitate analysis and comparison at an aggregated level rather than for a given community.

An important aspect of this type of analysis is worth noting here. The comparison method, criteria, and calculations employed effectively amount to “benchmarking” an actual plan against a theoretically “ideal” plan in an abstract sense. Yet plans are always tailored to the unique situations of a given community, including its development trends, landscape conditions, and fiscal capacity. Thus even the best plan would not match the ideal in all respects. Working through this analysis for a given community could help that community assess its own planning efforts, but it is not so useful for a generalized research study to focus too much on the findings for one particular locality (i.e., without a more detailed assessment of conditions unique to that community and the appropriateness of the plan’s analyses and policies within that context). Moreover, given these considerations, it would not be appropriate to use the methods employed here to pronounce that the average overall quality or the policy focus of the local master plans evaluated here are, for example, “A” or “B” or “C” plans in a standard-based sense.

Nonetheless, this method does provide a good general sense of policy focus and overall plan quality of plans evaluated taken as a whole. It also provides useful information for understanding the relationships between those local planning efforts generally and ongoing resource management efforts more broadly. Finally, it points to areas for improving local planning and development management efforts accordingly.

With these caveats, the following discussion presents the findings from the evaluation of the coastal Michigan study community plans, corresponding to each of the several plan evaluation elements described above.

## Plan Policy Focus

Figure 1 presents the results from the evaluation of plan policy focus with regard to the *procedural* growth management attributes or elements of the plans. Several observations can be drawn from these findings. First, all of the various elements for all of the community types—except for the land use management element of city plans—scored at about 20% or less than the ideal. Second, the county

plans consistently scored highest (again except for the land use management element), followed generally by the townships, cities, and villages. Aside from the counties, the townships on average appear most focused on managing the development of land within their jurisdictions, while the cities appear most focused on managing the use of already-developed land. The study communities taken altogether appear least focused on infrastructure management and, especially, general environmental quality.

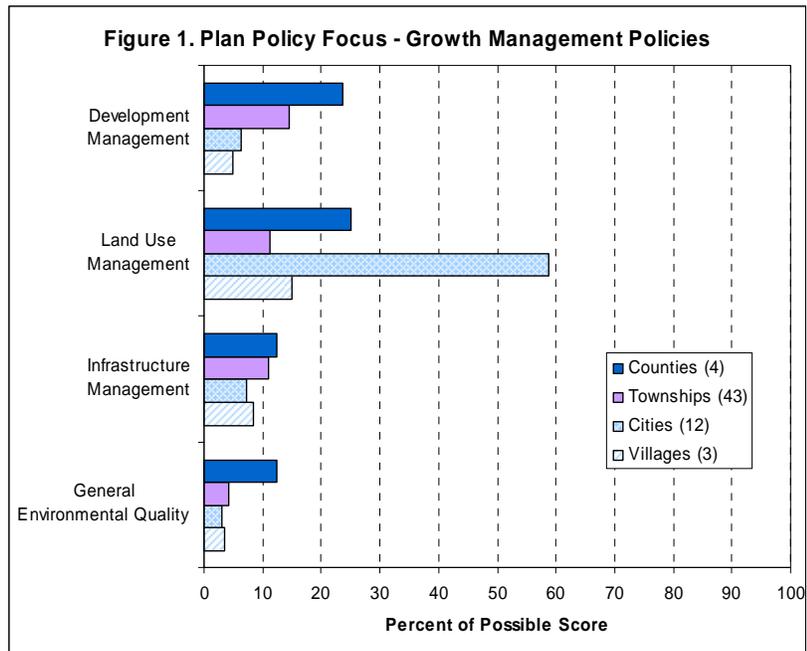
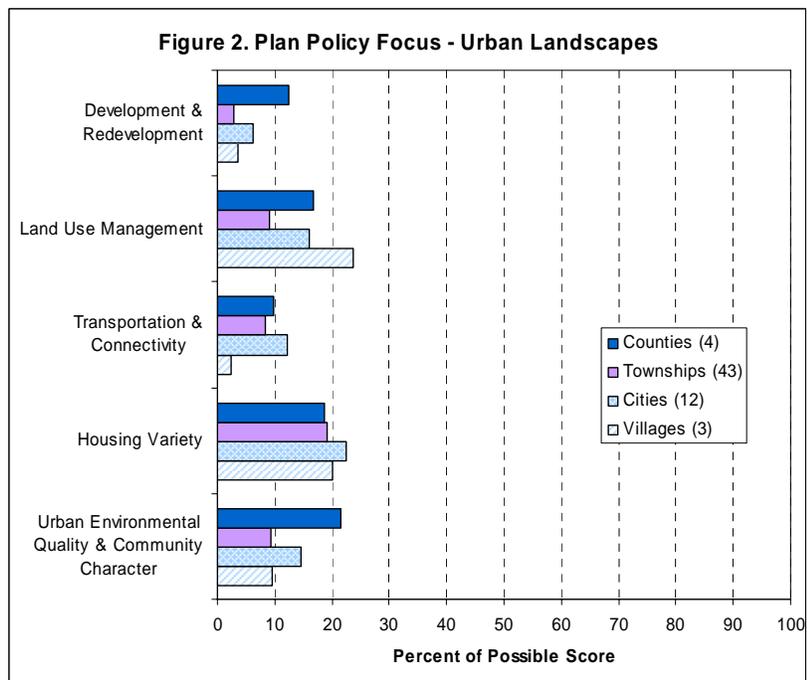
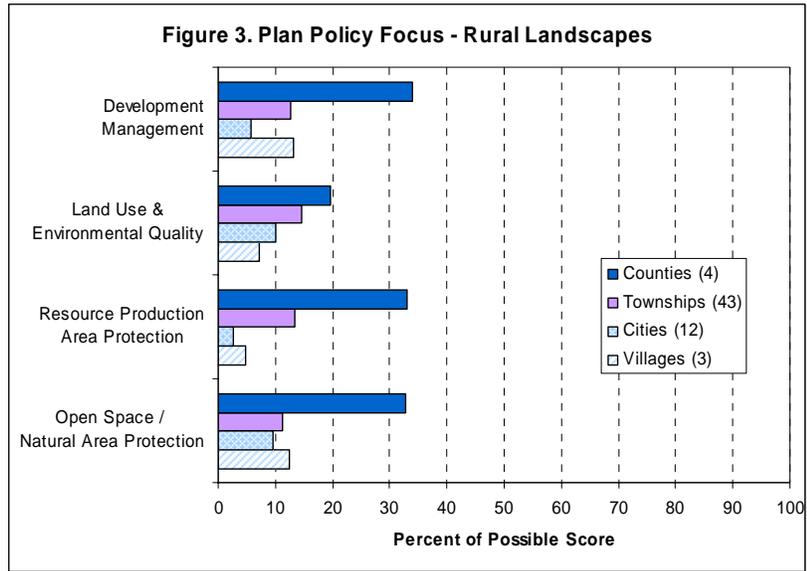


Figure 2 presents the results from the evaluation of plan policy focus with regard to the plans' *substantive* emphasis on promoting vital *urban centers*. The first observation to draw again is that all of the elements for all of the community types scored at about 20% or less than the ideal. Beyond that, counties generally perform best on development and redevelopment policies and urban



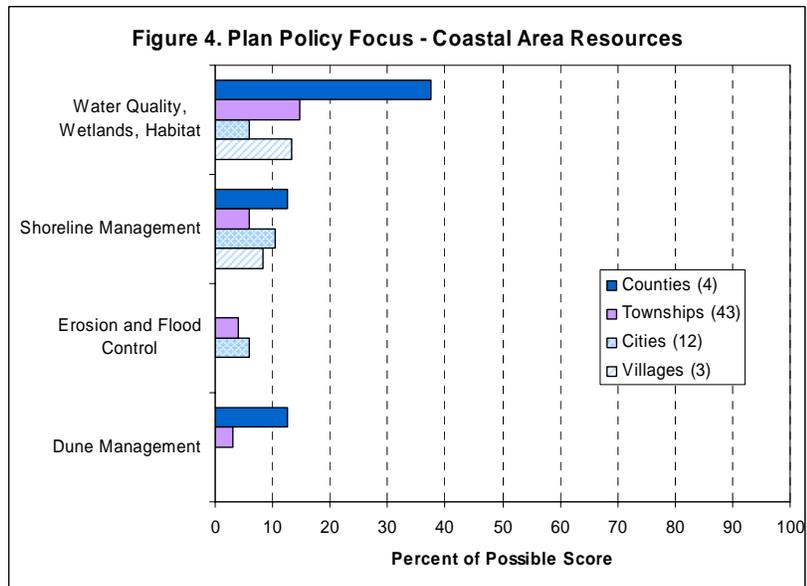
environmental quality, but not the other measures. Aside from the counties, the cities—which generally encompass only developed urban lands and not rural lands—appear most focused on urban development and redevelopment, transportation and connectivity, housing variety, and urban environmental quality and community character, while the villages scored best on land use management, followed by the cities and then townships.

Figure 3 presents the results from the evaluation of plan policy focus with regard to the *substantive* emphasis placed on conserving *rural areas*. Here the counties scored somewhat higher, averaging between about 20% and 30% of the ideal, and consistently scoring higher than the other community types. As might be expected, the townships—which have



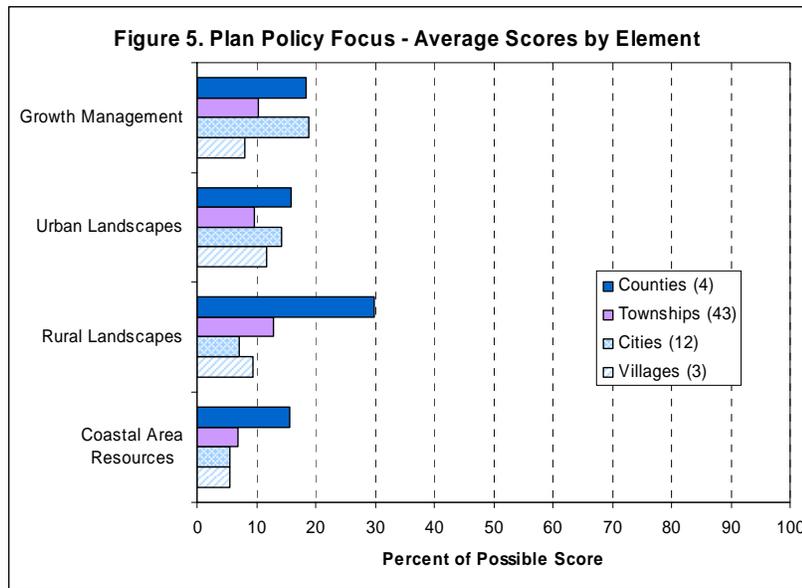
more rural landscape to manage—consistently scored higher than the cities, although the villages scored as well or higher than the townships on development management and open space and natural area preservation. Also as might be expected, the cities scored lowest on resource production area (i.e., farmland) protection.

Figure 4 presents the results from the evaluation of plan policy focus with regard to the *substantive* emphasis placed on protecting *coastal area resources*. Aside from the average county score for water quality, at about 40% of the ideal, all of the community types scored only about 10% or less than the ideal for all of the coastal resource area protection elements. All of the



communities generally scored highest on the coastal water quality and shoreline management elements. Neither the counties nor the villages registered a score for erosion and flood control, while the cities and township scores on that element were both quite low. The dune management score was relatively moderate for counties but low for townships. The lack of a score for cities and villages is probably the result of the cities and villages evaluated for this study not having coastal dunes within their jurisdictional boundaries.

Finally, Figure 5 presents a summary illustration of the extent to which coastal Michigan plans appear to be promoting attributes of sustainable development through their plan policies. Overall, the policy focus of the plans for the various elements of sustainable development assessed—procedural growth management policies and substantive



policies promoting urban landscapes, rural landscapes, and coastal area resource protection—were quite low, generally averaging only about 20% or less than the ideal. Of the four community types, the counties—which generally have the least ability to actually manage land development and use through zoning and subdivision regulation, if not through their infrastructure policy-making—scored on average higher than the other community types. Aside from the counties, the cities on average appear to be most focused on growth management and urban landscapes, while the townships appear most focused on rural landscapes and coastal resource protection. Of the four elements of plan policy focus, coastal area resource protection generally received the least emphasis.

## Plan Quality

Figure 6 presents the results from the evaluation of the coastal master plans' analytical quality. The first observation to draw overall, illustrated by the last element at the bottom of Figure 6, is that the county plans on average scored at about one-half of the ideal master plan, while the township and city plans scored at about one-third of the ideal and the village plans scored at about one-fifth of the ideal. Second,

consistent with that observation and with the plan policy focus scores generally, the county plans scored highest for all of the elements of analytical quality taken separately. Third, the separate elements for which the plans generally scored highest were the general presentation, statement of purpose and goals, and fact base elements. Conversely, the plans generally scored lower on the public participation, infrastructure capacity analysis, land suitability analysis, and implementation elements. The lowest scores were generally for land suitability analysis.

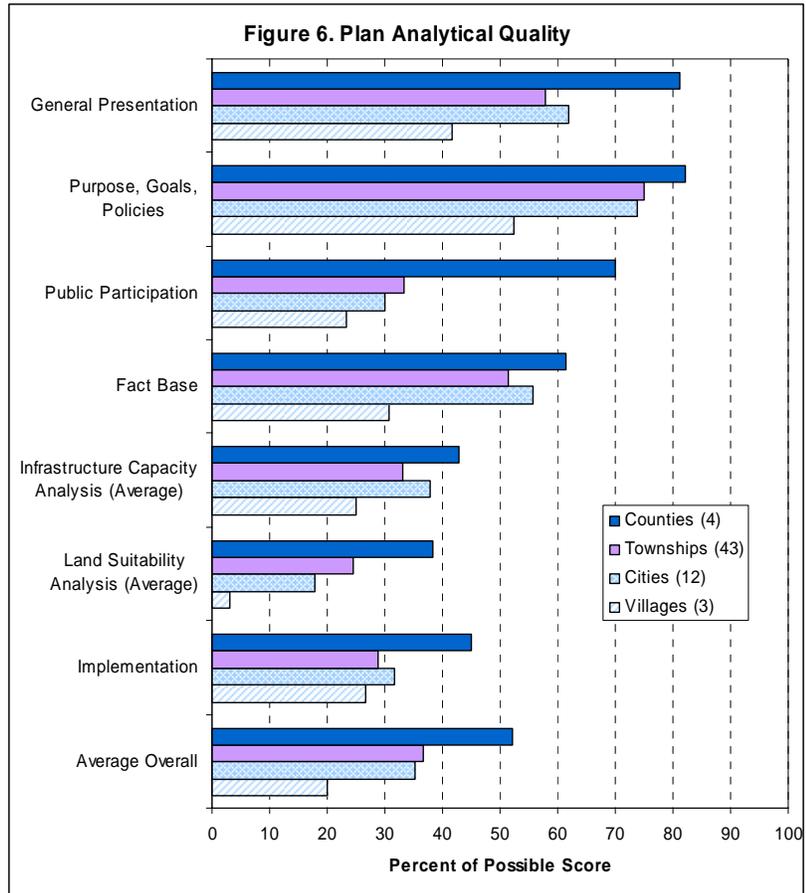
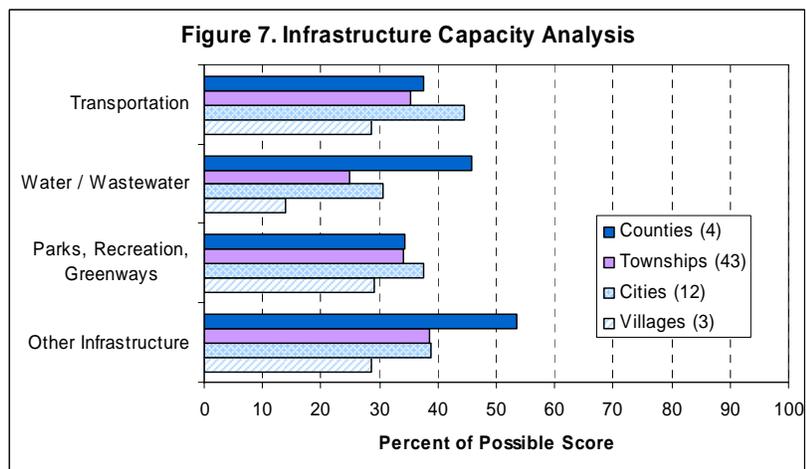
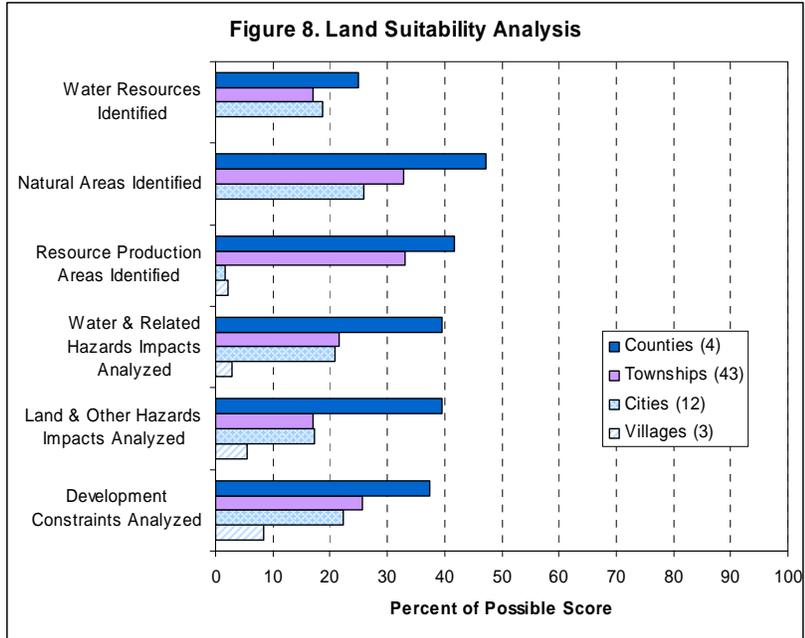


Figure 7 presents the results from the detailed assessment of the plans' infrastructure capacity analyses. The principle observation to draw from this set of findings is that, aside from counties and villages, the cities generally scored higher than the townships on all of the

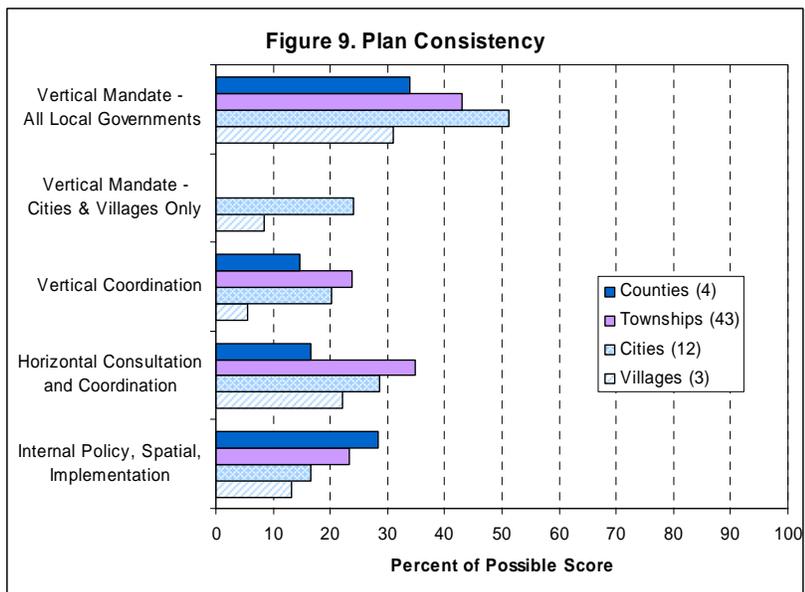


various elements except for “other” infrastructure (i.e., infrastructure not related directly to land use or not directly under the control of the local government). Moreover, of the four elements evaluated, the plans generally scored highest on transportation, followed by other infrastructure, parks and recreation, and finally water and wastewater services.

Figure 8 presents the detailed assessment of the plans’ land suitability analyses. Again aside from the counties and townships, the principle observation to draw here is that the townships and cities generally scored at comparable levels for all of the various assessments, except that—not surprisingly—the townships scored much higher with regard to the identification of resource production areas and somewhat higher with regard to the identification of natural areas. In general, the plans did a better job at identifying important landscape features (except for water resources, somewhat surprisingly) than they did at analyzing the potential impacts related to, or the constraints on development imposed by, those natural features.



Finally, Figure 9 presents the results from the assessment of the various elements of plan consistency. Of the various elements, the plans generally scored highest on consistency with the state’s enabling planning enabling law mandates, although only the cities scored higher than 50% of the ideal for that measure (there is no review mechanism in Michigan



to ensure compliance with the state's enabling authority requirements). In general, the average scores for the other measures of consistency were at about 20% of the ideal. Aside from counties and vertical mandate consistency, townships generally scored higher on the various consistency measures, followed by cities and then villages.

## **Discussion and Conclusions**

Over the last two decades, several state-level study commissions on environmental and natural resource conditions state-wide, and particularly within Michigan's coastal region, have concluded that local governments need to play a greater role in ensuring the long-term sustainability of those resources through their planning, zoning, infrastructure policy-making, and other development management efforts. Yet we have lacked good information on the character and quality of current planning efforts in the state's coastal region. This study was undertaken to systematically evaluate local master planning efforts in coastal Michigan communities to address that need. In doing so, the study discusses at some length what it means to plan for sustainable development and why high-quality plans are necessary to support such an endeavor.

In brief, the findings from this assessment suggest that the coastal counties evaluated are generally doing the best job of planning for sustainable development through their master plans. It is interesting to note, however, that counties in Michigan have relatively little ability to actually manage land development and use within their jurisdictions, especially when compared to townships and cities. While somewhat speculative, it may be that counties are in fact more willing to adopt sustainable development policies—which diverge from conventional development expectations in a number of ways—because they know they will not be pressured to follow-through on those policies as could be the case in a township, city or village. In contrast, while counties are generally doing the most to promote sustainable development through their plans, villages are generally doing the least. This may be due in part to the relatively small areas encompassed by these jurisdictions or by their more limited capacities to engage in extensive planning efforts, or both.

With regard to townships and cities, a number of the findings reported are consistent with what would be expected. Townships appear more focused on managing the development of land within their jurisdictions, for example, while cities appear more focused on managing the ongoing use of already-developed land. Similarly, cities appear more focused on promoting vital urban centers while townships appear more focused on conserving rural landscapes. These findings tend to validate the methodology employed for this study.

Nonetheless, beyond these various findings, the evaluation of coastal plans taken as a whole highlights the limited extent to which coastal communities in Michigan are in fact planning for sustainable development. Benchmarking the plans against an "ideal" plan for promoting sustainable development, most of the plans evaluated, on average, scored only at about 20% of the ideal in terms of their policy content for virtually all of the attributes

evaluated. Similarly, most of the plans scored at only about 20% of the ideal for most measures of plan consistency—an essential component of overall plan quality. Other elements of plan quality, such as general presentation, scored somewhat higher, although only a small number of scores exceeded even 50% of the ideal across the array of jurisdiction types and plan attributes considered. Most importantly, the land suitability analysis scores and the coastal area resource protection policy scores—two of the most important components of planning for sustainable development in high-value coastal regions—were also the lowest scores observed.

In sum, the findings from this study highlight the ways in which coastal Michigan communities are *not* currently planning for sustainable development through their master plans. In so doing, the study also provides a road map that communities can use to effect such a transition toward sustainability through their planning and development management efforts. Most important—and currently most lacking—will be the need to attend to coastal resource protection policies in the plans and to undertake high quality planning efforts—especially through the use of rigorous land suitability analysis—to inform and justify that transition.

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## APPENDIX

**Table A-1. Plan Policy Emphasis – Growth Management Policies**

<u>Criterion</u>	<u>Concept Description</u>	<u>Measurement</u>
<i>Development Management</i>	Procedural policies addressing how land development or redevelopment will be shaped or managed (e.g., through tax policies, regulations, reliance on the market, etc.).	Regional or multi-jurisdictional collaboration; urban growth or services boundary; mapping of conservation and development zones; manage growth by infrastructure carrying capacity and land suitability.
<i>Land Use Management</i>	Procedural policies establishing the various land uses or land use forms that the community will ultimately take (e.g., urban, rural, suburban).	Promote compact development; use of planned unit developments, density bonuses; remediation and reuse of brownfield sites; site plan review for regulations.
<i>Infrastructure Management</i>	Procedural policies addressing the range of infrastructure services under the control of the local government (e.g., roads, water, wastewater), including “green” infrastructure (e.g., parks and trails).	Traffic management plans; coordination of local transportation to regional network; waste-water conservation and treatment; conversion of septic to sewer where necessary; recycle / reduce / reuse programs.
<i>General Environmental Quality</i>	Procedural policies on the control of environmental pollutants (e.g., control of contaminated stormwater runoff).	Use of watershed-based planning; environmental quality public education; parking lot run-off controls; native landscaping; pesticide and fertilizer controls; controls on new septic installation.

**Table A-2. Plan Policy Emphasis – Urban Landscapes**

<u>Criterion</u>	<u>Concept Description</u>	<u>Measurement</u>
<i>Development and Redevelopment</i>	Procedural policies promoting the development and redevelopment of compact, mixed-use urban centers.	Mixed use and compact development and retrofiting; traditional neighborhoods; tax increment financing; downtown development authorities; brownfield redevelopment authorities; urban growth/services boundary.
<i>Land Use Management</i>	Substantive policies promoting attractive, viable, and compatible urban land uses and forms.	Form-based zoning; mixed-use zoning; design standards and review board; locally and regionally-appropriate facades, etc.; pedestrian amenities in commercial centers; auto-dependent retail design discouraged.
<i>Transportation &amp; Connectivity</i>	Substantive policies promoting multiple and connected transportation systems between residential, commercial and business, and recreational centers.	Siting and connectivity of recreational, commercial, residential, and institutional centers to facilitate walking and biking; development of public transportation; traffic-calming in residential neighborhoods; connectivity in roadways between existing and new developments; transit-oriented development.
<i>Housing Variety</i>	Substantive policies promoting a variety of housing types across price range and location.	Variety of housing types provided for; housing located near employment centers; affordable, manufactured, and mixed-income housing provided for.
<i>Urban Environmental Quality &amp; Community Character</i>	Substantive policies promoting environmentally and culturally healthy and desirable urban forms.	Environmental overlay districts; landscaping standards, setbacks, buffers; on-site stormwater management systems; management districts for important cultural and historic resources.

**Table A-3. Plan Policy Emphasis – Rural Landscapes**

<u>Criterion</u>	<u>Description</u>	<u>Measurement</u>
<i>Development Management</i>	Procedural policies promoting the development of compact urban areas and the conservation of rural areas.	Compact development encouraged; auto-oriented retail discouraged; natural resource protection coordinated with rural area economic activity; mapping of conservation and development zones; growth managed by infrastructure carrying capacity and land suitability.
<i>Land Use &amp; Environmental Quality</i>	Substantive policies promoting access to rural and natural areas and the protection of those areas from environmental degradation.	Access to natural areas provided; standards for preservation of natural terrain, drainage, vegetation; environmental overlay districts; landscaping and vegetative standards, setbacks, buffers; on-site stormwater management; standards for vegetated open channels.
<i>Resource Production Area Protection</i>	Substantive policies promoting the identification and conservation of contiguous and economically viable resource production areas.	Easement acquisition; cluster zoning; buffer zones for agricultural lands; purchase and / or transfer of development rights programs; exclusive agricultural zoning; right to farm ordinance.
<i>Open Space / Natural Area Protection</i>	Substantive policies promoting the identification and conservation of contiguous and ecologically viable natural areas.	Conservation planning; property acquisition; buffer zones to protect sensitive and unique natural areas; connectivity between natural areas, wildlife corridors, connecting park trails, greenway systems.

**Table A-4. Plan Policy Emphasis – Coastal Area Resources**

<u>Criterion</u>	<u>Description</u>	<u>Measurement</u>
<i>Water Quality, Wetlands, Habitat</i>	Substantive policies promoting the protection of coastal waters, wetlands, and habitat.	Water quality and pollution prevention; surface water and wetlands protection; groundwater protection; coastal wetlands and critical coastal habitat protection.
<i>Shoreline Management</i>	Substantive policies promoting the protection of coastal shorelines.	Coastal shoreline setbacks and overlay districts; public education on coastal and shoreline management; public use access and restrictions.
<i>Erosion and Flood Control</i>	Substantive policies minimizing coastal erosion and flooding hazards.	Coastal area floodplain development restrictions; public acquisition; management practice overlay districts; shoreline erosion best management practices; preservation of existing shoreline terrain and vegetation.
<i>Dune Management</i>	Substantive policies promoting the protection of coastal dunes.	Coastal dune overlay districts and management programs; adoption of state dune and wetland protection permit provisions.

**Table 5. Plan Analytical Quality**

<u>Criterion</u>	<u>Concept Description</u>	<u>Measurement</u>
<i>General Presentation</i>	The comprehensibility and completeness of the plan as an informational document.	Readability of text; use and quality of maps; provision of table of contents; executive summary; data and information sources.
<i>Articulation of Purpose, Goals, and Policies</i>	The clarity and thoroughness of the plan's statements about the role of planning and the plan itself.	Discussion of the planning process and plan's purpose; clear statements of goals, objectives, and policies; land classification with clear description of land use classifications.
<i>Public Participation</i>	Extent to which multiple and meaningful avenues for public participation were provided in the plan-making process in order to leverage local citizen knowledge, leverage the "social learning" function of planning, and increase the legitimacy of the plan.	Description of public participation process; use of public participation techniques (e.g., public education campaigns, workshops, surveys, etc.).
<i>Fact Base</i>	The overall thoroughness and clarity of the descriptive information about the community presented in the plan, provided to describe where the community is now, where it appears to be headed, and what the status is of past planning efforts.	Discussion of data collection and analysis process used; assessment of past plan implementation efforts and effectiveness; discussion of current plans, policies and regulations; discussion of current conditions (land use, economic base, etc.); trends assessment (economic activity, land development, environmental trends).
<i>Infrastructure Capacity Analysis (Average)</i>	Identification of services currently available and analysis of both the likely impacts from infrastructure decisions on population and land development trends and the reciprocal impacts from those trends on long-term capacities.	Average score of infrastructure analysis criteria (see table below).
<i>Land Suitability Analysis (Average)</i>	Analysis of inherent land attributes to identify areas both most suitable and least suitable for urbanized land development and for rural area conservation.	Average score of land suitability analysis criteria (see table below).
<i>Implementation</i>	Extent to which the plan identifies the timeframes, mechanisms, and responsible parties for implementing the plan policies.	Provision of timetable, responsibilities, and mechanisms to be used to implement the plan; discussion of monitoring system, benchmarks and dates, updating process and timeframe.

**Table A-6. Infrastructure Capacity Analysis**

<u>Criterion</u>	<u>Concept Description</u>	<u>Measurement</u>
<i>Transportation</i>	The identification of current transportation system elements and capacities and the analysis of those systems with regard to potential development.	Regional, state, interstate roads identified; discussion of transit availability and/or limitations, non-motorized availability and/or limitations, traffic demand management; analysis of impacts.
<i>Water / Wastewater</i>	The identification of current water and wastewater system elements and capacities and the analysis of those systems with regard to potential development.	Drinking water supplies identified; discussion/analysis of water-supply protection / wellhead protection, stormwater system capacity, wastewater treatment system capacity; analysis of impacts.
<i>Parks, Recreation, Greenways</i>	The identification of current active and passive recreational facilities and greenways and the analysis of those facilities with regard to potential development.	Discussion/analysis of recreational systems and/or parks, greenways/green spaces, active recreation facilities; analysis of impacts.
<i>Other Infrastructure</i>	The identification of other services not generally related to land use or directly under local government control—historic/cultural, public safety, solid waste, schools—and the analysis of those facilities with regard to potential development.	Discussion/analysis of community facilities, historic/cultural resources, police and fire protection services, solid waste management services, schools; analysis of impacts.

**Table 7. Land Suitability Analysis**

<u>Criterion</u>	<u>Concept Description</u>	<u>Measurement</u>
<i>Water Resources Identified</i>	The identification of high-quality, threatened, and unique coastal water resources.	Discussion/mapping of high quality waters, impaired quality watersheds/waterways, coastal resources and zones, and other waters.
<i>Natural Areas Identified</i>	The identification of high quality, fragile, and threatened natural resource areas.	Discussion/mapping of high quality natural areas (identified as desirable for conservation but not necessarily fragile or threatened), fragile natural areas (e.g., wetlands), regionally critical, and unique natural areas (e.g., unique ecosystems).
<i>Resource Production Areas Identified</i>	The identification of existing and high-value agricultural production areas (may include productive forestlands also).	Discussion/mapping of existing farmlands, forestlands, and mineral lands; soils analysis for agriculture; prime agricultural farmlands identified.
<i>Water and Related Hazards Impacts Analyzed</i>	The analysis of potential threats to water resources and hazards posed by water bodies (i.e., water and water-related hazardous settings).	Analysis of potential impact to or related to water bodies, coastal zones, natural hazards, and floodplains.
<i>Land and Other Hazards Impacts Analyzed</i>	The analysis of potential threats to land resources and hazards posed by land use (i.e., hazardous activities per se and lands potentially made hazardous through development activities).	Analysis of potential impact to or related to steep slopes, erosion zones/hazards, and manmade hazards and/or hazardous activities.
<i>Development Constraints Analyzed</i>	The analysis of potential constraints to development posed by natural landscape and water resource features.	Analysis of potential constraints related to increases in impervious surfaces and other cumulative impacts from land development; analysis of limitations on development related to soils; analysis of other physical limitations on development opportunities.

**Table 8. Plan Consistency**

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<u>Criterion</u>	<u>Concept Description</u>	<u>Measurement</u>
<i>Vertical Mandate Consistency (All)</i>	Presence of plan elements mandated of all local units of government in state planning enabling laws.	Plan elements for, e.g., a land classification program, transportation infrastructure, water quality and quantity, public utilities.
<i>Vertical Mandate Consistency (Cities / Villages)</i>	Presence of plan elements mandated only for cities and villages in state planning enabling laws for cities and villages.	Plan elements for, e.g., community centers, playgrounds and open spaces.
<i>Vertical Coordination</i>	Extent to which the plan demonstrates consultation and/or coordination between the locality and "higher" units of government (e.g., state coastal area management programs).	Discussion of vertical plan policy consistency and planning coordination efforts with federal and state agencies; coordination by cities, townships and villages with county government.
<i>Horizontal Consultation and Coordination</i>	Extent to which the plan appears to be compatible with the policies and spatial characteristics of neighboring jurisdictions and extent to which the locality is consulting and/or coordinating with neighboring jurisdictions or other "horizontal" units of government.	Discussion of plan policy consistency with neighboring jurisdictions, inter-governmental consultation and coordination efforts.
<i>Internal Policy, Spatial &amp; Implementation Consistency</i>	Degree of internal coherence between the plan's facts, goals, and policies and between multiple plan documents in a jurisdiction with multiple plans (e.g., subarea plans). Several attributes of internal consistency include inter-goal, inter-policy, goal-policy, inter-plan, and spatial consistency (i.e., degree to which the stated goals and policies of the plan are consistent with the limitations on and opportunities for development based on the infrastructure capacity and land suitability analyses). Also, extent to which the implementation steps identified in the plan are consistent with (or are reasonably designed to advance) the plan's articulated goals and policies.	Discussion of internal policy within the plan itself, inter-plan/program consistency, and inter-agency coordination; discussion of consistency between land suitability analysis, constraints/land classification maps, and plan policies; analyst's assessment of consistency between plan goals, objectives, and policies; discussion of consistency between plan policies and implementation mechanisms.

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