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Terry DeWan
Terrence J. DeWan & Associates

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Scenic Assessment Handbook

State Planning Office

Maine Coastal Program

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State Planning Office

Maine Coastal Program

Prepared for the State Planning Office by

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October 2008

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Forward

Over the past several decades the topic of visual resources has come to the forefront in the land use arena, not just in Maine but across the United States in general. People are becoming much more aware of their surroundings, and how they influence the quality of life that we all enjoy.

The rapid expansion of commercial and residential areas, usually at the outskirts of the historic town centers, has caused significant change to the rural landscape. The Brookings study commissioned by GrowSmart Maine discusses the importance of visual resources to the overall economic health of the state:

"The state's sprawling development patterns … are undermining the state's alluring brand, so important to its current and future economy. Crucial to this brand is the integrity of Maine's distinctive towns and villages and the stunning natural areas that lie between them. Unfortunately, far-flung, often-haphazard residential development is more and more blurring those crisp scenes as it impinges on forests, fields, and waterfronts all around the state." (Brookings Institution Metropolitan Policy Program, 2006).

In the broadest sense, visual resources are the visible features that make up the landscape – the landforms, the vegetation, the water bodies, and the cultural patterns that we are familiar with. Visual resources define our sense of place, where we work, live, and recreate.

This Handbook is a 'how-to' guide for using the State Planning Office's scenic inventory methodology to identify, evaluate, and document scenic resources and to identify scenic viewpoints of state or national significance for purposes of Title 35-A MRSA* Ch. 34-A (Wind Power Law). It is designed to supplement the Maine Department of Economic and Community Development's initial handbook *How to Conduct an Inventory of Scenic Areas* (Dominie, 1990) that was part of the Maine Shore Access Public Access Series.

The methodology is based upon and comparable to the *Method for Coastal Scenic Landscape Assessment with Field Results for Kittery to Scarborough and Cape Elizabeth to South Thomaston* (Dominie, et al., 1987), *Scenic Inventory Mainland Sites of Penobscot Bay* (DeWan and Naetzker, 1990), and *Scenic Inventory: Islesboro, Vinalhaven, North Haven and Associated Offshore Islands* (DeWan, June 1992).

Many (often ambiguous) terms are used to describe the way we perceive our surroundings: 'rural character,' 'sense of place,' 'open space,' 'undeveloped,' and 'wilderness,' just to name a few. This type of terminology can be very problematic when

Camden Harbor

evaluating management options, unless there is general agreement about definitions and expectations.

While the scenic inventory process described in this Handbook may seem complicated and highly methodological at first, there is a logic behind it that should quickly become apparent. This can be a very enjoyable, highly interactive process, involving a great many members of the community with differing perspectives. If it does nothing else, preparation of a scenic inventory makes people discuss the physical world around them and how the landscape has evolved and continues to change over time.

In the 1990 handbook referenced above, Ms. Dominie notes: "Please realize that the whole process comes across worse on paper that it is in practice. As Anne Leslie who inventoried Wiscasset's visual resources has said, 'with companionship and enthusiasm, the job is an interesting one and provokes lots of thoughtful conversation.'"

While this is NOT a handbook to help communities protect scenic resources, identification of what is significant is an essential first step. People who are doing the field work should keep in mind the relative fragility of these resources and record thoughts about their preservation.

Littlejohn Island, Yarmouth

* Note: The Handbook may be used for this wind power law-related purpose upon the State Planning Office's final adoption of rules pursuant to Title 35-A, MRS Section 3457.

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1. Introduction

Purpose

This handbook is designed to be used by people across Maine – mostly volunteers with land trusts and comprehensive planning committees – who are conducting inventories of scenic resources in their town or region. The underlying methodology was developed in the early 90's by Holly Dominie and others at the State Planning Office who recognized a need for an approach that was consistent, relatively simple, and straightforward.

This handbook should give policy-makers and citizens a set of tools to achieve a higher level of precision to identify and evaluate scenic resources – using descriptive language, illustrative maps, and characteristic photographs.

The handbook also provides background and guidance about using the results of the inventory in the context of 1) comprehensive planning and land use regulation, 2) land conservation planning, 3) setting priorities for land acquisition, 4) maintaining community scenic character when considering impacts of development or tracking cumulative impacts over time, and 5) identifying scenic viewpoints of state or national significance for purposes of Title 35-A MRSA Ch. 34-A (Wind Power Law).

Penobscot Bay

By definition, scenic resources are public areas, features, and sites that are recognized, visited, and enjoyed by the general public for their inherent visual qualities. With this understanding, the methodology is limited to scenic resources viewable from public places (e.g., roads, parks, scenic turnouts, coastal waterbodies, great ponds, public hiking trails, etc.). There are a multitude of scenic resources in Maine that are only visible from private lands or structures. However, the State has historically limited its consideration of scenic areas and visual impacts to places to which the public has access.

The methodology was developed to evaluate scenic resources in coastal locations. However, it should be applicable to inland areas as well, since it is based upon an assessment of landforms, vegetation, water bodies, and cultural patterns that define the visible landscape throughout Maine.

Background

Origins of Methodology. In the late 1980's the State Planning Office (SPO), under the Critical Areas Program (CAP), first began a systematic approach to identify scenic resources along the Maine Coast. Like several other states and federal agencies following the passage of the National Environmental Policy Act of 1969, Maine had become increasingly aware of the value and fragility of its scenic resources. The Legislature had directed the SPO to conduct inventories of areas of botanical, zoological, geological, and scenic significance as part of compiling the Register of Critical Areas.

Out of these early efforts came several broad-scale scenic assessments of public landscapes in the following regions:

- Kittery to South Thomaston (by Holly Dominie, et al).
- Mt. Desert Island and Acadia National Park (by Bruce Jacobson, Holly Dominie, and Annette Naegel).
- Mainland sites of Penobscot Bay (by Terrence J. DeWan & Associates and Don Naetzker).
- Islesboro, Vinalhaven, North Haven, and Associated Offshore Islands (by Terrence J. DeWan & Associates).

The assessment methodology, as initially devised by Holly Dominie and refined by TJD&A, involves a multi-step process involving both office and field evaluation. Since the State has such variety in its landforms, waterbodies, and other physical characteristics, regional parameters have to be determined to help account for the difference between common, noteworthy, and distinctive landscapes.

Fort Knox with Bucksport in the background

2. Regions of Maine

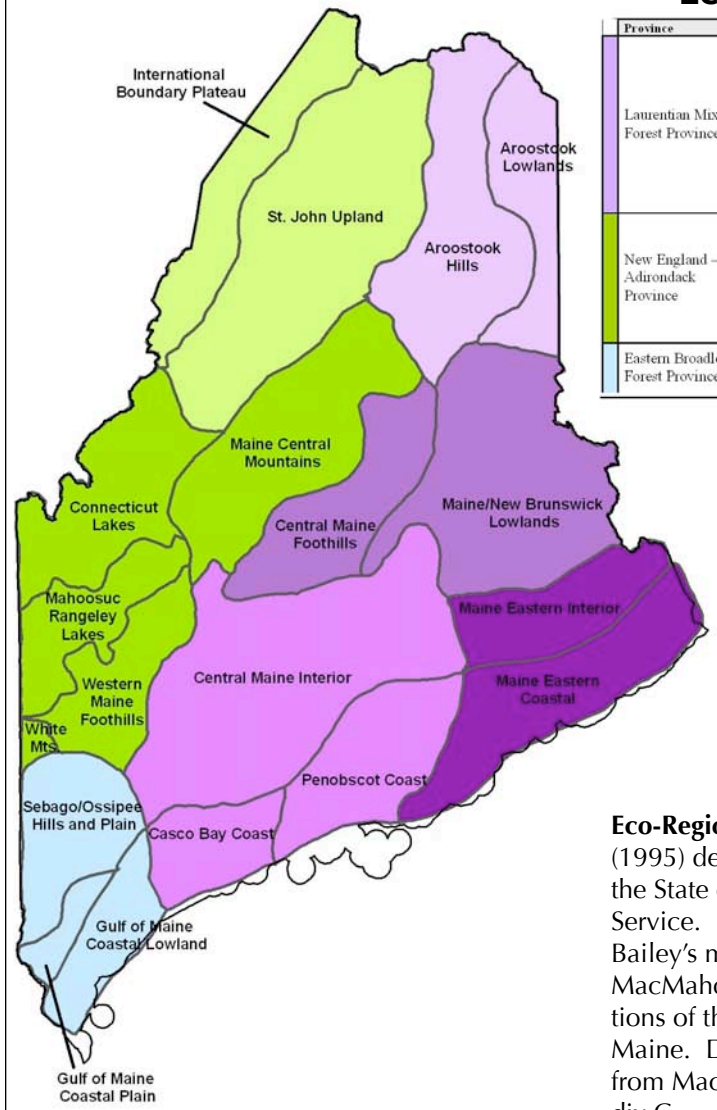
Levels of evaluation

The process of identifying scenic areas starts by looking at Maine as a series of distinct visual units, ranging from the entire coast to individual sites. This hierarchical approach recognizes the physical context of the land under investigation and makes the evaluator aware of how the scenic area relates to a larger whole. It is useful to consider the concept of 'nesting,' where scenic areas 'nest' inside of 'landscape units,' which 'nest' inside of 'regions.' In more complex landscapes it may be useful to consider 'sub-districts' as a fourth scale of evaluation. Finally, as part of this process, the evaluation looks at scenic viewpoints, those individual locations that provide a visual 'snapshot' or view of the scenic area.

- **Major Scenic Regions.** Robert Bailey, US Forest Service, developed an eco-regional map of Maine that divides the state into different biophysical subregions defined by landform, climate, vegetation, and soils (Bailey 1995). This map has been adopted by many agencies and non-profits, including SPO, Inland Fisheries and Wildlife, and Maine Audubon. In 2006, the State Planning Office adapted a coastal classification scheme (Tanner, Perfect, and Kelley, 2006) which defined four major subregions of the coast (shown on page 5).

Eco-regions of Maine

Province	Section	Section Name	Subsection Name
Laurentian Mixed Forest Province	A	Aroostook Hills and Lowlands	Aroostook Hills
			Aroostook Lowlands
	B	Central Foothills & Eastern Lowlands	Central Maine Foothills
			Maine/New Brunswick Lowlands
	C	Downeast	Maine Eastern Interior
			Maine Eastern Coastal
	D	Casco Bay & Penobscot Bay Coast & Central Interior	Central Maine Interior
			Penobscot Bay Coast
			Casco Bay Coast
New England – Adirondack Province	A'	Boundary Plateau & St. John Uplands	International Boundary Plateau
			St. John Upland
	A	Central & Western Mountains	Maine Central Mountains
			White Mountains
			Mahoosuc Rangely Lakes
			Connecticut Lakes
			Western Maine Foothills
Eastern Broadleaf Forest Province	A	Southern Maine	Gulf of Maine Coastal Plain
			Gulf of Maine Coastal Lowland
			Sebago/Ossipee Hills and Plain



Eco-Regions of Maine. Robert Bailey (1995) developed the eco-regional map of the State of Maine for the USDA Forest Service. Keys et al. (1995) subdivided Bailey's map into 19 subsections. Janet MacMahon (1990) developed descriptions of the major biophysical regions of Maine. Descriptions of the Maine Coast from MacMahon are presented in Appendix C.

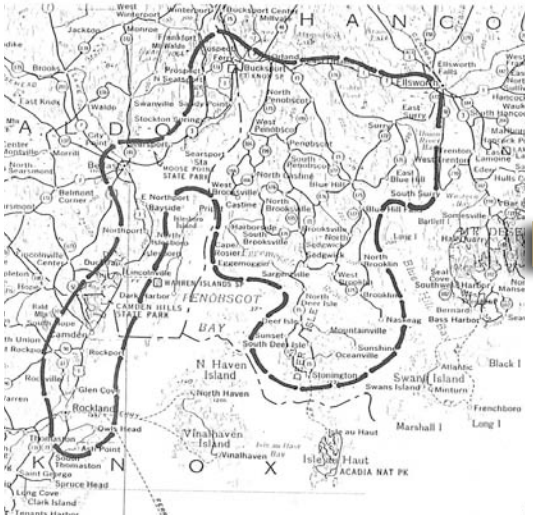
Maine Natural Areas Program 2008

- **Landscape Districts**. Within each Scenic Region the landscape can be further defined by watersheds or other natural boundaries. They are usually recognizable by the public as unique places, often with their own name. The *Scenic Inventory of Penobscot Bay* (right), for example, examined a very geographically distinct and recognizable district within the Island-Bay Coast Region.

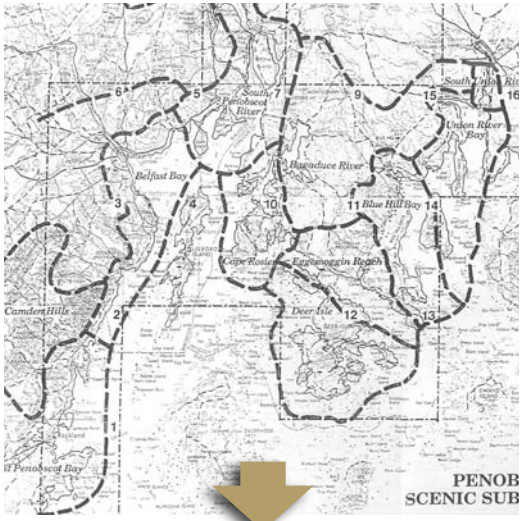
- **Landscape Sub-districts**. In larger landscape districts, it may be very useful to consider smaller 'sub-districts' of relatively homogenous physical and visual characteristics. *The Scenic Inventory of Penobscot Bay*, for example, divided the Bay into eleven subdistricts.

- **Scenic Areas:** These are the smallest divisions in the landscape. They are usually areas of similar physical character and often enclosed by landforms or vegetation or characterized by similar land uses or development patterns. In simple terms these are the outdoor 'rooms' that have a more human scale. In evaluating linear landscapes (such as coastlines or road corridors) the observer will notice the edges that signal the end of one place unit and the beginning of the next. They are not defined by political boundaries.

- **Scenic Viewpoints:** Most scenic areas have at least one viewpoint that allows the public to see most of the scenic resources within it. (See Ch. 8.)



Penobscot Bay Scenic Inventory Study Area covered an area from Owls Head to Ellsworth and Bucksport to Deer Isle.



Eleven Sub-Districts were identified, based upon common physical attributes: landform, shoreline configuration, and settle patterns.

Weir Cove is identified as a scenic area, noted for its juxtaposed views of open water (Penobscot Bay and Weir Cove) and mountains (Weir Cove Mountain); a highly configured harbor, open fields, small homes looking out to islands.

Cape Rosier, one of the 11 Sub-Districts, is characterized by highly configured shoreline, many small semi-enclosed bays and coves, distinctive villages, and abundance of mooring areas, and numerous islands.

Size of scenic areas

In 1981, the Commonwealth of Massachusetts updated the *Massachusetts Landscape Inventory* as a tool for long-range conservation planning. Rather than concentrate on the seemingly countless number of scenic features and historic resources that comprise the Commonwealth, the *Inventory* evaluated the larger landscape and identified scenic areas of at least one square mile with consistently high visual quality. The study divided the State into three categories of scenic quality: Distinctive (4% of the total land area); Noteworthy (5% of the total land area); and Common (the remaining 91%). Massachusetts determined that a minimum area of one square mile (640 acres) was needed to constitute a scenic area.

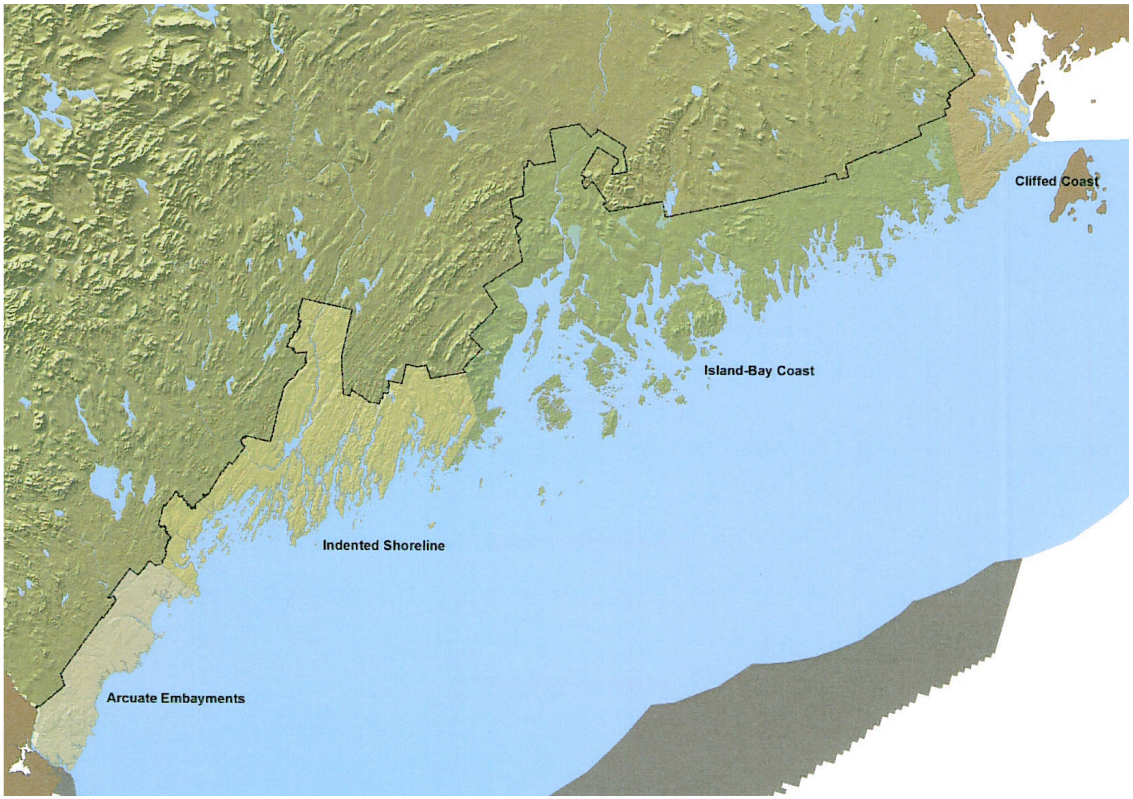
Rhode Island's *Landscape Inventory* started at a minimum size of 20 acres, due to the finer texture of the landscape and the relative size of the state.

The work that has been done to date in Maine has recognized scenic areas as small as several dozen acres. However, these tend to be relatively isolated and of local significance.

Maine's coastal regions

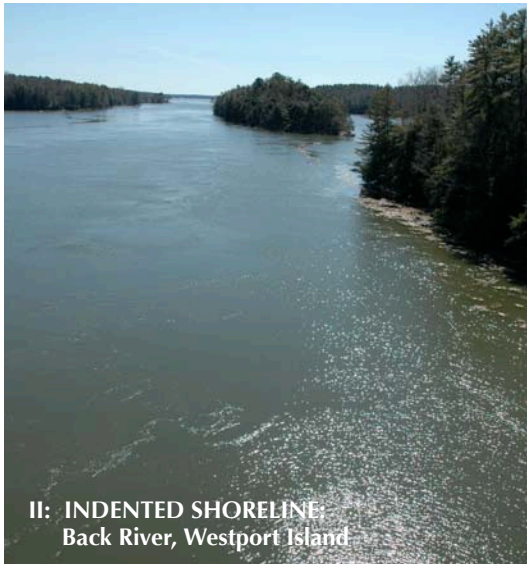
For planning and assessment purposes, the State Planning Office has divided the coast of Maine into four major regions, as illustrated on the map below. These four regions are defined by common physiographic characteristics (geology, landform, water bodies, vegetation, and settlement patterns). Representative photographs from each of these areas are found on the following page.

I: Southern Beaches and Headlands (Arcuate Embayments): the southern beaches and estuaries that define the characteristic landscape of southern Maine. The area from the Maine/NH border to Cape Elizabeth is one of the most densely populated, rapidly growing parts of the State. There is relatively little elevation, with certain notable exceptions, such as Mount Agamenticus. Extensive estuarine systems, coastal wetlands, and barrier beaches are common along the coastline. Islands are generally rare.



Maine State Planning Office

I: SOUTHERN BEACHES AND HEADLANDS
Scarborough Beach

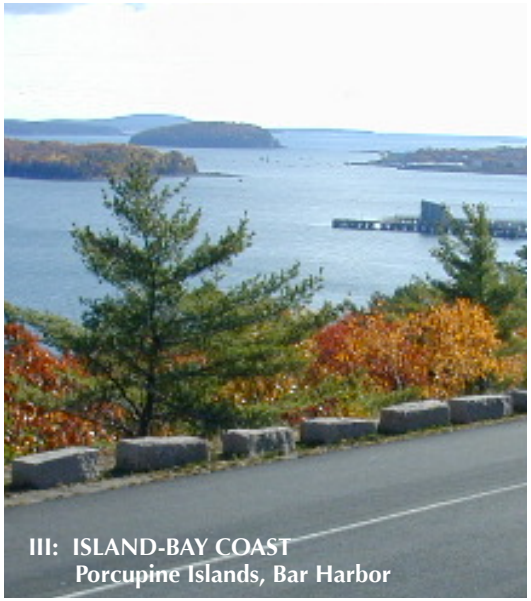


II: INDENTED SHORELINE:
Back River, Westport Island

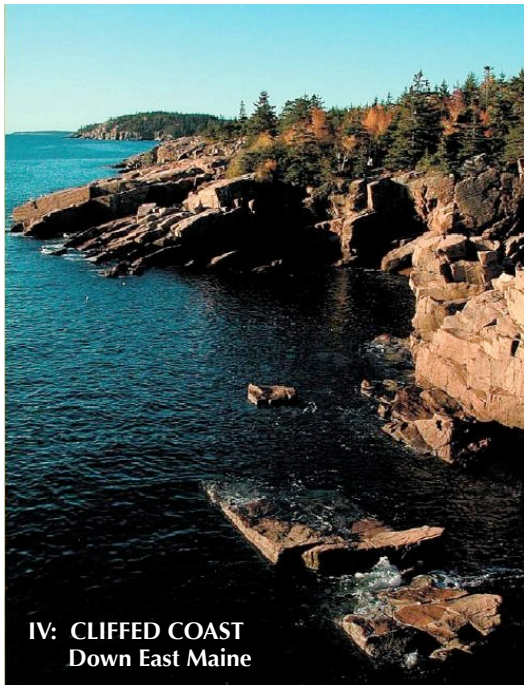
II: Indented Shoreline: the mid-coast regions, with its rocky linear peninsulas and deep bays, extending into the great tidal rivers. This area extends from Cape Elizabeth to Port Clyde and includes Portland, Casco Bay, and Muscongus Bay. The shoreline is highly configured, with deeply indented shorelines and numerous coves and islands. The land abutting the shoreline consists of rolling hills and steep-sided peninsulas. The area is noted for its abundance of rivers: the Kennebec, Androscoggin, Presumpscot, Royal, Sheepscot, Damariscotta, and St. George.

III: Island-Bay Coast: the region from Penobscot Bay to Machias Bay. This highly scenic part of the coast is characterized by well-defined bays, an indented shoreline, numerous granitic islands, and island archipelagos. Significant elevation changes in parts of the area created memorable juxtapositions of water and landform (Acadia National Park, Camden Hills, Mount Blue). Major river systems and their estuaries (Penobscot, Machias, Narraguagus) dominate parts of the landscape.

IV: Cliffed Coast: the bold rocky headlands and bluffs of DownEast Maine. The easternmost part of the coast extends from Cutler to the Cobscook Bay on the New Brunswick border. The area is characterized by numerous cliffs and escarpments, a moderately indented shoreline, with no major rivers or islands.



III: ISLAND-BAY COAST
Porcupine Islands, Bar Harbor



IV: CLIFFED COAST
Down East Maine

3. Methodology

Approach

The Maine State Planning Office's scenic assessment methodology is based upon a professional approach that relies upon the judgment of individuals trained to evaluate factors that define scenic quality. The selected rating criteria have been demonstrated to be important through research based upon public perception studies of what constitutes a scenic landscape. (See Appendix B, Research.)

Groups and professionals performing scenic inventories using the methodology described in this publication should, as part of the inventory process, solicit opinions from the community-at-large. This input will help to verify the relative importance of various indicators, account for local sentiment, and gain public trust in the approach.

Indicators

The methodology is based on an evaluation of eight indicators of scenic quality:

- **Landform**: the three-dimensional aspect of the landscape
- **Open Land**: non-vegetated land that allows unobstructed or filtered views into the landscape
- **Shoreline Configuration**: the amount of irregularity and complexity in the shoreline.
- **Scenic Features**: specific points of interest, such as islands, bridges, beaches, and lighthouses.
- **Water Views**: the duration of view, type of water, and position of the observer.
- **Landscape Character**: land use (both positive and negative), roadside characteristics, and settlement features.
- **Vegetation**: quality of the vegetation patterns as they pertain to the visible landscape.
- **Landscape Composition**: the overall integrity of the landscape.

Scenic areas are places where these indicators occur in groups or in close proximity with one another. The first five indicators are evaluated in an office setting by interpreting topographic maps and other sources of information and then field checking the results. The remaining three indicators are assessed through field observation.

The relative importance of indicators will vary from region to region with changes in topography, shoreline configuration, development patterns, open space, and other variables.

Scenic indicator ratings

Each of the eight Scenic Indicators is assigned a value corresponding to its relative importance to the evaluation of scenic quality. The maximum rating that any one scenic area can achieve is 100 points, based upon the following:

1. Landform	9 Points
2. Open Land	6 Points
3. Shoreline Configuration	6 Points
4. Scenic Features	9 Points
5. Water Views	30 Points
6. Landscape Character	22 Points
7. Vegetation	9 Points
8. Landscape Composition	9 Points
Total	**100 Points**

Schoodic Point, Acadia NP, Winter Harbor

Overview of methodology

The following is a brief overview of the steps involved in compiling a scenic inventory. Detailed instructions on how to use the methodology are presented in Chapters 4 through 8.

Public input and involvement are key components throughout the process. See Chapter 4 for information on involving the public. The State Planning Office may be able to assist if questions arise during the process.

1. Map Analysis. USGS maps and other data sources are analyzed in the office to lay the groundwork for field evaluation. Five scenic indicators are evaluated in this step: landform, open land, shoreline configuration, scenic features, and water views. Results are compiled and tabulated on the Scenic Evaluation Form.

Groupings of indicators for preliminary scenic areas are identified and boundaries drawn in preparation for field work.

2. Field Evaluation. Field visits are made to public viewpoints within each of the potential scenic areas to evaluate: landscape character, vegetation, and landscape composition.

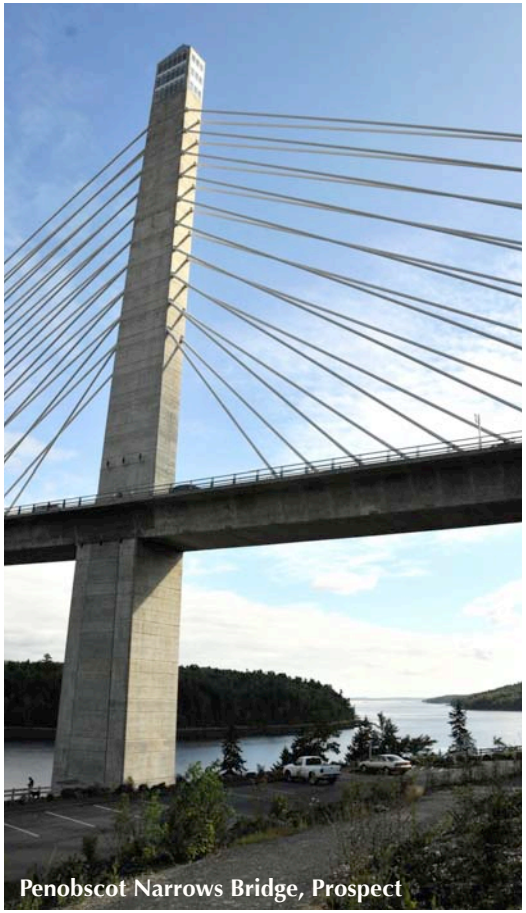
Photographs are taken from a variety of public viewpoints under different daylight and weather conditions. Extensive notes are taken to record data on existing conditions, land use, and management issues. Maps are created to show public viewpoints, the geographic boundaries of the scenic area, and scenic features within it.

3. Ranking and Significance. Ratings for each preliminary scenic area are compiled to determine if they are of local, regional, statewide, or national significance. Areas with at least 70 points may be considered of state or national significance. Further evaluation is performed to determine if these highly-ranked areas meet the standards for visual accessibility and use and public recognition.

4. Scenic Viewpoints. Determine scenic viewpoints that give the public views that are characteristic of the scenic area.

Scenic viewpoints

A discrete part of the process is the identification and evaluation of scenic viewpoints. Under the Wind Power law (Title 35-A MRSA Chapter 34-A) scenic viewpoints are recognized as discrete locations which can account for an area's designation as a scenic resource of state or national significance. See Chapter 8 for further information on the assessment and rating of viewpoints.



Penobscot Narrows Bridge, Prospect

4. Preparation

Introduction

Office evaluation involves collecting data from existing sources: maps, state and regional agencies, historic inventories, local Comprehensive Plans, previous scenic assessments, and other published sources. In addition, there are also an increasing number of web-based resources for mapping, data display, and analysis that should be considered during this phase.

Scenic inventories should be done in an organized, systematic fashion, keeping in mind both the ultimate audience and the use of the information. This chapter introduces a variety of tools and techniques to consider when making the decision to hire a professional or rely upon community volunteers.

Public involvement

The earlier scenic inventories were based upon a professional approach that relied on input from State Planning Office's internal advisory committees and the staff of the Critical Areas Program. While this may have been adequate at the time, future evaluations should seek broader input from the public at large.

There are many opportunities to involve the general public in this process, both interested community members as well as the general public:

- Setting and evaluating criteria to define what constitutes distinctive, noteworthy, or common landscapes. This should be done at a regional or sub-regional level to assure a level of consistency for all the assessments within that region. Public participation can be in the form of regional meetings and/or visual preference surveys involving a broad cross-section of the population.

- Participating in the map analysis of the study area as well as the field investigations. This will involve a group of individuals who have either been trained in

Moose Cove. Trescott TWP.

Land for Maine's Future Program

the State Planning Office methodology or are familiar with it through this handbook. It is highly recommended that people involved in the inventory go through a training program to familiarize themselves with the methodology. (Contact the State Planning Office for resource material and a list of personnel qualified to offer instruction in the methodology.)

- Acting as an advisory committee to oversee the study, provide guidance, convene public meetings, review the results of the inventory and the evaluation of significance.

St. Croix River, Robbinston

Define the study area

The study area for a scenic inventory can be a single municipality, a group of communities or unorganized territories that share a common resource, a watershed, or some other defined geographic area. Most inventories tend to follow established political boundaries.

Scenic areas, like watersheds or wildlife habitats, are not defined or limited by artificial lines drawn on a map. Significant viewsheds often include land in two or more communities, especially when the view extends well into the background viewing distance (more than 4-5 miles).

One alternative to using political boundaries is to define the outer limits of the study area by ridge lines. The tops of these hills and mountains often form large outdoor 'rooms' which may later be identified as scenic areas spanning more than a single community.

As part of the preparation process, contact all the communities that abut or are included in the study area to inform them of the inventory. This would be an opportune time to solicit information on scenic resources (such as water bodies, mountain valleys, and coves) that could straddle common boundaries.

Professionals v. volunteers

This handbook is primarily designed for community groups or land trusts that want to perform their own scenic inventory. However, some may find for a variety of reasons that they would rather entrust the process to a trained professional. There are many factors to consider in making this decision.

There are several advantages of the professional approach:

- Experience in performing scenic assessments and recording observations.
- Knowledge of the methodology as it applies to the study area.
- Objectivity in evaluating relative values and assigning scores.
- Working knowledge of land use issues and management strategies to preserve scenic areas.
- Contacts with state agencies and other data sources.
- Ability to produce high quality maps, reports, and other information.

Likewise, there are many advantages of using local observers, or a combination of professionals and volunteers:

- Working knowledge of scenic areas, access points, gateways, historic sites, and other physical features that may be easily overlooked.

- Experience with culturally significant areas (*places of the heart*) that may have considerable emotional meaning to the local population.
- Understanding of local land use policies, ordinances, and land conservation efforts.
- Minimal costs to achieve a base level understanding of scenic resources.

Starting out

Scenic inventories require a team approach to organize, collect and analyze data, do field work, write observations and recommendations, create maps, and develop a final report. The evaluation team should be composed of individuals who a) possess a variety of writing, observation, and photography skills, b) are representative of the various parts of the community or land trust area, c) have a good grasp of the natural and cultural patterns of the region, d) are able to bring a sense of objectivity to the assignment.

Before starting the mapping and analysis process, it is important to have a big-picture concept of the study area and a general sense of the topography, land features, water features, land use patterns, and vegetation. This is best done by driving the area, talking with local residents, reading town histories, and reviewing local comprehensive plans and other studies about the area.

Introduction to mapping

By their very nature, visual inventories must compile layers of qualitative and quantitative data, analyze the significance and characteristics of that data, and display the results in a manner that is usable by the intended audience. Target audiences are often lay people unaccustomed to visualizing three-dimensional data (landforms) with two-dimensional products (i.e., maps).

Mapping can be developed in a variety of ways, depending upon the team's ability, timeframe, and resources. The final products can be displayed on United States Geologic Survey (USGS) topographic maps or can be produced with Geographic Information Systems (GIS) software.

The initial scenic inventories sponsored by the State Planning Office in the 80's and 90's relied upon USGS 7.5 minute topographic maps. Graphics were prepared with a series of hand-drawn symbols on acetate overlays. While this technique may seem crude by comparison to today's sophisticated computer-based system, the results were easily understood diagrams that served the needs of the project.

Whichever method is used for graphic analysis and display, there are several points to keep in mind:

- ***Symbols*** used for maps should be clearly understood and consistent throughout the study.
- **A *legend*** should be developed and added to all maps to facilitate map reading.
- ***Scale consistency***. Where possible, the maps generated should be the same scale to facilitate public understanding.
- **A *north arrow*** should be included on all maps. All maps should be oriented with north at the top of the map.

Basic mapping techniques

The following section discusses the various mapping and data display options available to communities and land trusts as they start the scenic inventory process.

USGS Topographic Maps

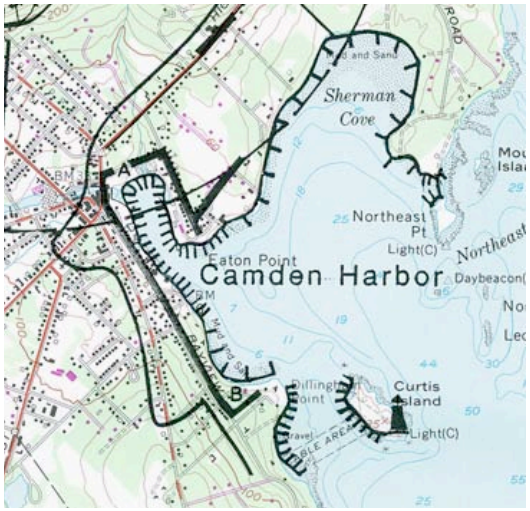
USGS maps of Maine provide a useful way of looking at physical features (e.g., landform and water bodies) and cultural patterns (e.g., roads, structures, and clearings). Keep in mind that most of the maps are at least two decades old and can give a false impression of current natural/cultural features. However, USGS maps may be the best and least expensive source of information and may be perfectly adequate, especially in areas that have not had significant development pressure over the past two decades.

Historic USGS Maps

In looking at a community's cultural patterns, it may be instructive to review USGS maps from the past century and compare them with current maps. The Government Information Department at the University of New Hampshire Library has an extensive on-line collection of historic USGS maps of New England. The Maine quadrangles are typically 1930's and 1950's vintage, but some date to the late 1800's. The maps on the following page illustrates the type of information available from the UNH collection, focussing on Westport Island and the site of the former Maine Yankee nuclear power plant in Wiscasset. For information go to: www.docs.unh.edu/nhtopos/nhtopos.htm.

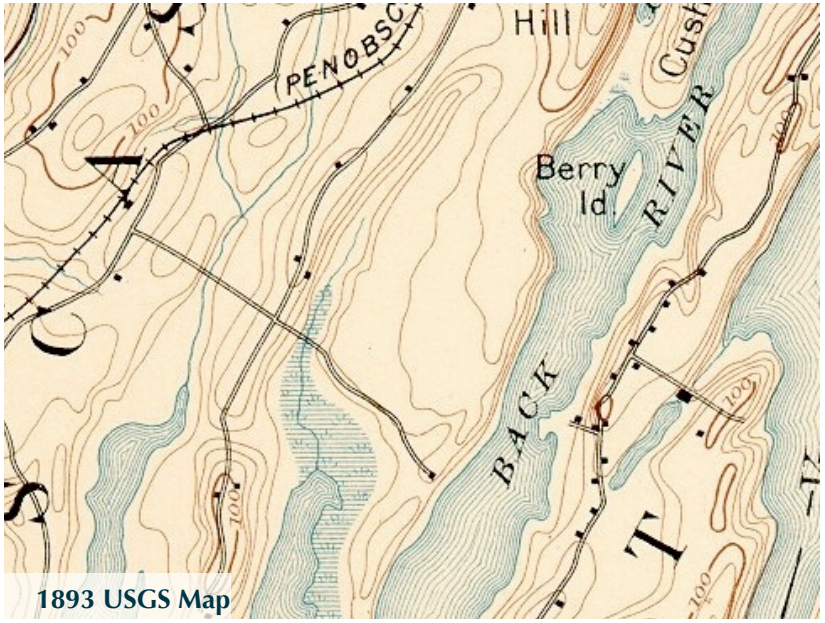
Acetate Overlays

This technique of using permanent markers to draw on sheets of acetate is especially suitable for relatively small survey areas and inventories where participants have a good working knowledge of the landscape. It can be a simple way of producing maps to identify potential scenic areas with a minimum of expense and technical expertise. By using multiple layers of acetate fit onto a common base map, different people can be working on the project at the same time. When the various data layers are combined, concentrations of scenic indicators become immediately apparent.

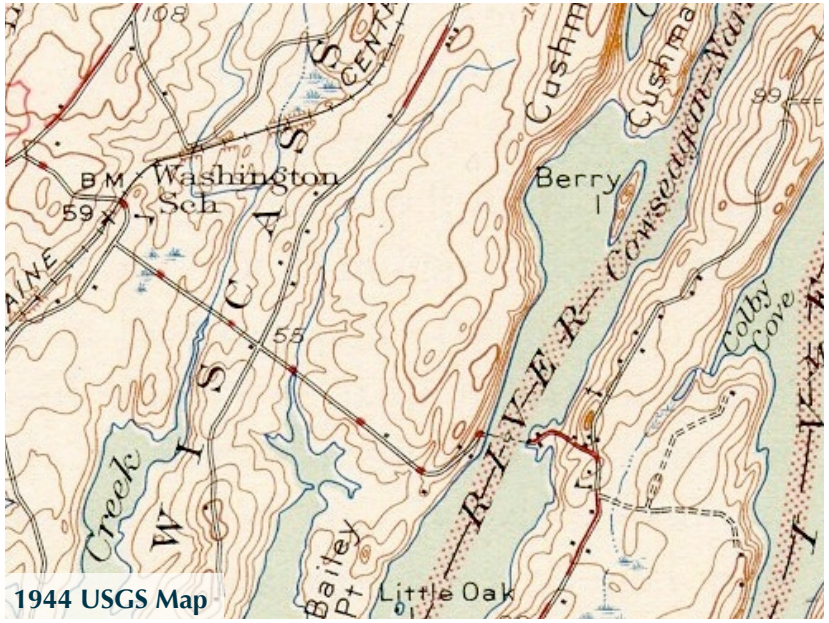


Acetate Overlays were used to prepare the maps for the Penobscot Bay Scenic inventory.

However, there are several disadvantages of using acetate overlays. The working product is not particularly permanent, i.e., the inks used to draw on acetate can be erased, smudged, or damaged by certain solvents. Large study areas may require a considerable number of overlays, creating the need for proper storage. Mapping will require a high level quality control, especially when there are multiple people involved. Once the acetates are completed, they will have to be scanned and imported

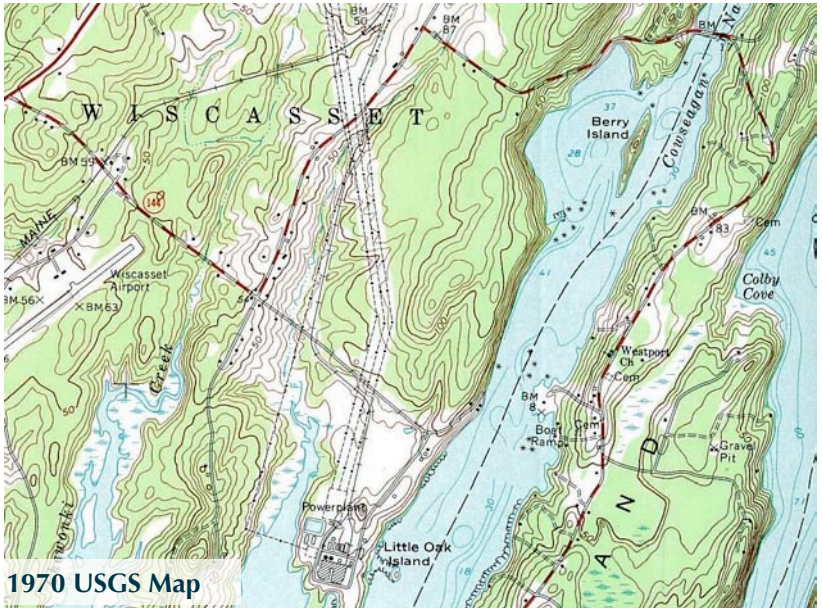


1893 USGS Map



1944 USGS Map

1957 USGS Map



1970 USGS Map

Credit: Maptech, Inc. Online Historic Map Collection

into a graphics program to add notes, labels, scale, etc. if they are to be published in a report format.

Photoshop

Starting with a digital copy of a USGS map (either scanned, purchased from a vendor, or downloaded from a CD collection), it is a relatively easy task to import it into Photoshop (or Elements, the less full-featured version of Photoshop). Different layers can be created and manipulated, working with copies of the base map. The opacity of data layers can be adjusted to examine the interaction of various scenic indicators.

When the office analysis is completed, JPEG's can be created from the Photoshop file for field checking and for later use in public presentations and reports. In particularly complex areas, it may be very useful to enlarge the base information to facilitate field work.

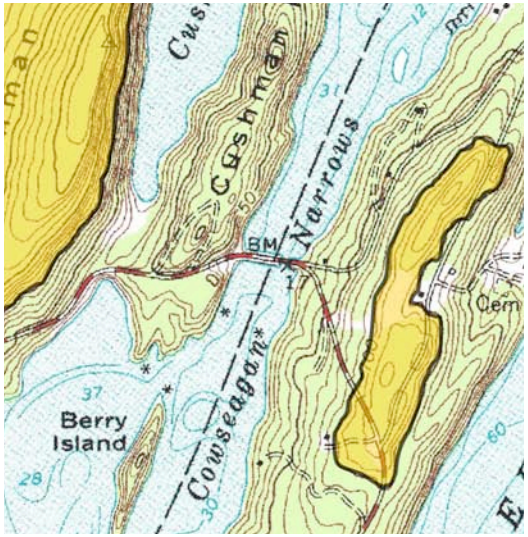
PowerPoint / Keynote

Most people are familiar with Microsoft's PowerPoint or Apple's Keynote for presentations. This software can also be used in a number of ways for scenic inventories:

- ***Graphic Displays.*** Starting with a base map (either a scanned paper copy or a digital original), progressive slides can be assembled with different layers of information (e.g., steep slopes, elevation, and vegetation). Presentations using 'builds' can be very effective to illustrate the relationships between cultural and natural features.

- ***Annotation***. These programs allow symbols (for viewpoints, historic sites, or other features), variable-width lines (for fields, view corridors, or the limits of scenic areas), and notes to be added to maps and photographs for clarity and visual interest.

- ***Incorporate Photographs***. Site photographs (or other scanned images) can be easily incorporated as a layer onto a map to illustrate scenic features.



PowerPoint can be used to create highly effective graphics for scenic inventories. In this elevation study, the fill is set to 30% in Format AutoShape to allow contour information to remain visible.

- ***Photosimulations.*** Through a simple cut and paste process (using the Polygonal Lasso Selection in the Formatting Palette) elements can be added to photographs to illustrate how change could affect scenic quality. Likewise, discordant elements in the landscape can be removed by copying a piece of natural landscape and pasting it over the unwanted part of the scene. While the final product will not be as polished as those produced in Photoshop, this is a relatively quick way to illustrate the effect of change in the landscape.

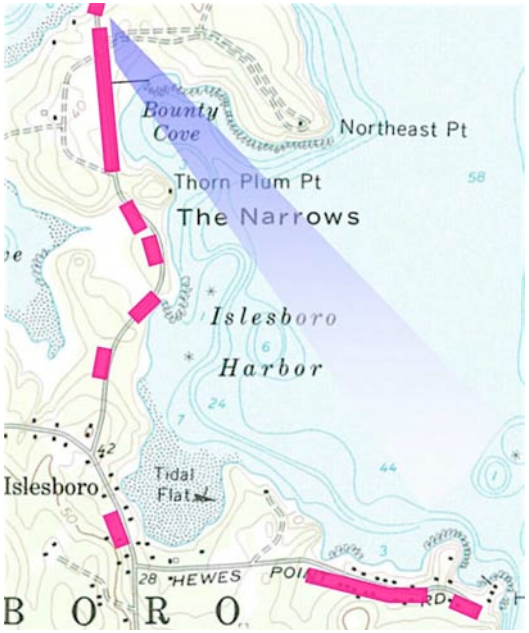
- ***Tables*** can also be created in these programs that can be useful in summarizing data and observations.

Once the graphics are finalized, the images can be used in a number of ways:

- ***Slide shows***. This is the most common way to use the images. Analysis slides can be particularly effective if the data is shown as a series of 'builds', starting with a base map or photo, and adding subsequent layers of data, ending with a composite image.

- ***Printed documents.*** Slides can be printed to create illustrated flyers or booklets about the scenic inventory.

- ***Exported JPEG's.*** Individual pages can be exported as JPEGs into page layout software (such as InDesign) or word processing programs.



Powerpoint was used to create this exhibit illustrating periodic viewpoints and view direction.

- ***Posters***. With attention to the target resolution and the graphic components of the images, slides can be printed on large-format printers to create posters suitable for public presentations and displays.

- ***Other***. Slide shows created in PowerPoint or Keynote can be converted to PDF documents, QuickTime movies, or saved as web pages, making them highly suitable for publication on websites and for transmitting via electronic media.

GIS mapping

Geographic Information Systems (GIS) is a computer system that allows the user to store, display, and analyze a wide variety of spatial data. GIS tools facilitate the display of various data sources and reveal patterns that may not be obvious in other formats, such as spreadsheets or charts. Many of Maine's larger communities have GIS software and use it extensively for planning and other purposes.

Any scenic inventory created by or for SPO for purposes of the Wind Power law (see 35-A MRSA §3451(9)(H)(2)) must use GIS or a comparable electronic technology.

GIS for Scenic Assessment

There are many advantages to using GIS in scenic assessments. Most importantly, data layers can be combined in many combinations to look for and analyze patterns. Once the data is loaded into the computer, GIS allows users to create a variety of maps in both the office evaluation and final analysis. GIS is most suitable for scenic assessments over a larger region because of its ability to analyze large data sets that would be impractical to review by eye or hand. Another advantage of using GIS is the availability of base data from the Maine Office of GIS.

Disadvantages of using GIS tend to center around technological capacity issues and lack of detailed local data. GIS requires knowledge of sophisticated digital tools. While this bar has been lowered dramatically in the past few years – and will continue to become easier for land trusts and other local groups to use – users must have some software and knowledge of where to find relevant data. Due to the complexity of most GIS software, it is generally difficult for the untrained person to add accurate, locally collected data to the system.

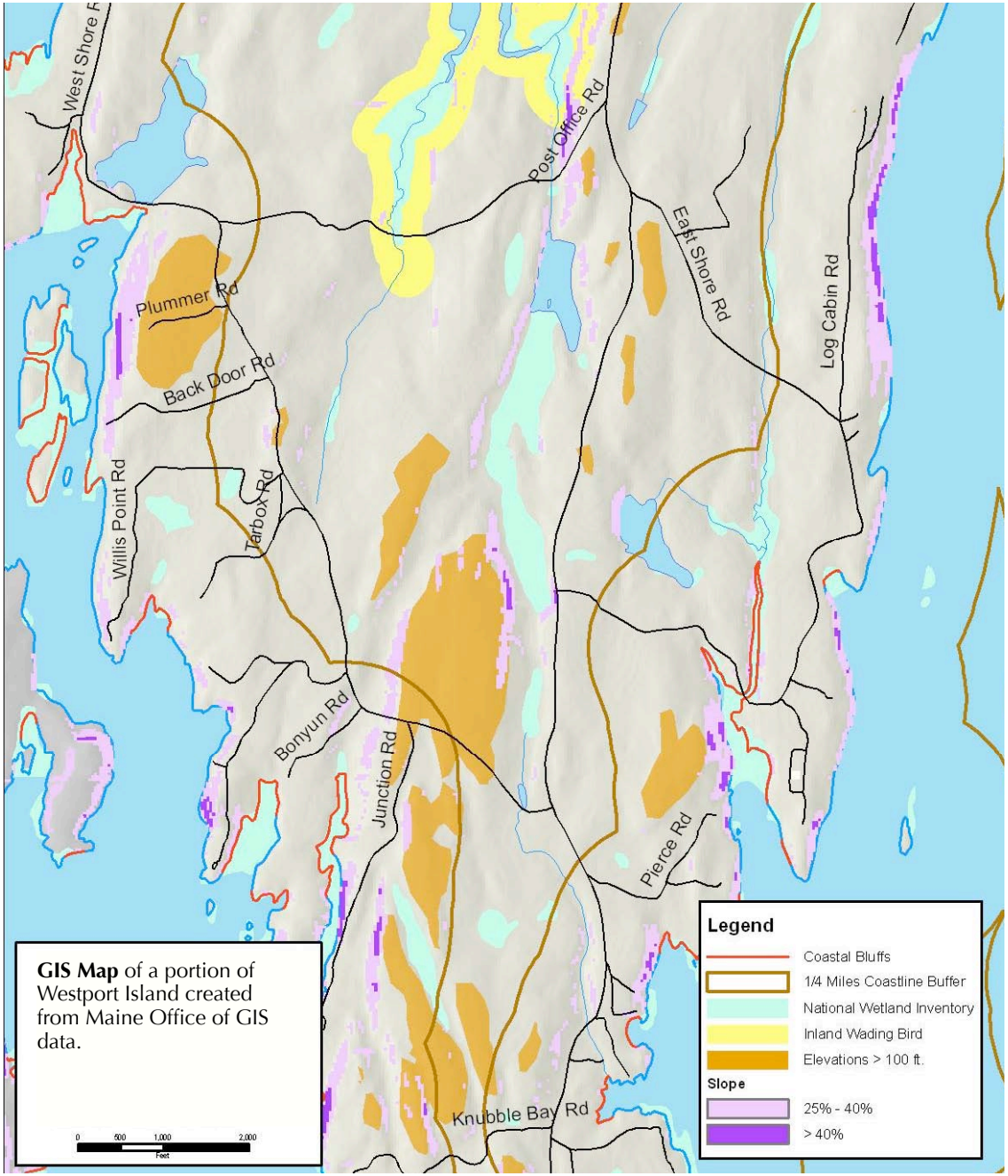
Using GIS

Creating maps in GIS and analyzing data should follow a well-defined process to produce the best results in a timely fashion:

- ***Gather and download data.*** Collect available information from the state data resources (see below) and the town(s) that will be covered in the study area. This will generally take from 1-6 hours, depending on the number and locations of data layers being used.

- ***Organize data in software.*** Bring the data into the selected software and symbolize for clarity and usefulness. Data may also be clipped to town boundaries or it may be desirable to merge multiple data sets together. This step will generally take from 1-3 hours.

- ***Develop and print maps.*** Develop a standard set of maps to show various data layers in useful combinations. Add labels, legend, north arrow, scale and



GIS Map of a portion of Westport Island created from Maine Office of GIS data.

other data (such as digital photographs). This will generally take 1-2 hours to set up base mapping and 2-8 hours to label and print, depending on the size of the area and the complexity of the data.

- ***Analysis***. There are a variety of further analyses that can be done to enhance the scenic assessment, using data layers from existing sources. These include slopes analysis, hillshade, shoreline variation, and view sheds. This process could take anywhere from 1 to 20 or more hours, depending on the complexity of the analysis and the skill of the operator.

- ***New data layers from field information***. Not all of the available software allows users to enter new data collected in the field. If it is technically possible, data (including site photos) can be entered into the GIS for further use, either by itself or in combination with other data layers. This step may take anywhere from 1 to 10 or more hours depending on the complexity of the analysis.

Pros/Cons of GIS Consultants

GIS mapping and analysis can be done by outside consultants, experienced citizens, or a combination of the two. There are advantages and disadvantages to each approach. The main advantage of hiring consultants is their expertise with software and data. Also, it may assist an overburdened committee by allowing them to focus on

collecting local data rather than spending significant time developing the GIS.

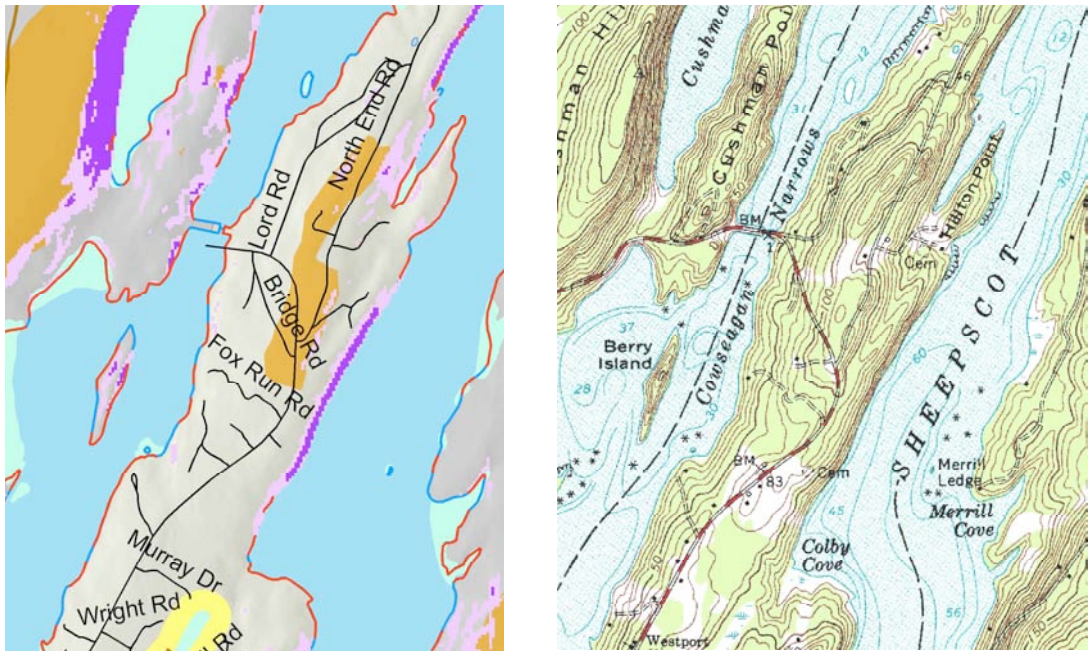
While there are significant cost and data management advantages of doing everything in house, it can place a time constraint on volunteers developing the data. A combination of consulting and volunteer time may allow the group to focus on the most important tasks, and provide some training and volunteer experience in new areas of GIS, while still allowing control over the cost and timeline.

Results

Results can be displayed by creating a layer identifying key scenic resources. Even if GIS is not used during the rest of the process, it would be very useful to have the final assessment created digitally so that it could be incorporated with other data sets during decision making. Maps displaying base data, field evaluation and final results can be printed in a variety of sizes, exported to Powerpoint, or as PDF files.

Data Availability

There are many data layers available from the Maine Office of GIS. These data can be downloaded from the following site: http://apollo.ogis.state.me.us/catalog/catalog.asp Layers that may be most useful to scenic inventories include:



GIS Map Analysis of a portion of Westport Island (l) compared to USGS map of same area (r).

Vector (Line Based) Data Layers

- *Contours* provide topographic information from USGS 7.5′ quad sheets.
- *National Wetland Inventory* (NWI) provides polygons and Cowardin classification system of wetlands as an attribute.
- *E911 Roads* is used to show road locations and road names.
- *HYD24* contains ponds, rivers, coastline, and streams.
- *Coastal_Bluff_Hazards* identifies bluff areas along the coastline.
- *METWP24* provides Maine town boundaries.

Raster (Grid) Data Layers. Land cover, USGS quads, and orthophotos can all be used as backgrounds for various maps with any combination of vector data. The ME-DEM10 data needs to be further analyzed to create useful data.

- *MECLD*. Land cover data created in 2004 from Landsat and SPOT imagery.
- *MEDEM10*. 10 meter Digital Elevation Model. This can be used to create slope, aspect, and other derived data sets with additional software.
- *DRGCLIP*. These are images of the USGS Quads with all the text and border data

clipped. The images can be put together in GIS software to create a single seamless map of the study area.

- *Ortho Photo Layers*. (ortho_1f, ortho_2f, ortho_ff, ortho_hf.) This aerial photography is available from 2001-2006, depending on the location.

GIS Software

There is a wide variety of GIS Software available, both in the marketplace and as free downloads.

- ArcExplorer (free download from www.esri.com)
- ArcReader (free but needs data prepared through other software)
- ArcView (provides more functionality, but will require some familiarity)
- DeLorme XMap (www.delorme.com)
- MapInfo (www.mapinfo.com)
- GoogleEarth Pro http://earth.google.com/earth_pro.html
- Other open source and proprietary software packages

GIS Resources

The State has a number of GIS consulting resources that may be available to communities and land trusts that may not have local capabilities. GIS Service Centers for Coastal Land Trusts are funded through the Maine Coast Protection Initiative (http://www.protectcoastalmaine.org). These centers were created to provide low cost GIS services and training to land trusts in their service areas. The current centers are Sheepscot Valley Conservation Association, Wells National Estuarine Research Reserve, University of Maine Machias, and US Fish and Wildlife Service. Other sources of GIS services are regional planning agencies and local consultants.

Internet resources

The last few years have seen a remarkable number of new products that can be an invaluable asset to communities and land trusts. These tools should make the office evaluation process considerably easier (and more enjoyable), especially for lay participants.

Google Earth provides a continuous photograph of the entire world superimposed on a three-dimensional model. By a simple set of mouse-based commands, the user can

Digital aerial photograph of Wolfes Neck, Freeport

Google Earth Pro image of same area.

Google Earth Pro

tilt the image to see the landforms in three dimensions, then 'fly' through the landscape from any altitude. The interface allows the user to fly to a location by simply typing in an address. Multiple data layers include roads, water bodies, parks, cemeteries, schools, and other points of interest.

Not all of Maine is currently covered by Google's high-resolution photography. Much of Downeast Maine, for example, is represented by older, grainy photographs which provide only basic information about landforms and settlement patterns. In some instances the photographs may not be properly stitched together, resulting in what appears to be seismic shifts in the ground plane. The photographs are also not dated, so it is impossible to tell how current the images are. Users must keep in mind that 3-D views are created with 2-D information, so there is no 'height' to trees, buildings, or other structures.

GoogleEarth Pro is a professional version of GoogleEarth that provides a greater array of tools (e.g., a distance mapper), more output options, and greater clarity in mapping resolution. It is available on a subscription basis from Google.

GoogleEarth Pro allows the user to create polygons (two-dimensional shapes) representing the boundaries of designated scenic areas onto the base photograph. The shapes can then be superimposed onto GoogleEarth Pro to create a three-dimensional view of the scenic area that can be rotated and examined in detail from an infinite number of viewpoints.

Google allows the use of their images on websites, blogs, or in Word documents as long as the copyright and Google logo is preserved. If there is a question, Google has an on-line process to obtain rights clearance.

Google SketchUp allows three-dimensional images to be added to the data in the form of models created in **SketchUp** or obtained from the Google image library. This can be a very useful tool in preparing preliminary visual impact assessments of large-scale developments such as cell towers, wind energy facilities, or tall buildings.

Microsoft's Live Search Maps (http://maps.live.com) is an internet search engine that combines satellite photographs and more traditional maps. A recent addition is Bird's-eye imagery, which provides 45-degree views of the landscape with very high-resolution photographs (six inches per pixel). Where this feature is available (it does not cover all of Maine as of 2008) the photographs allow the user to look at the landscape from four separate aerial viewpoints (north, south, east, and west) as if hovering overhead in a helicopter. Images can be enlarged with a zoom tool that enable the user to locate and study significant buildings, large trees, bridges, open spaces, and other elements of the landscape. This site also allows the user to toggle between road maps and aerial photographs.

Sparhawk Mill, Royal River, Yarmouth, looking north

Same location, looking south

Microsoft Live Search

Microsoft's Live Search provides high resolution aerial photographs from four different viewpoints.

5. Map Analysis

The map analysis will evaluate five separate (though very much interrelated) scenic indicators:

- **Landform**: the three-dimensional aspect of the landscape.
- **Open Land**: non-vegetated land that allows more distant views into the landscape.
- **Shoreline Configuration**: irregularity and complexity in the shoreline.
- **Scenic Features**: focal points such as islands, bridges, beaches, lighthouses.
- **Water Views**: the duration of view, type of water, and observer position.

The result of this process will be a preliminary map that will form the basis for the field evaluation discussed in Chapter 6. Examples of different mapping techniques are provided throughout this handbook and are discussed in Chapter 4.

Regional indicators

The first step in the process is to set values for certain scenic indicators – Elevation, Slope, and Open Land – that recognize regional differences. This will determine at what point a feature becomes important enough to be considered scenic.

Since distinctiveness is a relative term, this exercise evaluates what constitutes a *common* landscape, when it is *noteworthy*, and when it is truly *distinctive*. Points are assigned to the indicators when they meet a certain pre-determined quantifiable threshold. For example, a sampling of hilltops along the coastline of Penobscot Bay (Island-Bay Coast) showed that the average height is 290′. Distinctive landforms are generally in excess of 600′ above sea level. Mountains and hills in this category include Mt. Battie (740′), Mt. Megunticook (1,204/1,385′), and Blue Hill (920′).

The following of regional indicators (below) is based upon the earlier work for the State Planning Office by Dominie (1987) and DeWan and Naetzker (1990). These values should be considered as starting points in determining relative values in the Map Analysis step. Adjustments may have to be made to account for regional variations based upon field observations.

Evaluation Form

The evaluation form (shown on the following page and provided full-size in Appen-

	ELEVATION		SLOPE		OPEN LAND	
Southern Beaches	100′–200′ 200′–400′ >400′	1 pt. 3 pts. 6 pts.	20% – 40% >40%	2 pts. 3 pts.	25–50 ac / filtered view >50 ac / filtered view 25–50 ac / unobstructed >50 ac / unobstructed	3 pts. 4 pts. 5 pts. 6 pts.
Indented Shoreline	100′–200′ 200′–400′ >400′	1 pt. 3 pts. 6 pts.	27% – 40% >40%	2 pts. 3 pts.	25–50 ac / filtered view >50 ac / filtered view 25–50 ac / unobstructed >50 ac / unobstructed	3 pts. 4 pts. 5 pts. 6 pts.
Island-Bay Coast	300′–450′ 450′–600′ >600′	1 pt. 3 pts. 6 pts.	25% – 40% >40%	2 pts. 3 pts.	50–100 ac / filtered view >100 ac / filtered view 50–100 ac / unobstructed >100 ac / unobstructed	3 pts. 4 pts. 5 pts. 6 pts.
Cliffed Coast	100′–150′ 150′–200′ >200′	1 pt. 3 pts. 6 pts.	25% – 40% >40%	2 pts. 3 pts.	50–100 ac / filtered view >100 ac / filtered view 50–100 ac / unobstructed >100 ac / unobstructed	3 pts. 4 pts. 5 pts. 6 pts.

dix F) will be used to record numerical ratings and other information about potential scenic areas. After the initial office mapping is done, look for clusters of scenic indicators – views, openings, notable landforms, configured shorelines – that may indicate possible scenic areas. (See page 4 for the description of what constitutes a scenic area.) To qualify for field evaluation there should be at least two indicators within 1/4 mile. The actual number of indicators should be set after the initial map analysis is done and the scope and number of indicators is apparent.

Begin a Scenic Inventory Evaluation Form for each potential scenic area identified by the map analysis. This will be a two-part process: the first is done 'in the office on the desktop', the second part is done in the field.

SI: Special Interest. Note areas or points of particular scenic or cultural interest. During the field work phase, record observations and photograph the indicators to document how they influence the character of the landscape.

SC: **Scoring**. Assign a score for each of the indicators, based upon the office and field evaluation (see following chapters). If working in a group, use an average score for each of the 8 indicators.

IP: Indicator Present. Mark this box if a scenic indicator may be present (as determined from the office/desktop phase). Enter the total number on the **Indicators Present** line. As noted above, the presence of cluster of indicators is used in determining potential scenic areas.

SCENIC INVENTORY EVALUATION FORM

Location _____ **Date** ____

SI	SC	IP	INDICATORS	COMMENTS
			1. Landform	
			Elevation	
			Slope	
			2. Open Land	
			3. Shoreline Configuration	
			4. Scenic Features	
			5. Scenic Quality of Water	
			Duration of View	
			Type of Water	
			Quality of Horizon	
			Indicators Present	
			DESKTOP SUBTOTAL	
			6. Landscape Character	
			Land Use	
			Roadside Characteristics	
			Settlement Characteristics	
			7. Vegetation	
			8. Composition & Effect	
			FIELD EVALUATION	
			TOTAL SCORE	

SI: Special Interest
SC: Scoring
IP: Indicators Present

Comments_____

DESKTOP SUBTOTAL. Tally the scores for each of the five indicators (some may not have any points) and record it on the DESKTOP SUBTOTAL line. These results can be used to establish a preliminary ranking of potential scenic areas within the study area.

FIELD EVALUATION. In a similar manner, total the scores from the field work and record it on the FIELD EVALUATION line.

TOTAL SCORE. Finally, add the Desktop Subtotal and the Field Evaluation scores and enter the sum on the TOTAL SCORE line. This number will be the basis for determining the relative significance of each of the scenic areas within the study area.

COMMENTS. Record comments on the form during the office evaluation and the field work. Be as specific as possible about what is visible, what has changed (from map or air photo data), and what contributes or detracts from the scene. Also record any adjustments that the group felt was necessary between the initial point assigned from the office work versus the number give for field observations.

Be sure to record the time of the field visit and the numbers of the photographs from each of the viewpoints visited.

1. Landform

Landform, along with water bodies, vegetation, and cultural modification, is one of the basic ways of understanding and describing the landscape. There are two aspects of landform to be evaluated: **elevation** (height above a certain base level) and **slope** (the angle of the ground relative to a horizontal line). In general, as the elevation and/or slope becomes more pronounced (and thus creating more contrast and dynamic lines in the landscape), the scenic value of the landscape will increase.

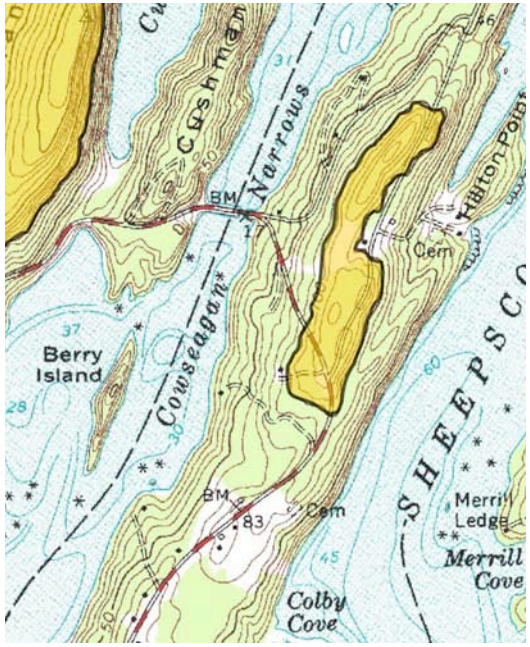
Evaluation

Elevation

This initial step will determine the location and extent of the significant physical features in the landscape: ridge tops, prominent hills, and mountains.

- Locate the highest points of land in the study area by evaluating USGS topographic maps or by using a GIS system to identify elevation ranges.

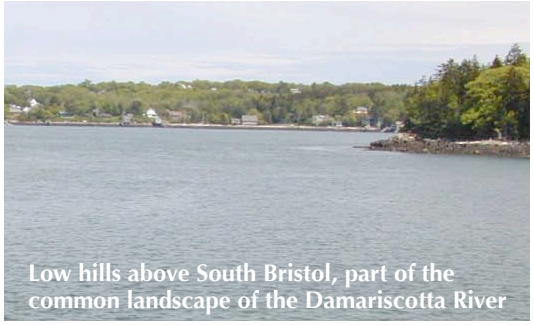
- Following the parameters for the region, determine which landforms (if any) are 1) *distinctive*: i.e., named hills or mountains dramatically rising about the surrounding landscape; 2) *noteworthy*: i.e., usually named features that add visual interest to the surrounding landscape; or 3) *common* and lacking particular scenic influence.



Elevation Analysis can be done by hand (using acetate overlays, PowerPoint, or Photoshop) or by GIS (see example on page 18).

- The regional parameters will set a numeric value for <u>distinctive</u> features (e.g., above elevation 600). Find that contour on the map and highlight it, and fill the area in with a contrasting color (see example, above).

- The parameters will also set a range of elevations for <u>noteworthy</u> landforms (e.g., between elevation 450 and 600). Find the lowest elevation in the range, outline it, and fill in the area so it stands out on the map. Select a color that complements the one selected for distinctive landforms.



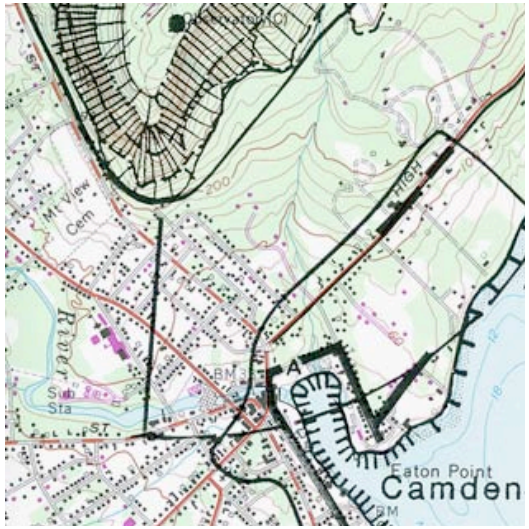
Low hills above South Bristol, part of the common landscape of the Damariscotta River

Ridgetop on Westport Island from Rt. 144 Bridge, as seen on map to left

Ducktrap Mountain (el. 715) in Lincolnville, a distinctive peak in western Penobscot Bay

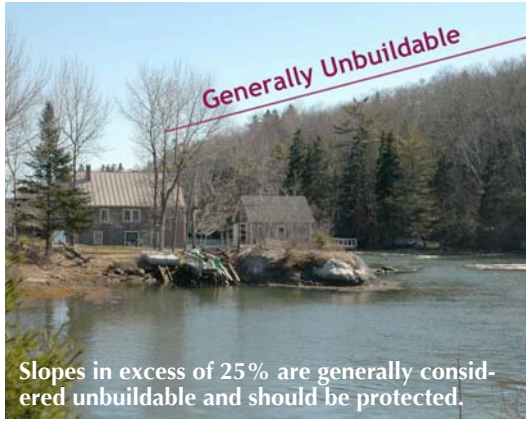
Slopes

This step will determine where the land is steep (slopes >25%) or very steep (slopes >40%). A 25% slope rises 25 feet for every 100 feet of horizontal distance. Slopes in these categories are considered unbuildable in many municipalities since they tend to be highly erodible and difficult to access and stabilize. Steep slopes are also recognized for their visual sensitivity, since the diagonal lines that they create when meeting the sky is dynamic and tend to draw the eye.



Steep hillsides above Camden have slopes in the 25-40% range (wider spaced lines) and greater than 40% (closely spaced lines)

USGS topographic maps are used to evaluate the degree of slope. The slope is steepest where the contour lines are spaced close together. Like elevation, slopes can be determined either by hand or by computer using GIS technology.

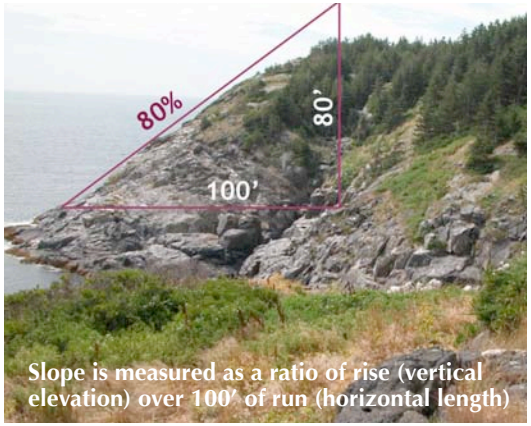


Slopes in excess of 25% are generally considered unbuildable and should be protected.

- Determine areas where the slope exceeds 25% (steep). This can be done by hand using the key at the bottom right of the Scenic Inventory Template (found in Appendix E). Position the right edge of the template on one bold (100′) contour. If the next bold contour falls between the 25% and 40% lines, the slope at that point is within that range. Find the point where the slope is 25% and mark it on the map. Continue in this manner to determine the extent of slopes within this range.

- In a similar manner, use the template to determine where slopes are greater than 40% (very steep).

- Connect the marks that define the edge of the two slope categories with a heavy line. Concentrate on continuous areas of steep slope which are at least one acre in size (approximately 208′ x 208′).



Slope is measured as a ratio of rise (vertical elevation) over 100′ of run (horizontal length)

- Fill in the resultant shapes with lines running perpendicular to the contours: farther apart for 25-40% slopes, and relatively close together for slopes >40%. See the example from the Camden Hills on left.

SCORING
See chart on p. 20

Elevation

300′ – 450′	1 Point
450′ – 600′	3 Points
Over 600′	6 Points

Slope

25% – 40%	2 Points
> 40%	3 Points

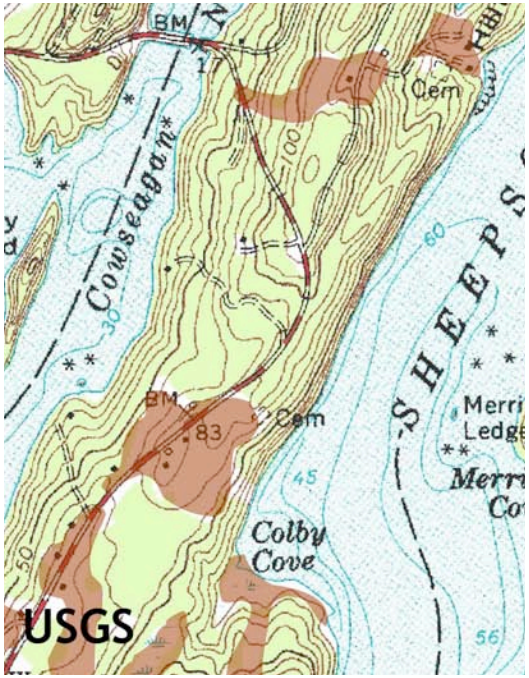
2. Open land

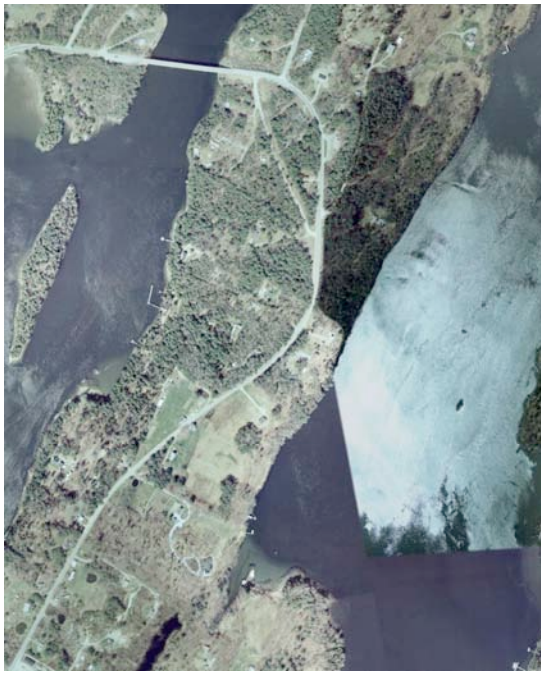
Open (non-forested) land can be found in many forms: cultivated hayfields, pastures, abandoned farmland, open water wetlands, play fields, etc. Land use diversity – especially involving agricultural and natural conditions – is an important predictor of scenic preference. Open space in Maine's mostly forested landscape can add variety, complexity, and visual interest. Openings along the coast frequently provide visual access to the water or other scenic features in the landscape.

Keep in mind that much of Maine's coastline was denuded a century ago as forests were harvested for shipbuilding, construction materials, agriculture, and fuel. The relatively rare open views of today were often commonplace in the mid 1800's.

The relative size of open land will vary from town to town and region to region. As noted above, the scoring table may be adjusted to account for regional differences. If adjustments are made, the reasons for them should be documented as part of the scenic inventory process.

Open field looking into Bounty Cove, Islesboro





Air Photo: Google Maps

Comparison between USGS (l) and recent air photo. Many USGS maps are 25-40 years old, and land use patterns have changed, often dramatically, over the past decades.

Evaluation

Make a preliminary determination of where open land exists within the study area, its relative size, and its degree of openness.

- Locate open areas based upon USGS mapping. These will show up as white patches against the green background. Since these maps are generally several decades old, the information will have to be verified during the field work. Mark the candidate areas on the map for further evaluation.

- Visit each of the candidate areas using GoogleEarth and/or Maps.live.com for more current views. These digital tools should also be used to look for recent development activity, trees, or other obstructions that may block views to the water or other scenic features.

- Determine the approximate acreage of the open land. (One acre is 43, 560 square feet, or approximately 208′ x 208′; see the Scenic Inventory Template for a five-acre square.) Area can be calculated by a number of methods: measuring and then multiplying the length by the width; overlaying the five-acre measurement from the Template; using the area calculation tool in GoogleEarth Pro; measuring the area of the polygon that represents the open space in GIS; or using a planimeter, a mechanical or electronic device that measures the area of irregular shapes.

- Record the area on the map along with the approximate boundaries.

SCORING
See chart on p. 20

Open land

1 - 5 acres w/ filtered view	3 Points
> 5 acres w/ filtered view	4 Points
1 - 5 acres w/ unobstructed view	5 Points
> 5 acres w/ unobstructed view	6 Points

Wolfes Neck Farm, Freeport

Large fields (> 5 acres) with filtered views to Casco Bay, Wolfes Neck, Freeport

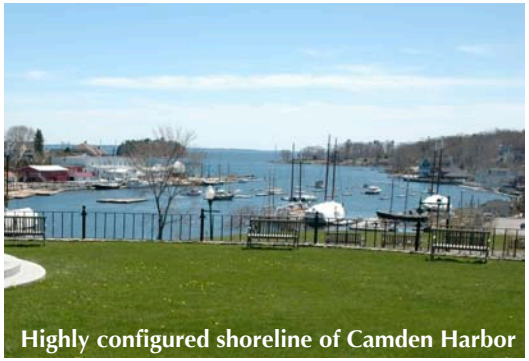
Elevated view toward Eggemoggin Reach over large blueberry barren. Caterpillar Mountain, Sedgwick

3. Shoreline configuration

Configuration refers to the amount of complexity or irregularity in the shoreline. Shorelines with coves, points, islands, bays, peninsulas, and other features are considered more highly configured (and therefore more scenic) than those with straight, uncomplicated shorelines. The perception of space, or degree of enclosure, is greater in a highly configured shoreline.

Evaluation

Determine where opposing shorelines (e.g., the space between the mainland and an island or the opposite sides of a cove) are between 0 to 1/4 mile apart (highly configured), or between 1/4 to 1/2 mile apart (moderately configured). Do this either by measuring with an engineer's scale or by using the Scenic Inventory Template included in Appendix E and illustrated on the following page..



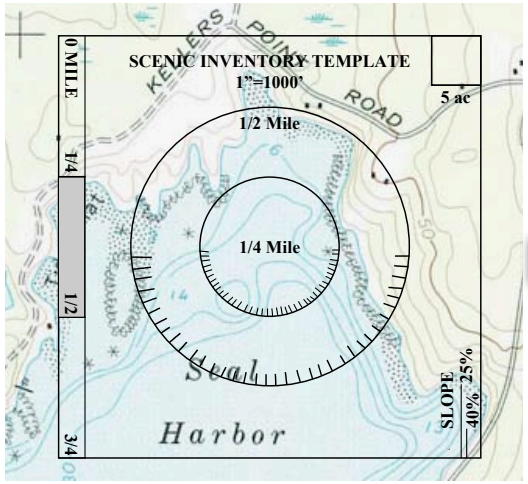
Highly configured shoreline of Camden Harbor

Configured shorelines of Littlejohn Island (foreground) and Cornfield Point on Cousins Island, Yarmouth

- The inner circle has a diameter of 1/4 miles at a scale of 1" = 2000', which will be suitable for a 7.5 minute USGS map. If the circle does not fit into the space between opposing shorelines, then the distance is less than 1/4 mile (and the shoreline is highly configured). Where this condition occurs, mark the map with a series of short, closely spaced lines, perpendicular to the shoreline.

- Use both circles (the larger one has a diameter of 1/2 mile) to determine where the opposing shorelines are between 1/4 and 1/2 mile apart (moderately configured). Where this condition occurs, mark the map with a series of longer, less closely spaced lines perpendicular to the shore.

See following page for examples and photographs of both highly configured and moderately configured shorelines.



Use the **Scenic Inventory Template** to determine where shorelines are highly configured (opposite shoreline within 1/4 mile) or moderately configured (between 1/4 and 1/2 mile).

SCORING

Shoreline configuration

Configured w/in 1/2 mile	3 Points
Configured w/in 1/4 mile	6 Points

Highly configured shoreline of Crow Cove, Islesboro. See map above.

Moderately configured shoreline of Seal Harbor, Islesboro. See map above.

4. Scenic features

Maine is well known for its iconic images of lighthouses, islands, beaches, bridges, cliffs, working harbors, villages, and historic sites. Memorable scenic features, both natural and cultural, can have a positive influence on the perception of scenic quality.

Scenic features may be **focal points** (e.g., church steeples or individual islands), **linear elements** (e.g., sand beaches or a rocky shoreline), or extensive **areas** of interest (e.g., historic districts). A single scenic feature alone may not be enough to designate an area as scenic. The inventory will be looking for groupings of scenic indicators derived from both the office and field evaluation.

Portland Head Light, Cape Elizabeth

Cribstone Bridge, Bailey Island, Harpswell

Evaluation

The work in this section will involve contact with local and state agencies and data sources to determine the type, number, and relative location of scenic features.

- Contact state resource agencies for information on properties or sites within the study area: The **Land for Maine Futures Board** (land purchased or protected by LMFB funding); **Maine Historic Preservation Commission** (historic structures, places, and districts); **Maine Bureau of Parks and Lands** (State parks, trails, and other outdoor recreation areas); **Maine Department of Inland Fisheries and Wildlife**, regional offices (wildlife viewing areas, state game preserves and wildlife management areas); **Maine Department of Transportation** (Scenic Byways, picnic areas, and roadside rest areas); and **Maine Natural Areas Program** (registered Critical Areas within public domain).

- Research published data sources such as: **DeLorme Maine Atlas and Gazetteer** (for parks and recreation areas, hiking trails, historic forts, lighthouses, historic sites, nature preserves, sand beaches, scenic waterfalls, and unique natural areas); **Maine Rivers Study** (scenic river segments, available through State Planning Office); **Maine Lakes Study** (scenic lakes within the organized townships, available through Maine Department of Environmental Protection).

- Contact local resources such as **Municipal Planner, Parks and Recreation Director, and Code Enforcement Officer** (natural/scenic inventories for Comprehensive Plans; scenic roads; significant viewpoints); **Conservation Commissions** (trail plans, unique natural areas, wildlife viewing areas, etc.); **Historic Societies** (historic cemeteries, structures, and places).

- "Visit" each of the scenic features in GoogleEarth and/or Maps.live.com to get a better sense of their location, prominence, and surrounding land use.

- Note the location of the scenic features on the map, using symbols that represent the type of feature.

- Determine where the feature(s) is relative to the potential scenic area. If the feature is within the area or within 1/2 mile, it is within the **Foreground**; if it is between 1/2 mile and 4 miles it is considered part of the **Midground**; if it is greater than four miles, it is part of the **Background**.

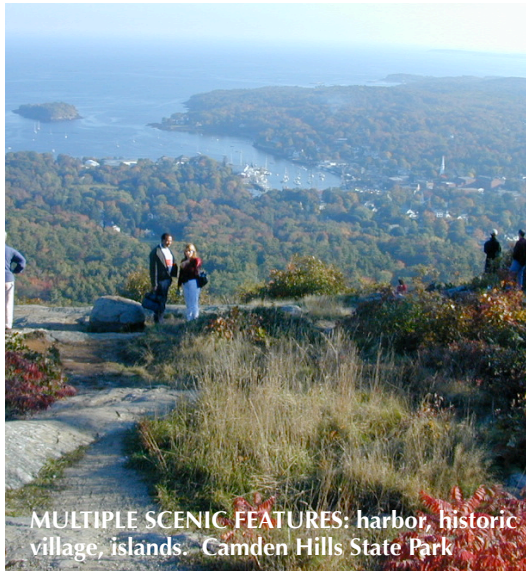
The final determination of significance will be made during the field evaluation, which will consider surrounding land use, the integrity and condition of the feature, and its prominence in the landscape.

SCORING

Scenic features

Significant Feature in Background (> 4 miles)	1 Points
Significant Feature in Midground (1/2 – 4 miles)	3 Points
More than 1 feature with at least one in midground	6 Points
Multiple Features in Foreground (within 1/2 mile)	9 Points

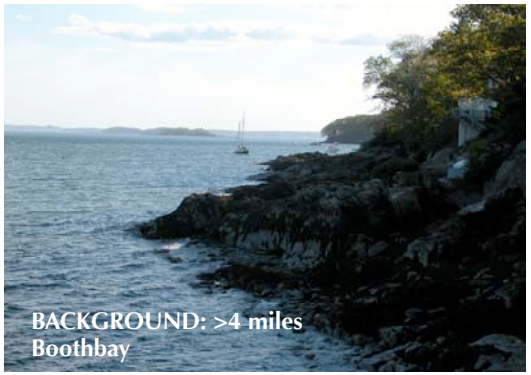
Symbols are used to denote Scenic Features: harbor, islands, lighthouse.



MULTIPLE SCENIC FEATURES: harbor, historic village, islands. Camden Hills State Park

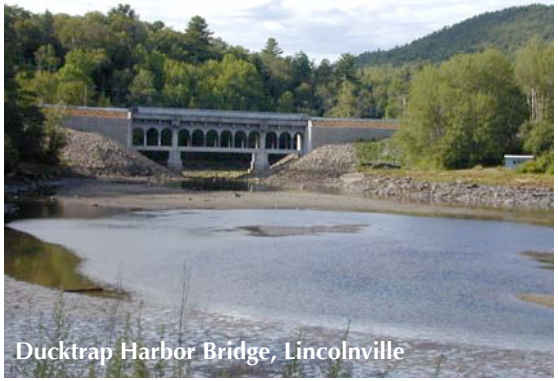
FOREGROUD: w/in 1/2 miles
Pemaquid Point Light, Bristol

MIDGROUND: 1/2 TO 4 miles
Vinalhaven Harbor



BACKGROUND: >4 miles
Boothbay

POINTS OF INTEREST



Ducktrap Harbor Bridge, Lincolnville

LINES

Popham Beach State Park, Phippsburg

AREAS

Rockport Harbor

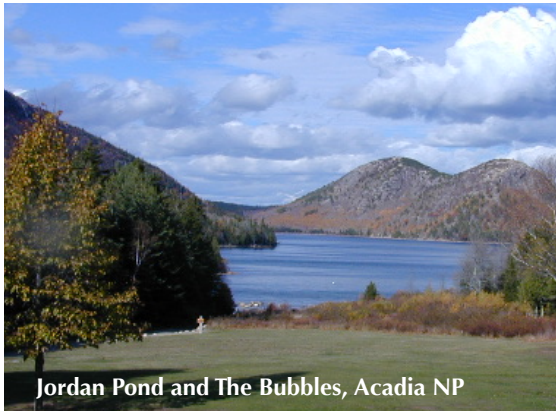
Grindel Point Lighthouse, Islesboro

Rocky shoreline, The Reach, Vinalhaven

Historic Main Street, Rockland

Curtis Island, Camden Harbor

Seawall, Rackliff Island, St. George



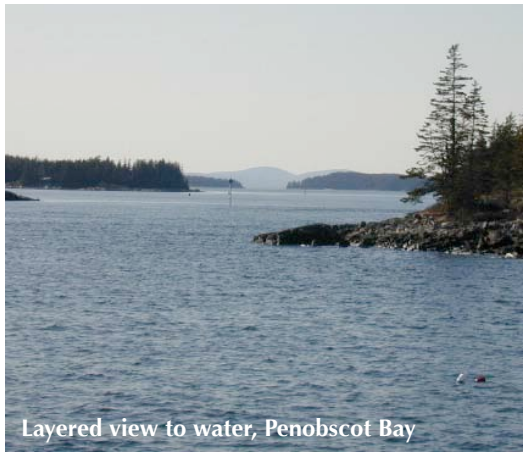
Jordan Pond and The Bubbles, Acadia NP

5. Views to water

The presence of waterbodies, *especially when combined with significant landforms*, can be a powerful predictor of scenic preference. Scenic areas often include the opportunity to see a long distance into the water from public viewpoints on the land from elevated vantage points. Large waterbodies have higher value than smaller ones because more people see them.

Evaluation

The work in this final section of the office evaluation looks at three parameters: the duration of the view; the type of waterbody that is seen; and the quality of the horizon. The initial evaluation is based upon an assessment of road-side openings as determined from USGS topographic maps and internet resources. Final verification of the quality and complexity of the views will take place during the field evaluation.



Layered view to water, Penobscot Bay

Duration of View

The length of time an observer will be able to see the water is influenced by many factors: travel speed, road condition and alignment, adjacent development, roadside vegetation, and pull-offs.

View Inventory: Intermittent views toward Islesboro Harbor

- From the mapping of Open Land, determine where it may be possible to view scenic resources (primarily water and mountains) from public viewpoints. While these will be primarily public roads, also look for views from public parks, trails, and other areas that the public has access to. Measure the length of the view and record it on the map.

- Note locations where the observer is in a 'superior' position (i.e., looking down on the landscape from a relatively high vantage point, such as the crest of a hill or an overlook). An elevated but relatively short view may be just as significant as a longer view closer to the water.

Short view (<.2 mile). Orrs Island, Harpswell

- Use GoogleEarth and/or Maps.live.com to verify that the viewpoints are still open.

- Show the potential viewpoint(s) on the map with a heavy line and view arrows, to be verified and adjusted during the field evaluation.

Lengthy view, Shore Path, Bar Harbor

Type of Water

Note the type of water that is in the view: small ponds, tidal marshes, coves, lakes, Atlantic Ocean. Generally the more variety there is in the view toward the water, the greater the scenic quality.

- Determine if the waterbody is seen as an isolated feature in the landscape, or if it is part of a more complex series of waterbodies (e.g., a bay with an associated salt marsh or tidal cove).

Small mill pond and Belfast Bay, Belfast

Large water body (Atlantic Ocean), Acadia NP

Small tidal channel, Brunswick

Complex view of small coves, islands, and Penobscot Bay

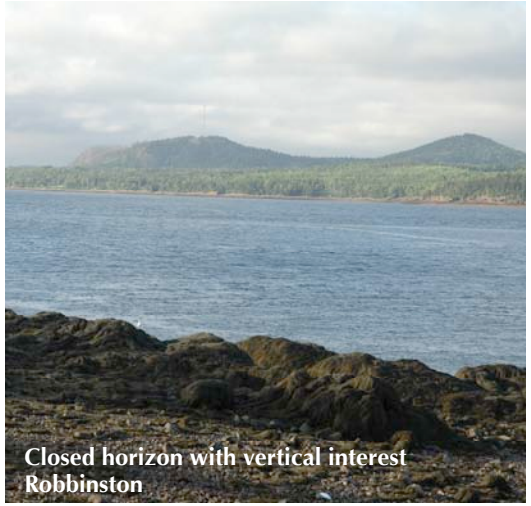
Quality of the Horizon

The view out to the water can be open, with no intervening land masses, or it can be enclosed or partially enclosed. Likewise, the scene can be framed by or include land masses with considerable vertical relief that contrast with horizontal plane of the water. In general, the areas that have views with both open and closed horizons and substantial hills or mountains will have the greatest scenic value.

- Note the location(s) where the best views of the water and interesting land masses are likely to occur. Evaluate the potential quality of the horizon with the USGS topographic map, looking for land masses that may partially block the view as well as significant topographic features that will add interest to the view.

- 'Fly' over the location in GoogleEarth to verify the quality of the view. Keep in mind that the computerized view will not show the three-dimensional aspect of trees or buildings that could screen the view.

Closed horizon with little vertical interest. East Boothbay looking toward South Bristol



Closed horizon with vertical interest Robbinston

Open and closed horizon with vertical interest. Popham Beach State Park, Phippsburg

SCORING

Duration of View

Less than 2/10 mile	3 Points
2/10 to 1/2 mile or numerous short views	6 Points
Greater than 1/2 mile or short but elevated views	9 Points

Type of Water

Small water body (< 1/4 mile closure)	6 Points
Large water body	9 Points
Large water body with marsh, pond, cove	12 Points

Quality of Horizon

Open/closed horizon with little vertical interest	3 Points
Comb. of open and closed horizon with little vertical interest or closed horizon with vertical interest	6 Points
Combination of open/closed horizon w/vertical interest	9 Points

6. Field Evaluation

Once the office evaluation is complete, the next step is to get out and explore the landscape. While the office evaluation resulted in quantifiable data, the field evaluation relies on more qualified observations. There are several objectives to this critical step in the evaluation process:

- Field-verify and fine-tune the results of the office evaluation.
- Experience the three-dimensional aspect of scenic areas and determine their physical boundaries.
- Note current land use activities and development pressures.
- Record (with narrative and photographs) the physical characteristics that define the scenic areas.
- Locate public viewpoints that provide an opportunity to see the scenic area.
- Identify options for potential management strategies to maintain the inherent scenic quality of the areas.

Participants

Field evaluation teams should have at least two members: a driver/photographer and a recorder/navigator. Ideally there should be a third person to share in the responsibility – and the pleasure – of the fieldwork.

If the area to be inventoried is relatively large and local citizens are involved, different sections of the study area can be assigned to multiple teams. This is especially true if the inventory process attracts a large number of enthusiastic volunteers.

Preparation

Allow at least a day for preparation: gathering maps from the office evaluation, downloading images from GoogleEarth, setting the route, preparing cameras, looking at tide tables, understanding the sun angle at various times of the day, etc.

While it may be tempting to make a complete day of it, fieldwork can be very taxing on the eyes and the brain. After a certain length of time, some observers may experience visual overload that could diminish the group's objectivity. There are a number of things that should be done to prepare for the field work:

- Consider how the sun will affect observations over the course of the day and plan the itinerary accordingly. Try to visit east-facing areas in the morning, west-facing areas in the afternoon.

- Look at local tide tables before heading out to areas that include coastal waters. Since the presence of water bodies is a strong indicator of scenic quality, the absence of tidal water (and the presence of mudflats) may influence how the area is evaluated. Ideally, the team should visit these areas at various points in the tidal cycle and record observations at high, mid, and low tide.

- Compile a binder for data gathering during the fieldwork. This should include a) an index map showing the entire study area for navigational purposes and context, b) a USGS or other map showing the location of the scenic indicators and potential boundary of the scenic areas, and c) the Scenic Inventory Evaluation Form (Appendix F). Maps used for fieldwork can be in draft form, since the data may change (e.g., location and extent of views, boundaries of scenic areas) once the site is visited.

- Prepare the camera for an intense day of shooting. Digital cameras are ideal for fieldwork, since the images can be used in a multitude of ways. Bring along a backup camera, extra storage devices, and extra batteries. Charge camera batteries the night before and make sure there is adequate storage capacity. See Site Photography, Appendix D for further guidance on site photography.

Pemaquid Point Light, Bristol

Field Observations

- Once the team is at the designated area, allow adequate time to drive it from all directions to verify the office data (e.g., landforms, open land, shoreline configuration, and water views) and get a general sense of its physical boundaries. Verify that the scenic features are still present and how they influence the character of the scene. Spend at least 20-30 minutes evaluating an area, and upwards of an hour or more if the site is particularly large or complex.

- While views from the main roads are very important, do not overlook the smaller public roads, public lands (parks, conservation land open to the public, school grounds, and hiking trails) and other opportunities in public areas. Prior to setting out, prepare a context map that locates all the potential viewpoints and roads to be covered during the fieldwork.

- Avoid trespassing onto private property. Stick to publicly accessible locations such as municipal roads, parks, and public waterfronts. The only exception should be private lands with public access easements.

- A GPS (Global Positioning System) unit can be very helpful in fieldwork, navigating throughout the day, and recording the location of photographs and other data. If GPS is used, at least one member of the team should understand its function and operation BEFORE setting out. Prior to embarking, establish a protocol for naming/numbering waypoints and photographs. Plan a dry run well in advance to work out any bugs.

- Once the team feels that it has a good sense of the area's features and has reviewed the preliminary findings of the office evaluation, go over the three sets of field variables: landscape character, vegetation, and landscape composition. Discuss personal observations and try to come to a consensus for the number of points to be awarded in each of the categories. Be methodical in the approach, applying the criteria evenly to each scenic area. If there are serious disagreements among team members, use an average score that all feel comfortable with. Ideally, a second field team would also visit each area as a check.

- Keep an accurate record of all photographs, GPS points, time of day, and other information.

- In addition to looking for scenic indicators and understanding their value, the fieldwork should determine the boundaries of the scenic area. As noted earlier, scenic areas should be thought of as large outdoor 'rooms', defined by topography, vegetation, and structures. The office evaluation will make a preliminary determination of the boundaries of this space, but the fieldwork will be necessary to check its accuracy.

- Some scenic areas may require visits at special times during the day or year to record their transitory nature. These may include places such as sheltered harbors when lobster boats are coming or going, old orchards that are frequented by deer or wild turkeys, or waterfalls that are only full in springtime.

- Take at least one break to allow the team to replenish their energy and discuss the experience thus far. Try to limit the fieldwork to 4-5 hours maximum.

6. Landscape character

Evaluate the effect of land use, roadside characteristics, and settlement patterns on the character of the landscape. The examples given for each category are not meant to be exhaustive; there will undoubtedly be additional elements, both positive and negative, that will influence the perception of the landscape.

Record both positive and negative influences. Award the number of points that the group decides after considered discussion. *Deduct points if there are serious discordant elements present.*

Prominent steeple, Route 1, Stockton Springs

Evaluation

Determine if the landscape is characterized by the following:

A. Positive Land Use

- Agricultural fields / farmsteads
- Moorings / harbors
- Beaches
- Villages /Vernacular architecture
- Old cemeteries
- Village skyline in midground
- Mature forestland

Small harbor, Indian Creek, Vinalhaven

Sand beach, Sears Island, Searsport

Aldermere Farm, Rockport

Old cemetery, Route One, Stockton Springs

Discordant Land Use

- Clearcuts / extensive slash
- Exposed mining operations
- Utility corridors
- Incompatible comm./industrial uses

Transmission corridor, Wiscasset

Historic Fort Knox with paper mill on Penobscot River, Prospect and Bucksport

SCORING

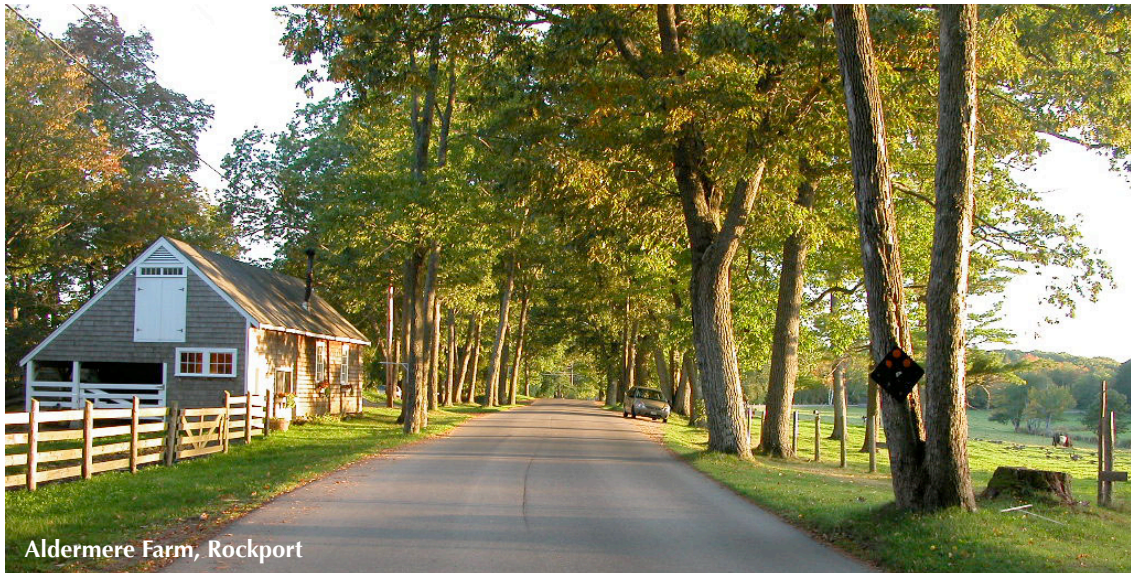
Effects of land use on scenic quality

No Effect	0 Points
Minimally Positive	3 Points
Positive	5 Points
Strongly Positive	7 Points

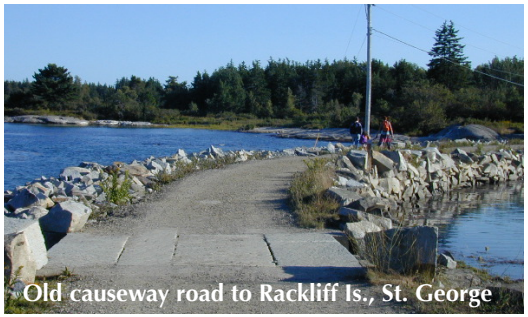
B. Positive Roadside Characteristics

- Tree canopy
- Mature trees lining the road
- Road conforming to contours
- Gentle horizontal curves
- Streets scaled to the pedestrian
- Urban plantings

Sargent Drive on Somes Sound, Mt. Desert


Aldermere Farm, Rockport

Street trees, Bar Harbor


Old causeway road to Rackliff Is., St. George

Discordant Roadside Characteristics

- Excessive cuts or fill
- Long straight stretches
- Overhead utility lines
- Advertising signs/roadside clutter
- Guardrails in disrepair

Long straight road, Westport Island

Proliferation of signs and overhead wires, Rt. 1

SCORING

Effects of roadside characteristics on scenic quality

No Effect	0 Points
Minimally Positive	1 Points
Positive	3 Points
Strongly Positive	6 Points

C. Positive Settlement Features

- Distinct village gateways
- Prominent community buildings
- Buildings w/ harmonious massing/ height
- Preserved vernacular architecture
- Historic districts
- Significant bridges
- Parkland
- Prominent statues, bandstands
- Tree lined streets
- Stone walls

Portland waterfront

Restored historic district, Rockland

Monhegan Island waterfront

Library profiled against Mt. Battie, Camden

Gateway into Wiscasset, Sheepscot River

Lane Island, Vinalhaven

Discordant Settlement Characteristics

- Strip development
- Dilapidated structures
- Incompatible architecture
- Obtrusive signage
- Pollution
- Structures blocking view corridors
- Automobile-related intrusions

Strip development, Ellsworth

Lobstermen's memorial, Bailey Is., Harpswell

Motel on the water

Chicken house partially blocking view

Stone retaining wall, Rackliff Island, St. George

Auto-oriented signage

SCORING

Effects of settlement characteristics on scenic quality

No Effect	0 Points
Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

7. Vegetation

The trees, fields, and forests in the landscape can have a positive effect on scenic quality. Like waterbodies, vegetation changes throughout the year, adding another temporal factor to the scenic inventory process.

Evaluation

Assess the quality of the vegetation and its effect on scenic character. Determine if the vegetation exhibits any of the following characteristics:

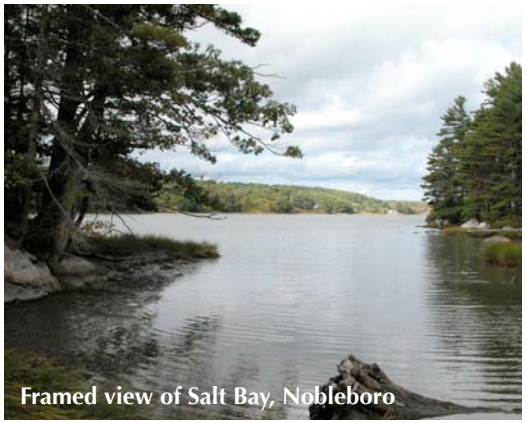
Positive effects

- Park-like landscapes
- Well-defined agricultural patterns
- Distinct edges between field and forest
- Mature woodlands
- Stands of specimen trees
- Orchards
- Views framed by trees
- Mixture of types of vegetation

Spruce-covered island, Penobscot Bay

Varied textures, tidal marsh, Cumberland

Park-like oak grove, Broad Cove, Yarmouth



Framed view of Salt Bay, Nobleboro

Evergreen edge of scenic area, Islesboro

Framed View of Penobscot Bay, Islesboro

Orchard, Rte. 144, Westport Island

Negative Effects

- Obvious clear cuts, piles of slash
- Overgrown fields
- Blowdowns
- Woodlands overrun by invasive species
- Lack of shoreline buffers

Clearcut to water

Lack of shoreline buffer

Blowdown, construction site

SCORING

Effects of Vegetation on scenic quality

No Effect	0 Points
Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

8. Composition & Effect

This is perhaps the most subjective part of the process, where the team evaluates the overall integrity and composition of the area under consideration. Record notes on both the positive and negative features that contribute to or detract from the scenic quality of the area. Compile a photographic record of the area from various public vantage points (See Site Photography in Appendix D).

Assess the vulnerability of the scenic area to change (development, loss of view corridors, roadway 'improvements', etc.). Discuss options for land management for the scenic area which can be incorporated into the final report.

Finally, in driving and walking the scenic area, note its physical boundaries. These can be ridge lines, vegetation, curves in the road, or other features which help define the area as a large outdoor 'room'. Note the boundaries on the field map for further study back in the office.

Evaluation

Evaluate the composition and effect of the landscape by studying the whole scene and discussing the following characteristics:

High Diversity: Is there a great deal of variety in the color, forms, textures, and lines that compose the landscape? Does the landscape still maintain a sense of order and unity within this diversity? *Camden Harbor exhibits a high degree of diversity in its varied colors, forms, lines and textures. This scenic area is noted for its contrasts: intensively developed waterfront in a largely natural setting; horizontal plane of the water against the rolling backdrop of the Camden Hills; exemplary parks and open spaces in dense suburban setting.*

Mystery/Surprise: Does the composition of the landscape draw the eye in? Is there a sense that there is a lot more to be seen from typical vantage points? Does the team feel an urge to explore what happens around a bend in the road or on the back side of an island? Are there vistas or turns in the road which open up unexpectedly? Will the landscape be markedly different in other seasons or tidal conditions? *A sense of mystery is created in these Penobscot Bay islands by the interplay of shadow and light and the layered landscape.*

Naturalness: Does the area seem to be relatively untouched by man-made features? How well do the cultural elements that are present fit into the landscape? *While Popham Beach is one of Maine's most heavily used beaches, it still retains a sense of naturalness by using the extensive dune system to separate the beach from visitor facilities and parking. The few visible cultural elements are understated, well weathered, and appropriate for the beach.*

Spectacular Imagery: Are the forms, patterns, and elements that compose the landscape memorable? Are there places or landmarks present which are considered icons for the region? *This small footbridge in Somesville has been captured by countless artists and photographers drawn by its simple yet dramatic form and wooded setting.*

Historic Integrity: If there are historic elements present (e.g., structures, stone walls, or cemeteries) are they well preserved and relatively intact? *The Cribstone Bridge in Harpswell is one of Maine's icons, a testimony to Yankee ingenuity, and a true marriage of form and function.*

Pastoral Qualities: In agricultural settings, is the scene simple, serene, and relatively free of extraneous cultural influences (such as highways, transmission lines, or commercial development)? *Aldermere Farm, owned and managed by Maine Coast Heritage Trust in Rockport, is known throughout mid-coast Maine for its pastoral setting and Belted Galloway cattle.*

Cohesiveness: Are the visible elements in the landscape related to each other in terms of scale, form, color, and pattern? Does any one element dominate, to the detriment of the scene? *Carvers Harbor in Vinalhaven is a classic working waterfront, comprised of a varied mixture of commercial and residential structures. The focus is on the waterfront; no one cultural element stands out or dominates the scene.*

Permanence: Does the landscape feel timeless, solid, and unchanging? *The granite outcrops that define much of Penobscot Bay have a solid, ageless quality.*

SCORING

Landscape composition

Minimally Positive	3 Points
Positive	6 Points
Strongly Positive	9 Points

7. Ranking and Significance

Introduction

Inventories of scenic resources are done for a variety of reasons and uses, including:

- Comprehensive planning at the municipal level.
- Strategic regional and statewide land conservation efforts (e.g., local land trusts, Land for Maine's Future program).
- Alignment studies for highways and utility corridors.
- Internal Revenue Service requirements for conservation easements.
- Siting studies for wind energy facilities in accordance with the Wind Power law.

The outcome of the inventories help decision-makers at many levels in determining which lands to protect, how to prioritize scarce resources, whether to take action when a property comes on the market, whether to grant a tax abatement, or where to best locate infrastructure to avoid visual impact.

Definitions of Significance

In at least two instances the Maine Legislature has recognized the importance of a ranking system to determine the relative scenic significance of certain areas. Both pieces of legislation have definitions to guide the process of making a distinction between resources of local, state or national significance.

In approving DEP's Scenic Impact Rules under the Natural Resources Protection Act (Chapter 315 Assessing and Mitigating Impacts to Existing Scenic and Aesthetic Uses) the Legislature endorsed the policy that a scenic resource visited by *large numbers* who *come from across the country or state* with the *purpose of enjoying their visual quality* is generally considered to have national or statewide significance. A scenic resource visited primarily by people of local origin is generally of local significance. (Chapter 315, 2003) *(emphasis added)*.

More recently, the Governor's Task Force on Wind Power Development laid the groundwork for the Maine Wind Power Development Act (PL 2007 c.661). This legislation recognizes the inherent value in scenic resources of statewide or national significance and focuses attention on the public value that the state places on the continued use and enjoyment of these resources.

Schoodic Point, Acadia National Park

See Appendix A for the full text of the Wind Power Law's definition of scenic resources of state or national significance contained in 35-A MRSA § 3451.

As noted earlier, there have been a number of inventories of Maine landscapes that identified significant visual resources using established methodologies. See the publication list in Appendix H, References.

Ranking: Local, Regional, or Statewide / National Significance

The State Planning Office's methodology provides an objective way to evaluate and score scenic areas, and then rank them in a geo-regional setting. Taking the next step to use the inventory for a specific purpose may require further evaluation and analysis to establish levels of significance (e.g., local, regional, statewide, or national) to assist in the prioritization process.

Adding the points from both the office and field evaluations will produce a numeric

score (with a maximum of 100 points) to be used in determining scenic significance within a designated region.

Local Significance. Areas that score in the 30's and 40's are generally of local (i.e., town-wide) significance. While theses areas may help define the community's characteristic landscape, they are unlikely to attract visitors from outside the immediate locale for their scenic value alone.

Regional Significance. Areas that achieve scores in the 50's and 60's may be considered of regional (i.e., greater than local) value, but usually are not considered of state-wide significance for their scenic character alone. Individual sites with scores in the upper range may warrant further consideration.

Statewide or National Significance. Places that achieve scores of 70 or greater have scenery that may be considered of statewide or national significance. These tend to be areas with exemplary combinations of landform, water bodies, vegetation, and cultural characteristics.

In other instances, such as local comprehensive planning, the scores should be considered as one factor in judging significance. Additional criteria are discussed below.

In the case of a scenic inventory prepared by or for State Planning Office under rules adopted pursuant to Title 35-A MRSA §

Scenic area of local significance

Scenic area of regional significance

Scenic area of state or national significance

3457, a *scenic area* that achieves a score of 70 or more shall be considered of state or national significance for the purpose of identifying *scenic viewpoints* within coastal areas that are ranked as having statewide or nationally significant scenic qualities as defined by Title 35-A MRS § 3451(9)(H). Chapter 8 discusses how scenic viewpoints are identified and evaluated as part of the inventory process.

Additional Criteria and Considerations

Two additional criteria can be useful in some instances to make a determination of the relative importance of scenic areas: 1) Visual Accessibility and Use, and 2) Public Recognition.

Visual Accessibility and Use

The first test determines how visually accessible the area is and its relative use by the general public. A rating of high, medium, or low is assigned, based upon the criteria discussed below. By definition, all lands that are identified as scenic areas are either on public land, are open to the public, or are visible from public viewpoints.

At the 'high' end of the spectrum are scenic areas that are fully or mostly visible from major public vantage points, e.g., on or adjacent to main highways; historic districts and village centers; major hiking trails with established, well-marked trailheads. Water bodies are easily accessed through boat

Scenic area with high visual access

launches, harbors, or marinas open to the public. The public is typically present in relatively high numbers and enjoy good visual, if not physical, access.

Scenic areas that are considered 'low' for public accessibility and use may be located on unimproved roads or other passable roads (see *Maine Atlas and Gazetteer*), hiking trails that are very remote and/or receive little use, water bodies that have no public

Scenic area with low visual access

access. While these areas may have memorable visual characteristics (i.e., highly scenic), they may not be considered of statewide or national significance since the general public is usually unaware of them. Increased visitorship to these often-fragile areas could very well have a negative effect on the very qualities that local people find so attractive.

Public Recognition

The **second test** determines whether the public generally recognized the area for its scenic qualities. Scenic areas that are generally recognized by the public have 'high' public recognition; those that are little known or unknown outside the local community are considered 'low'. There are many ways to determine the level of public recognition. There should be a preponderance of evidence that demonstrates that the public is well aware of the area and recognizes its scenic value.

Surveys. Visual preference surveys conducted at public meetings during the course of scenic inventories can be a reliable way to identify the most significant landscapes within a given region.

Comprehensive Plans. Many communities have conducted scenic inventories as part of their comprehensive planning process. The results may vary widely, from informal surveys of viewpoints conducted by a limited number of people familiar with the community to professionally assisted inventories that follow a rigorous methodology to identify scenic areas.

Official Recognition. This category includes land that has been recognized at the state or national level for its scenic value: State and National Parks, Appalachian National Scenic Trail (Appalachian Trail), properties listed on the National Register of Historic Places, Scenic Byways (Maine and Federal), lands that have been recognized and protected by the Land for Maine's Future Program for their scenic qualities.

Arts and Literature. Maine's remarkable landscape has inspired artists, poets, writers, photographers, and other creative individuals for the past two centuries. Winslow Homer, Rockwell Kent, Henry David Thoreau, Andrew and Jamie Wyeth, Thomas Church, Eliot and Fairfield Porter, and countless others have created masterworks

Penobscot Narrow Bridge, from Prospect overlook

that celebrate significant places in Maine. Contacts with local libraries, historic societies, museums, and other cultural institutions can provide information on inspirational settings of recognized value.

Olson House, Cushing

Publications. Most bookstores in Maine carry a wide assortment of guidebooks and other publications that list places of recognized scenic quality. The *Maine Atlas and Gazetteer*, for example, describes and locates parks, recreation areas, hiking trails, unique natural areas, scenic waterfalls, lighthouses, and historic forts throughout the state. While many of these places are not necessarily known for their scenic qualities, the lists provide a good starting point for collecting sites that are publicly recognized. The other caveat in using these types of publications is that not all the sites are on public lands or in locations where the public has ready access.

Statewide or National Significance

Where an additional level of prioritization is deemed appropriate, scenic areas that have achieved a score of 70 or greater can be tested for Visual Accessibility & Use and Public Recognition, as noted above. Those areas that have both medium to high public recognition and medium to high visual accessibility and use may be considered scenic areas of statewide or national significance. (See chart below.)

VISUAL ACCESSIBILITY & USE

PUBLIC RECOGNITION	High	Med	Low
High			
Med			
Low			

8. Scenic Viewpoints

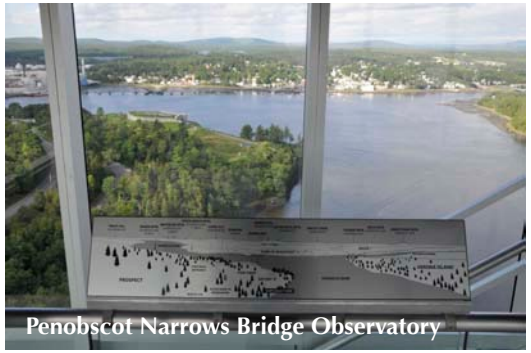
Scenic viewpoints – the places that allow the viewer to get a visual 'snapshot' of the scenic area of state or national significance – are noted as part of the scenic inventory process. Scenic *areas* tend to be rather extensive, ranging from several dozen acres to hundreds or even thousands of acres in size. Viewpoints, on the other hand, are usually discrete places, often less than an acre in size, that allow the public to see most or all of the scenic resources within the scenic area.

The chart on the following page is provided to help identify viewpoints of state or national significance, for purposes of the Maine Wind Power Law. The chart is based upon *A Proposed Method for Coastal Scenic Landscape Assessment* (Dominie 1987). The values should be adjusted to account for regional variations in landform, shoreline configuration, and cultural features, as discussed on p. 20.

Bar Harbor overlook

The methodology evaluates a number of characteristics of each viewpoint:

Viewer Elevation Above Water: A measure of the relative grade change between the observer and the waterfront below.


Penobscot Narrows Bridge Observatory

Discordant Elements: The absence of power-lines, inharmonious commercial development, clear-cuts, and other physical changes which affect the perception of the place.

Viewing Distance: The distance that the observer sees into the landscape, corresponding to the concept of Foreground, Midground, and Background viewing distances.

Distance to Water: The relative distance that the observer is to the visible portion of the waterbody in the landscape.

Viewing Angle: The horizontal angle of the landscape visible from the viewpoint. The most memorable viewpoints are panoramas from 180º to 360º.

Water Characteristics: The type and relative complexity of waterbodies visible from the viewpoint.

Visual Interest: The presence or absence of hills or mountains; the amount of shoreline configuration; and the number of scenic features visible from the viewpoints.

The results of this evaluation are recorded and tabulated for each viewpoint. The Viewpoint Scoring chart on the following page provides an initial determination of

page provides a determination of significance.

A viewpoint in the coastal area that: a) is located within a scenic area of statewide or national significance (score of 70 or more points, See Chp. 7); and b) is deemed "distinctive" or "highly distinctive" shall be considered a scenic view point for purposes of Title 35-A MRS, Section 3451(9)(H)(2).

VIEWPOINT SCORING

Common: 1-10 points
Noteworthy: 11-21 points
Distinctive: 22-35 points
Highly Distinctive: >36 points

	Common	**Noteworthy**	**Distinctive: of Statewide significance**	**Distinctive: Greater than statewide interest**
Viewer Elevation above water	**1 point** 0 to 50 feet	**2 points** 50 to 200 feet	**4 points** 200 to 400 feet	**6 points** >400 feet
Discordant Elements	**1 point** Several within foreground Others may be visible in mid- and background	**2 points** Discordant elements visible but not dominant	**4 points** None within foreground Those in midground or background not dominant	**6 points** None within foreground Those in midground or background not dominant
Viewing Distance	**1 point** Views limited to foreground (within 1/2 mile)	**2 points** Up to 2 miles	**4 points** Up to 4 miles	**6 points** Greater than 4 miles
Distance to Water	**1 point** > 4 miles away	**2 points** 1/2 to 4 miles away	**4 points** Less than 1/2 mile away	**6 points** Less than 1/4 mile away
Viewing Angle	**1 point** Up to 45º	**2 points** 45º to 90º	**4 points** 90º to 120º	**6 points** More than 180º
Water Characteristics	**1 point** Small freshwater body, or only wetlands Little visual diversity	**3 points** Moderate waterbody of fresh or salt water Horizon open or closed No associated wetlands	**5 points** Large waterbody of fresh or salt water Horizon open or closed Associated wetland	**7 points** Large waterbody, with associated wetlands Combination of open and closed horizons
Visual Interest	**1 point** No landforms >200' in view Shoreline linear or low configuration One or no scenic features visible	**3 points** Landforms >200' in midground or background Shoreline exhibits moderate configuration One scenic feature in midground	**5 points** Significant landforms (>400') are visible, but not dominant Shoreline moderate to highly configured Two scenic features within midground	**7 points** Significant landforms (>400') dominant part of view) Shoreline highly configured At least 3 scenic features in midground

Appendices

A. Legislative and Other Initiatives

B. Research

C. Biophysical Regions of the Maine Coast

D. Site Photography

E. Site Inventory Template

F. Site Evaluation Form

G. Glossary of Terms

H. References

A. LEGISLATIVE AND OTHER INITIATIVES

Since the mid-1990's the State Planning Office has not conducted further scenic inventories. However, Maine's scenic resources – on both land and the water – are encountering ever-increasing pressure from residential development, energy proposals (e.g., LNG terminals, wind power facilities, tidal and wave energy projects), shoreline stabilization projects, aquaculture, and other landscape-scale developments. Local governments as well as state and federal agencies are struggling to keep up with the scale and scope of projects that have the potential to create dramatic changes to the local and regional landscape.

Based upon a review of the inventories that have been completed to date, the basic methodology developed by Dominie et al. is still very workable. However, there are opportunities to make improvements, especially as legislative bodies are making more widespread use of the inventories and better mapping and analysis tools are becoming available.

A number of legislative initiatives and local actions in the past two decades have been considered in updating the original methodology. These are described more fully below.

Municipal Comprehensive Planning

The Growth Management Act was established by the Legislature in 1988 to "*promote and protect the health, safety and welfare of the citizens of the State.*" In doing so, the Legislature found that it is in the best interests of the State to "*protect the state's other critical natural resources, including without limitation, wetlands, wildlife and fisheries habitat, sand dunes, shorelands,* ***scenic vistas****, and unique natural areas.*" (Emphasis added.) MRSA Title 30-A, §4312.3F.

Over the past two decades, more than 250 Maine communities have completed or updated their comprehensive plans. From a scenic inventory standpoint, the results have been somewhat mixed. A few towns have gone to great lengths to inventory and map their scenic and cultural resources. However, on the other hand, many have simply listed places that the comprehensive planning committee considered to be of local significance.

The Comprehensive Planning and Land Use Regulation Act requires that each municipality's Comprehensive Plan must include an inventory and analysis of *Significant or critical natural resources, such as wetlands, wildlife and fisheries habitats, significant plant habitats, coastal islands, sand dunes,* ***scenic areas****, shorelands, heritage coastal and unique natural areas.* (Emphasis added.) MRSA Title 30-A, §4326.1.C.

In response to concerns expressed at the local level about the effectiveness of the comprehensive planning process, the State Planning Office issued An Evaluation of the Growth Management Act and Its Implementation in response to Resolve 2004, Chapter 73 Joint Standing Committee on Natural Resources 122nd Legislature. One of the key recommendations of this study is to "provide towns and regional agencies with better tools, data, and assistance."

This document should be seen as a positive response to the Chapter 73 resolve by providing current tools to municipalities to be used in their comprehensive planning process.

Natural Resources Protection Act

When the Maine Legislature passed the Natural Resources Protection Act (NRPA) in 1987 they found that:

"the State's rivers and streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands and coastal sand dune systems are resources of state significance. <u>These resources have great scenic beauty and unique characteristics</u>, unsurpassed recreational, cultural, historical, and environmental value of present and future benefit to the citizens of the State.

The Legislature further finds and declares that there is a need to facilitate research, develop management programs and establish sound environmental standards that will prevent the degradation of and encourage the enhancement of these resources. It is the intention of the Legislature that existing programs related to Maine's rivers and streams, great ponds, fragile mountain areas, freshwater wetlands, significant wildlife habitat, coastal wetlands and sand dunes systems continue and that the Department of Environmental Protection provide coordination and vigorous leadership to develop programs to achieve the purposes of this article. The well-being of the citizens of this State requires the development and maintenance of an efficient system of administering this article to minimize delays and difficulties in evaluating alterations of these resource areas.

The Legislature further finds and declares that the cumulative effect of frequent minor alterations and occasional major alterations of these resources poses a substantial threat to the environment and economy of the State and its quality of life." (Emphasis added.) MRSA Title 38. §480-A.

The Legislature's recognition of the scenic beauty of these protected natural resources through statute underscores their appreciation of the inherent visual quality of our state and its value to the general population.

NRPA, Chapter 315

Chapter 315 of the NRPA, Assessing and Mitigating Impacts to Existing Scenic and Aesthetic Uses, provides the Maine Department of Environmental Protection (MaineDEP) with a set of rules to evaluate impacts to existing scenic and aesthetic uses from certain activities on, over, or adjacent to designated scenic resources. Scenic Resources are defined as *Public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment, and appreciation of natural or cultural visual qualities.* The statute provides the following list of scenic resources that includes, but is not limited to, locations of national, State, or local scenic significance.

A. National Natural Landmarks and other outstanding natural and cultural features (e.g., Orono Bog, Meddybemps Heath);

B. State or National Wildlife Refuges, Sanctuaries, or Preserves and State Game Refuges (e.g., Rachael Carson Salt Pond Preserve in Bristol, Petit Manan National Wildlife Refuge, the Wells National Estuarine Research Reserve);

C. A State or federally designated trail (e.g., the Appalachian Trail, East Coast Greenway);

D. A property on or eligible for inclusion in the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended (e.g., the Rockland Breakwater Light, Fort Knox);

E. National or State Parks (e.g., Acadia National Park, Sebago Lakes State Park);

F. Public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment and appreciation of natural or cultural visual qualities.(e.g., great ponds, the Atlantic Ocean).

Scenic resources visited by large numbers of people who come from across the country or state is generally considered to have **national or statewide significance**. A scenic resource visited primarily by people of local origin is generally of **local significance**. Unvisited places either have no designated significance or are "no trespass" places.

As communities complete their own scenic inventories, Chapter 315 could provide them with a workable tool to evaluate possible visual impacts from development activities. Since the Scenic Rules went into effect in 2003, they have been used to evaluate transmission lines, docks, energy facilities, and other development proposals adjacent to scenic resources.

Local Option Property Tax Reimbursement

In November 1999, Maine voters approved enabling legislation (Sec. 1. 30-A MRSA 5730) authorizing local option property tax reimbursements for historic and scenic preservation. This law allows a municipality to *"reimburse taxpayers for a portion of taxes paid on real property if the property owner agrees to maintain the property in accordance with criteria that are adopted by ordinance by the governing legislative body of the municipality and that provide for maintaining the historic integrity of important structures or providing a scenic view. The Maine Historic Preservation Commission (MHPC) shall provide guidance, if requested by a municipality, in implementing this section."* MRSA Title 30-A. §5730.

MHPC has prepared a Guidelines for Municipalities that outlines four basic steps that municipalities may choose to follow in implementing this law. The second step, Adopt Implementing Ordinance, provides municipalities with criteria, based upon their comprehensive plan, for designating historic structures and scenic views and for maintaining the historic integrity of important structures or providing a scenic view. The Guidelines recognizes the State Planning Office as the agency to go to for guidance in identifying areas with scenic value and anticipates that communities will have a process to designate such areas.

Scenic View - A property is qualified for inclusion under this section if, at the time the municipality reimburses the owner for a portion of taxes, one of the following apply:

- *It is an area identified by the State Planning Office as having scenic value.*
- *It is a locally designated view or view corridor from a public place.*
- *It is a locally designated natural or cultural feature in an identified view corridor (i.e., churches, lighthouses, fields, mountains, islands, etc.).*
- *It is a locally designated part of a municipality that contributes to the character of the town (i.e., village square, historic sites, etc.).*

The Guidelines offers the following definition of *Scenic View: Scenic resources of a community are the attributes that give it identity and make it an appealing place to live. They may be specific, extraordinary views, or they may be vistas of segments of the community.*

Wind Power Law

The Governor's Task Force on Wind Power Development was charged with developing an approach to the siting and development of wind energy facilities that responded to our growing energy needs while not compromising the resources that make Maine the special place that it is.

The Task Force recommended an approach that would reward well-sited projects with an expedited review. This approach would require a visual impact assessment (designed specifically for wind energy projects) when turbines would be visible from scenic resources of state or national significance. The Task Force recommendations were adopted by the Legislature and became the basis for 35-A MRSA Chapter 34-A: *An Act to Implement Recommendations of the Governor's Task Force on Wind Power Development.*

The Act defines "Scenic resource of state or national significance" as an area or place owned by the public or to which the public has a legal right of access that is:

A. A national natural landmark, federally designated wilderness area or other comparable outstanding natural and cultural feature, such as the Orono Bog or Meddybemps Heath;

B. A property listed on the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended, including, but not limited to, the Rockland Breakwater Light and Fort Knox;

C. A national or state park;

D. A great pond that is:

(1) One of the 66 great ponds located in the State's organized area identified as having outstanding or significant scenic quality in the "Maine's Finest Lakes" study published by the Executive Department, State Planning Office in October 1989; or

(2) One of the 280 great ponds in the State's unorganized or deorganized areas designated as outstanding or significant from a scenic perspective in the "Maine Wildlands Lakes Assessment" published by the Maine Land Use Regulation Commission in June 1987;

E. A segment of a scenic river or stream identified as having unique or outstanding scenic attributes listed in Appendix G of the "Maine Rivers Study" published by the Department of Conservation in 1982;

F. A scenic viewpoint located on state public reserved land or on a trail that is used exclusively for pedestrian use, such as the Appalachian Trail, that the Department of

Conservation designates by rule adopted in accordance with section 3457

G. A scenic turnout constructed by the Department of Transportation pursuant to Title 23, section 954 on a public road that has been designated by the Commissioner of Transportation pursuant to Title 23, section 4206, subsection 1, paragraph G as a scenic highway; or

H. Scenic viewpoints located in the coastal area, as defined by Title 38, section 1802, subsection 1, that are ranked as having state or national significance in terms of scenic quality in:

(1) One of the scenic inventories prepared for and published by the Executive Department, State Planning Office: "Method for Coastal Scenic Landscape Assessment with Field Results for Kittery to Scarborough and Cape Elizabeth to South Thomaston," Dominie, et al., October 1987; "Scenic Inventory Mainland Sites of Penobscot Bay," Dewan and Associates, et al., August 1990; or "Scenic Inventory: Islesboro, Vinalhaven, North Haven and Associated Offshore Islands," Dewan and Associates, June 1992; or

(2) A scenic inventory developed by or prepared for the Executive Department, State Planning Office in accordance with section 3457.

Internal Revenue Service Tax Code: Section 170(h)

The Internal Revenue Service (IRS) in Section 170(h) of the tax code allows landowners to take a tax deduction when they sell their land for less than market value or donate a perpetual conservation easement on it, "exclusively for conservation purposes." In developing the qualification and restrictions for easements, the IRS recognized the importance of scenic inventories. The following section is taken from the IRS Code (emphasis added).

The donation of a qualified real property interest to preserve open space (including farmland and forest land) will meet the conservation purposes test if such preservation is:

(A) Pursuant to a clearly delineated Federal, state, or local governmental conservation policy and will yield a significant public benefit, or

(B) For the scenic enjoyment of the general public and will yield a significant public benefit.

Scenic Enjoyment. Preservation of land may be for the scenic enjoyment of the general public if development of the property would impair the scenic character of the local rural or urban landscape or would interfere with a scenic panorama that can be enjoyed from a park, nature preserve, road, waterbody, trail, or historic structure or land area, and such area or transportation way is open to, or utilized by, the public. ``Scenic enjoyment'' will be evaluated by considering all pertinent facts and circumstances germane to the contribution. Among the factors to be considered are:

(1) The compatibility of the land use with other land in the vicinity;

(2) The degree of contrast and variety provided by the visual scene;

(3) The openness of the land (which would be a more significant factor in an urban or densely populated setting or in a heavily wooded area);

(4) Relief from urban closeness;

(5) The harmonious variety of shapes and textures;

(6) The degree to which the land use maintains the scale and character of the urban landscape to preserve open space, visual enjoyment, and sunlight for the surrounding area;

(7) *The consistency of the proposed scenic view with a methodical state scenic identification program, such as a state landscape inventory*; and

(8) *The consistency of the proposed scenic view with a regional or local landscape inventory made pursuant to a sufficiently rigorous review process*, especially if the donation is endorsed by an appropriate state or local governmental agency.

Visual (rather than physical) access to or across the property by the general public is required, although the entire property need not be visible to the public for a donation to qualify. However, the public benefit from the donation may be insufficient to qualify for a deduction if only a small portion of the property is visible to the public.

Significant Public Benefit. All contributions made for the preservation of open space must yield a significant public benefit. Among the factors to be considered are:

(1) The uniqueness of the property to the area;

(2) The intensity of land development in the vicinity of the property (both existing development and foreseeable trends of development);

(3) The consistency of the proposed open space use with public programs (whether Federal, state or local) for conservation in the region, including programs for outdoor recreation, irrigation or water supply protection, water quality maintenance or enhancement, flood prevention and control, erosion control, shoreline protection, and protection of land areas included in, or related to, a government approved master plan or land management area;

(4) The consistency of the proposed open space use with existing private conservation programs in the area, as evidenced by other land, protected by easement or fee ownership by organizations referred to in Section 1.170A-14(c)(1), in close proximity to the property;

(5) The likelihood that development of the property would lead to or contribute to degradation of the scenic, natural, or historic character of the area;

(6) The opportunity for the general public to use the property or to appreciate its scenic values;

(7) The importance of the property in preserving a local or regional landscape or resource that attracts tourism or commerce to the area;

(8) The likelihood that the donee will acquire equally desirable and valuable substitute property or property rights;

(9) The cost to the donee of enforcing the terms of the conservation restriction;

(10) The population density in the area of the property; and

(11) The consistency of the proposed open space use with a legislatively mandated program identifying particular parcels of land for future protection.

Critical Areas Program

The CAP was a voluntary program in the 1970's and 1980's whereby a landowner could register property with the State if it contained features of botanical, zoological, or geological interest. The scenic inventory process was initiated to include areas of scenic significance in the program. However, the Critical Areas Program no longer exists. Many of its functions and data collections were taken over by the Maine Natural Areas Program.

The Critical Areas Program published the results of these studies through their Planning Reports series. Photographic records were archived by the State Planning Office.

Maine Coast Protection Initiative

The Maine Coastal Program of the State Planning Office received a grant from the Maine Coast Protection Initiative to review and update the methodology that had been developed in the late 1980's/early 1990's to identify, inventory, evaluate, and prioritize scenic resources along the Maine Coast. The updated methodology forms the basis for this handbook, which is designed to provide guidance for future scenic inventories in Maine.

A significant outcome of this work is an analytical approach to prioritizing scenic resources for land conservation purposes. This project is seen as an important compo-

nent in a larger effort to support land conservation efforts along the Maine Coast.

Maine Land Trust Network

Maine has one of the strongest Land Trust movements in the country. In 1995, Maine Coast Heritage Trust established the Maine Land Trust Network (MLTN) to provide communications and coordination to the State's land trusts. The Network is a source of technical information on land conservation techniques, providing knowledge of the latest standards and practices among land trust managers and conservation professionals. It is anticipated that land trusts throughout Maine will use this document as they set conservation priorities for future decades.

Local Initiatives

Over the past two decades Maine citizens have shown an increasing awareness and appreciation of visual quality. Planning Boards, comprehensive planning committees, and individual citizens are recognizing the need to have accurate, defensible data to help make decisions that may affect the scenic resources of their communities.

- **Visual Impact Assessments** and **Site Plan Review Ordinances**. Some local Site Plan Review ordinances require visual impact assessments in certain cases (e.g., cellular communications towers) to demonstrate how development proposals could affect the visible landscape.

- **Design standards**. Many communities have enacted design standards for new development that recognize the uniqueness of their particular setting. See *Prioritizing Local Scenic Resources - Community Based Performance Standards*, available at the SPO website: www.maine.gov/spo/landuse/docs/publications.htm

- **Conservation subdivision ordinances** are becoming more common as towns are looking for ways to protect their scenic and other natural resources.

- **Photosimulations** and other visualization techniques are being routinely requested by Planning Boards to demonstrate how development proposals are being designed to address visual quality concerns and potential loss of community character.

B. RESEARCH

The field of visual assessment has matured considerably over the past several decades. There has been a substantial amount of research into the way people perceive their visual surroundings and what people perceive to be scenic in the American landscape.

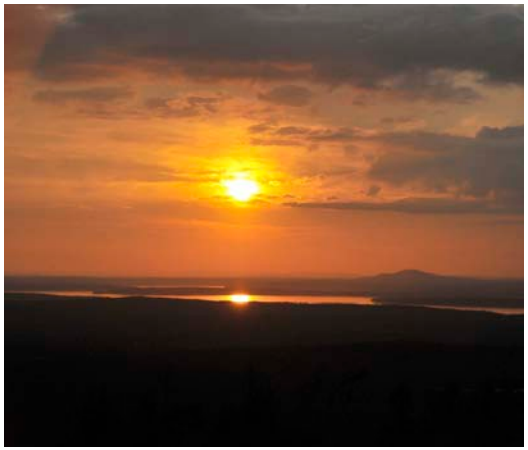
Holly Dominie identified eight indicators of scenic quality, based upon extensive research, that became part of the original State Planning Office methodology (Dominie, 1987):

1. Landform. Some aspect of landform is nearly always a major factor in expert-based scenic assessments. Past measures have included landform variety (USDA Forest Service, 1974), landform type (Linton, 1968), steep topography (Lewis, 1963), and others. These studies have assumed that as relief or slope increases, the scenic value of a place will also increase. This assumption has generally been validated in public preference tests. Zube et al. (1974) found that along with land-use diversity and naturalism, relative relief was an important predictor of scenic preference. This finding has also been supported in research by Miller (1984), Pitt (1976), Pearce & Walters (1983), and others.

2. Open Land. Open land is defined here as existing or abandoned agricultural land or wetland. Open land was inventoried for the scenic assessment for a number of reasons. Land use diversity, especially agricultural and natural land uses, has been shown to be an important predictor of scenic preference (Zube, 1973). Open space in a landscape which is mostly forested, as in Maine, adds visual variety, complexity, and interest. In general, variety, complexity, or diversity are all accepted and frequently used indicators in scenic assessments (Litton, 1982; US Forest Service, 1974; Barringer, 1982), and have withstood the scrutiny of empirical testing (e.g. Kaplan, Kaplan & Wendt, 1972; Miller, 1984; McCarthy, 1979). Open areas in the Maine coastal landscape also take on special significance in that they frequently provide visual access to the water.

3. Shoreline Configuration. Configuration refers to the amount of irregularity in the shoreline. Shorelines with coves, points, islands, promontories, bays, peninsulas, and other features are considered more configured than those with straight, uncomplicated shorelines. Shoreline landscape assessments nearly always include some measure of shoreline configuration as an indicator of scenic value (Harper et al. 1978; Mann, 1975). There is little direct support for this measure in the research, but there is considerable evidence of a broader nature. As mentioned previously, complexity is a widely accepted determinant of preference; configuration increases complexity. Another aspect underlying shoreline configuration is that of enclosure. Those areas showing high configuration tend to give the perceiver a stronger feeling of being enclosed by the landscape. This landscape characteristic has been shown to be related to scenic preference (Ward, 1977; Pearce & Waters, 1983; Gobster, 1986).

4. Special Scenic Features. Special scenic features are natural or cultural features which, by their mere presence, have a positive influence on people's perception of scenic quality. Examples include beaches, lighthouses, harbors, and historic sites (Pemaquid, 1986; Sterling, 1935), historic forts (Maine Atlas, 1985), working harbors (Acheson, 1978; DOT 1978 & 1986, Merril, 1986 pers. comm.), historic wrecked schooners (Maine Atlas, 1985); Maine Geological



Survey, 1986). Expert-based scenic shoreland assessment often includes cultural and natural features of this type in their checklists criteria (Harper et al. 1978; Lewis, 1963). There is evidence that cultural features hold symbolic meaning for society and influence public perceptions of the visual quality of an area (Anderson, 1981). There is also considerable evidence that shows beaches are a highly preferred type of shoreland scenery. In Zube & McLaughlin's Virgin Island Study (1978) sand beaches ranked highest over 15 coastal types. Studies by Palmer (1978) in Massachusetts and Banerjee and Bollub (1976) in California agree.

5. Views of Water from Major Roads. The presence of water can be a powerful predictor of scenic preference (Kaplan, 1977; Litton et al. 1971). Some researchers have shown that view quality can depend on specific characteristics of the view in relation to the observer. Litton (1972) suggests that two of these characteristics include the position of the observer in relation to the focus of a view, and the distance one can see in a view. "Superior" views, views in which the observer is looking down upon the landscape, and views that one can see for a long distance, often have higher scenic value that those that are blocked or partially enclosed. Federal land management agencies have developed methods for visual resource evaluation rating to how long a view lasts and the size of the resource seen. They contend that lands which more people see for long periods of time and during periods of recreational activity are more aesthetically important that those which few people see or are seen for only short periods of time. Lands with the highest sensitivity include areas seen from major roads for long duration. By this same rationale, large water bodies have higher value than smaller ones because more people see them (USDA Forest Service, 1974).

6. Land Use. Land uses encompass the changes people make to the landscape. Perception studies conducted under the auspices of the USDA Soil Conservation Service for towns in Massachusetts (Dominie, 1976; Palmer, 1978; and USDA SCS, 1978) identify many cultural modifications of the environment that either detract or contribute to scenic quality. Pastoral, symbolic features, and traditional uses, are positive components while landscape scars and obtrusive structures are detractors, for instance. Land use compatibility, the degree to which development is visually unified with its setting, also has a positive influence on perceptions (Nassauer, 1978). Overall condition is a measure of how well the landscape is cared for.

7. Vegetation. Visually interesting or functional vegetation is frequently included in visual assessments. The presence of vegetation used for screening and softening the built environment has been documented as a positive influence on perceptions (Palmer, 1978). Other research has shown that forest and field edges, agricultural patterns, and manicured landscapes are also positive predictors of scenic quality (Zube, Pitt, and Anderson, 1974).

8. Landscape Composition and Effect. The overall effect of the landscape is important as well. The better the coherence and ease with which a landscape and its parts are understood (Kaplan R., 1975), the higher the mystery (Kaplan, R., 1975) and land use diversity (Zube, 1973), and the greater the degree of naturalism (Zube, 1973; Kaplan et al. 1972), the more scenic an area is likely to be perceived. Roads that change elevation are also considered more scenic (Palmer, 1978).

C. BIOPHYSICAL REGIONS OF THE MAINE COAST

The following is taken from McMahon, J.S. *The biophysical regions of Maine: Patterns in the landscape and vegetation.* M.S. Thesis. University of Maine, Orono, Maine. 1990. See the Eco-Regions map of Maine on page 3 for a location of each of the four regions.

SOUTH COASTAL REGION

Physiography

The South Coastal Region parallels the Gulf of Maine in a 20 mile wide band that extends from Kittery to Cape Elizabeth. The physiography of this region is markedly different from points east. The Atlantic coastal plain, which is broad and clearly defined in states to the south, reaches its eastern extent near Portland. As a result, the South Coastal Region is characterized by a relatively smooth coastline of large headlands, broad arcuate bays, and sand beaches. The terrain is relatively flat with elevations rarely rising above 100′. Higher elevations occur on a pluton located near the headwaters of the York River and Goose Rocks Stream. Mount Agamenticus, which reaches an elevation of 691′, is the highest point in the region. Bedrock is composed primarily of low-grade metasedimentary

rock that has been intruded by three large plutons composed of granite or syenite.

Climate

The climate of the South Coastal Region is the mildest in Maine. The number of heating days (3900) is greater, the frost-free period (160-170 days) is longer, and mean maximum July temperature, 83° F, is wamer than elsewhere in the state. Winters are also relatively mild with a mean minimum January temperature of 14° F and an average annual snowfall of 55″, which is less than all the other regions and less than half the state average. Although mean annual precipitation (45″) is about average for the state, warm summer temperatures result in a relatively small moisture surplus (<1.2″). This region also experiences less than half the fog of the East Coastal Region.

Surficial Geology and Soils

Along the immediate coast, soils are generally deep sands (where beaches occur) or shallow sandy loams that are well to excessively drained. Coarse loams, very shallow Abram soils occur on hill tops; coarse, somewhat excessively drained, shallow Lyman soils occur on midslopes; and deeper (20″-40″), well-drained Tunbridge soils can be found on lower slopes. Inland, deeper sandy soils derived from glaciofluvial material are typical. The most extensive coarse-grained glaciomarine deposits in the state occur in the central portion of the South Coastal Region and along its western margin. Deep, excessively drained sandy-gravelly Colton soils and sandy Adam soils are common in this area, especially in the vicinity of the Kennebunk Plains, a glaciomarine delta. Poorly drained Naumburg soils and scattered organic deposits have developed in the region's many kettles and depressions.

The southwestern portion of this region and the Southwest Interior contain the only soils with mesic temperature regime (an average annual soil temperature of >45° F and <60° F) in the state.

Vegetation and Flora

The vegetation of the South Coastal Region resembles that of the Atlantic Coastal Plain. Ecosystems that reach their northern exten-

sions here include sandplain grasslands and oak-hickory forests. This is the only part of the state where *Quercus alba* and *Carya ocata* occur in large stands. The largest coastal pitch pine communities in Maine occur on excessively well-drained, nutrient-poor sandy soils in Scarborough, Kennebunk, and Wells. Small stands of pitch pine-scrub oak and the state's most extensive salt marshes are also located in this region.

Subarctic maritime species that reach southern limits in the South Coastal Region include *Empetrum nigrum, Hudsonia ericoides,* and *Mertensia maritima.* In addition, the distribution of several coastal species associated with sand beaches extends along the mid and southern coasts, including *Artemesia caudata, Euphorbia polygonifolia,* and *Hudsonia tomentosa.* An ecosystem that is believed to reach its southern limit here is the raised bog.

MIDCOAST REGION

Physiography

The Midcoast Region extends from Cape Elizabeth to Pemquid Point and inland approximately 20 miles from the Gulf of Maine. It is a landscape of flat to gently rolling terrain with elevations ranging from sea level to 200′ and averaging 100′. From Sheepscot Bay to Bailey Island, where bedrock is frequently exposed or covered by

thin drift, low but more rugged topography is typical.

This portion of the coast, which is characterized by long narrow peninsula and islands, is a classic example of a drowned coastline. The northeast-southwest trending valleys and ridges reflect the strike of the underlying bedrock. Most of the region is underlain by highly metamorphosed sandstones and pelites. Long ridges are typically the crests of sharply folded layers of bedrock, while softer sediments that accumulated in concave portions (synclines) have been eroded into long valleys. Granitic plutons are small and widely scattered. Outcrops of metavolcanic rocks occur north and inland of Casco Bay.

Climate

The temperature regime of the Midcoast Region resembles that of the Penobscot Bay Region. Mean maximum July temperature is 79º F, with a slight decrease in temperature from west to east. The mean minimum January temperature of 13º F is slightly warmer than that of the two regions to the east, while annual precipitation (45″) is noticeably less. Average annual snowfall (74″) is higher here than in other coastal regions. The average number of heating degree days (3500) is substantially higher than in the East Coastal Region.

Surficial Geology and Soils

Headlands and ridges are typically covered with shallow (10-20″) somewhat excessively drained Lyman fine-sandy loams and very shallow Abram sandy loams. Well-drained, coarse loamy Tunbridge soils generally occur on midslopes where till is derived from schists and gneiss. Finer grained, moderately well-drained Buxton soils occur over glaciomarine deposits at middle elevations. Deep, often highly-dissected glaciomarine clays and silts are common in low-lying areas.

Vegetation and Flora

The vegetation of the Midcoast region reflects the moderating influence of the Gulf of Maine. Summer temperatures are cooler and seasonal rainfall higher than inland regions and fog is a frequent occurrence. The southernmost extent of the coastal spruce-fir forest, which occurs in Harp-

swell, can be attributed to this. This ecosystem type is limited to a few small but representative stands. Another vegetation type that is well-developed along this portion of the coast is the coastal pitch pine community. *Pinus rigida,* and a common associate *Corema conradii,* grow on sand dunes and bedrock outcrops in the coastal zone. Both moderate winter temperatures and thin and excessively well-drained soils are thought to contribute to this ecosystem's presence here.

Woody species that reach their northern limits along this portion of the coast include *Hudsonia tomentosa, Lonicera dioica, Nyssa sylvatica, Quercus coccinea, Rhus copallina, Sassafras albidum, Smilax rotundifolia,* and *Toxicodendron vernix.* Woody species richness averages 191 species, the highest in the state.

PENOBSCOT BAY REGION

Physiography

The Penobscot Bay Region, which is bounded by Pemaquid Point to the west and Brooklin to the east, includes the shorelines and islands of Penobscot and Muscongus Bays and extends approximately 20 miles inland from the Gulf of Maine. The terrain is knobby, with frequent bedrock outcrops and several small mountains. Average elevation is 200′. Topographic highs, which occur at the tops of the granitic plutons and form the Camden Hills and the Blue Hill Peninsula, include Mt. Megunticook (1385′) and Blue Hill (934′). The bedrock of Penobscot Bay east shore and the Muscongus Bay area is predominately granite and the west shore of Penobscot Bay and Pemaquid Point are composed of metamorphosed pelites and sandstones. Metavolcanic rocks are restricted to the Cape Rosier area.

Climate

In most respects, the climate is intermediate between that of the East Coastal and Midcoast Regions. Although there is a distinct maritime influence, with high annual precipitation and frequent fog, higher summer temperatures result in a lower moisture surplus than in the East Coastal Region. Mean maximum temperature in July is 77º F , which is approximately 4º F warmer than the East Coastal Region and slightly cooler than the midcoast. Mean minimum temperature in January is 11º F, approximately 2º cooler than the East Coastal Region. Although average annual precipitation (49″) is higher than in any other region, average annual snowfall (63″) is less than that of the East and Midcoast Regions. This region also has a shorter growing season (140 days) than abutting coastal regions.

Surficial Geology and Soils

East of Penobscot Bay, higher elevations are generally covered with thin drift which provides the parent material for shallow, coarse loamy Lyman soils. West of Penobscot Bay, upland areas are dominated by deep (>60″), coarse loamy Lyman soils. West of Penobscot Bay, upland areas are dominated by deep (>60″), coarse loamy Tunbridge and deep, coarse loamy Dixfield soils. Lyman soils, which tend to be somewhat excessively drained, generally occur on ridge tops, while well and moderately well-drained Tunbridge and Dixfield soils occur on ridge slopes. Coarse-grained, but poorly drained Colonel and Brayton soils are characteristic of lower ridges and toe slopes. Valleys and lowlands throughout the region are filled with deep, poorly drained glaciomarine clays and silts.

Vegetation and Flora

The Penobscot Bay Region supports vegetation that is transistional between the coastal spruce-fir ecosystems of the east and a forest dominated by *Pinus strobus* and *Quercus rubra* to the southwest. Species of northern affinity, such as the distinctive subartic maritime flora of the East Coastal Region are present only on offshore islands here. The coastal spruce-fir forest is no longer continuous; it occurs in small stands on islands and exposed headlands. Twenty woody species that reach their northern limits in Maine or New Brunswick reach a coastal limit in the eastern portion of the Penobscot Bay Region. These include *Acer saccharinum, Alnus serrulata, Aralia racemosa, Carpinus caroliniana, Carya ovata, Castanea dentata, Ceanothus americanus, Chamaecyparis thyoides, Fraxinus pennsylvanica, Juniperus virginiana, Platanus occidentalis, Quercus macrocarpa, Quercus alba, Salix coactilis, Salix nigra, Salix planifolia, Viburnum lentago, Vitis labrusca, Vitis novae-angliae,* and *Vitis riparia.* Most of these species are characteristic of warm temperate regions. This represents the highest concentration of northern range limits along the coast. Along with the southwestern portion of the East Coastal Region, this portion of the Penobscot Bay Region marks the eastern end of the transition zone.

EAST COASTAL REGION

Physiography

The East Coastal Region parallels the Gulf of Maine in a 20 mile wide band that extends from Mount Desert Island and Isle au Haut east to Passamaquoddy Bay (in the vicinity of Perry). The region is characterized by low ridges surrounded by poorly drained, relatively flat terrain. Elevations are generally less than 100′ with the exceptions of mountains of Mount Desert Island and the Tunk Lake area, which rise to elevations of 1000′ or more. Topographic highs occur on plutons of coarse-grained granitic rocks, while the more easily eroded finer-grained intrusive and metamorphic rocks from Roque Bluffs to East Quoddy Head have been worn to lower elevations. Bedrock is predominately igneous, except for outcrops of metavolcanic rocks near Columbia Falls and in the Cobscook Bay area. Most of the headlands and islands between Isle au Haut and Jonesport are composed of biotite or muscovite granite. Gabbro, diorite, volcanic rhyolite, and basalt become abundant to the east.

Climate

The climate of the East Coastal Region is strongly moderated by the Gulf of Maine. The combination of land breezes in the summer and northeasters in the winter creates a climate characterized by cool summers, high annual precipitation, frequent summer fog, and a relatively high moisture surplus. Mean minimum January temperatures are the warmest in the state, ranging from 15º F in Eastport to 14º F in Bar Harbor. The mean maximum July temperature in Eastport (63º F) is lower than any weather station record in the state except St. Francis, which is located 180 miles to the north, and the Oquossoc and Cupsuptic stations, which are located at elevations of more than 1600′. Average annual precipitation ranges from 44″ to 50″. Unlike other regions of the state, more precipitation occurs in the winter than in the summer. While the entire Maine coast experiences fog during the summer months, the East Coastal Region is shrouded by fog for twice as many hours as western Penobscot Bay and south.

Surficial Geology and Soils

On ridge tops, at high elevations, and on outer peninsulas, soils are generally poorly developed, acidic (due to the poor buffering capacity of the parent material), coarse-textured, and shallow. These areas are dominated by coarse-loamy Lyman soils and sandy-skeletal Schoodic soils, both of which tend to be excessively drained and less than 20" in depth. Most low lying areas of the region, which were inundated by sea water as the glaciers receded, are covered with deep marine clays and glaciolacustrine deposits. On the slopes of ridges formed by deposits of glacial till, deep, moderately well drained, loamy soils of the Dixfield series are typical. The eastern edge of the Pineo Ridge delta, which is comprised of coarse-grained glaciomarine sediments, crosses the region's western boundary.

Vegetation and Flora

Two ecosystem types that are particularly well developed in the East Coastal Region are coastal spruce-fir forests and coastal raised peatlands. East of Penobscot Bay, most forests contain a substantial percentage of spruce and fir. This coastal spruce-fir ecosystem has been attributed to the cool growing season, ample moisture supply, and fog-laden winds that characterize the region's climate. *Picea rubens* and *Abies balsamea* are community dominants. *Betula papyrigera, Acer rubrum,* and *Picea glauca* are also common. A second ecosystem type that is confined to the coastal zone along the Bay of Fundy is the coastal plateau peatland. These peatlands, which generally occur within 5 miles of open ocean, reach their southern limit in North America on Mount Desert Island. Their development is related to a low ratio of evapotranspiration to precipitation. Cool temperatures and frequent fog reduce evaporation resulting in a relatively high annual moisture surplus, creating favorable conditions for *Sphagnum* growth.

In addition to these ecosystems, a number of plant species reach range limits in the vicinity of Mount Desert Island. Subarctic maritime species that reach southern limits in coastal headland communities or in coastal raised peatlands include: *Aster foliaceus, Iris hookeri, Lomatogonium rotatum, Montia lamprosperma, Primula mustassinica, Rubus chamaemorus,* and *Sedum rosea.* In addition, *Empetrum nigrum,* a subarctic species that occurs on headlands as far south as the Cumberland County coast, is abundant in this region.

The southwestern end of the East Coast Region marks the eastern extent of the transition zone. Thirteen woody species reaching limits in Frenchman Bay, Mount Desert Island, or Schoodic Point include *Clethra alnifolia, Cornus florida, Cornus foemina ssp. racemosa, Decodon verticillatus, Juglans cinerea, Kalmia latifolia, Pinus rigida, Prunus maritima, Quercus bicolor, Quercus ilicifolia, Quercus velutina, Rhododendron viscosum,* and *Rubus odoratus.*

D. SITE PHOTOGRAPHY

A photographic record is a key component of the assessment process. High quality images should supplement the narrative to show what makes the landscape memorable. Photographs can be a useful way of recording observations in the field when time is somewhat restricted.

Digital Records

While one or two key images may be used in the final report, the inventory process may collect dozens or even hundreds of images of each scenic area as part of the documentation process. These digital files should be considered benchmarks that will be useful in later years as you study how the landscape changes in response to natural and cultural forces. These records will also be useful to demonstrate why particular areas are considered important by the community in response to development proposals that may affect scenic areas.

Cameras

As noted earlier, a digital camera is strongly recommended over a film camera for fieldwork. The camera does not have to be a professional quality, but it should have the following features: a) at least 5 mega pixels to ensure high quality output; b) variable focal lengths (zoom to wide angle) with a setting that is equivalent to a 50 mm film camera; and c) a large clear LCD screen so you can review the results of your work in the field.

Digital Camera Settings

The digital camera should be set for the highest resolution (most cameras will offer a basic, normal, and high quality range)

Cape Jellison, Stockton Springs

and either medium or large image size. Use the large setting if you intend to enlarge the images for posters or publications. If you do not anticipate this type of use, it may be sufficient to use the medium setting to keep the image size at a reasonable level. Keep the ISO rating low (200) to eliminate background 'noise'.

Focal Length

For most shots set the focal length to produce 50mm film equivalent photographs. Check your owner's manual for instructions on how to do it. On many of the newer cameras the focal length is set to 35 mm, which produces a 'normal' view. The ideal is to produce a photograph that captures a 38.6° angle of view, which is equivalent to what the human eye sees.

Panoramic Views

Many scenic areas cover a relatively sizable percentage of the field of view, requiring a panoramic photograph to adequately illustrate the quality of the landscape. There are two approaches to creating wide angle photographs: a) shoot with the camera set to 28mm (or whatever the lowest focal length is on your camera), or b) take a series of 'normal' images (50mm film equivalent) and merge them together in Photoshop or a similar software. If image storage is not an issue (i.e., if you have a large capacity storage card) you may want to do both. A single wide-angle photograph will be somewhat distorted when compared to the merged image, but there is a considerable saving in time.

Orrs Island, Harpswell

Tripod

The use of a tripod is recommended for the most significant photographs to assure that the camera is a) level and b) not moving when the shutter is depressed. You may want to use a small carpenter's level to make sure that the camera is shooting horizontally. This will become important if you want to later merge the photographs to create panoramic images or develop photo-simulations to illustrate potential changes in the landscape. A tripod may not be as important when shooting context shots.

Scenic Areas

Consider scenic areas as large outdoor "rooms", defined by ground planes (water bodies, fields, roadways), walls (vertical elements such as trees or rock outcrops), ceilings (usually the sky, but it may be trees or man-made elements), and furnishings

(the visible signs of man's presence in the landscape). In photographing scenic areas, it will be important to capture both the whole room as well as those elements that define the room.

Viewpoints

The photographic inventory should include both characteristic views (the views typically found within the scenic area) as well as focal points (notable points of interest within the landscape). Ideally the photo-coverage should be able to demonstrate the effect of seasonal changes on visibility: a) visible throughout the year, b) partially visible throughout the year, c) not visible during the summer, or d) partially visible during leaf-off season. You may have to go back out during the winter to demonstrate what effect leaf coverage has on viewing conditions.

Viewpoint Location

It may be important to be able to go back to the photo locations at a later date, so each image should be located by GPS. The co-ordinates should be kept in a data file and later transferred onto a base map. If you do not have access to GPS equipment, note the location of the photograph relative to known objects (e.g., 53 feet south of utility pole 352-15).

Composition

Avoid foreground clutter. While it is tempting to show flowers or guardrails in the immediate foreground, too much detail in the immediate foreground can be distracting and detract from the objectivity of the review.

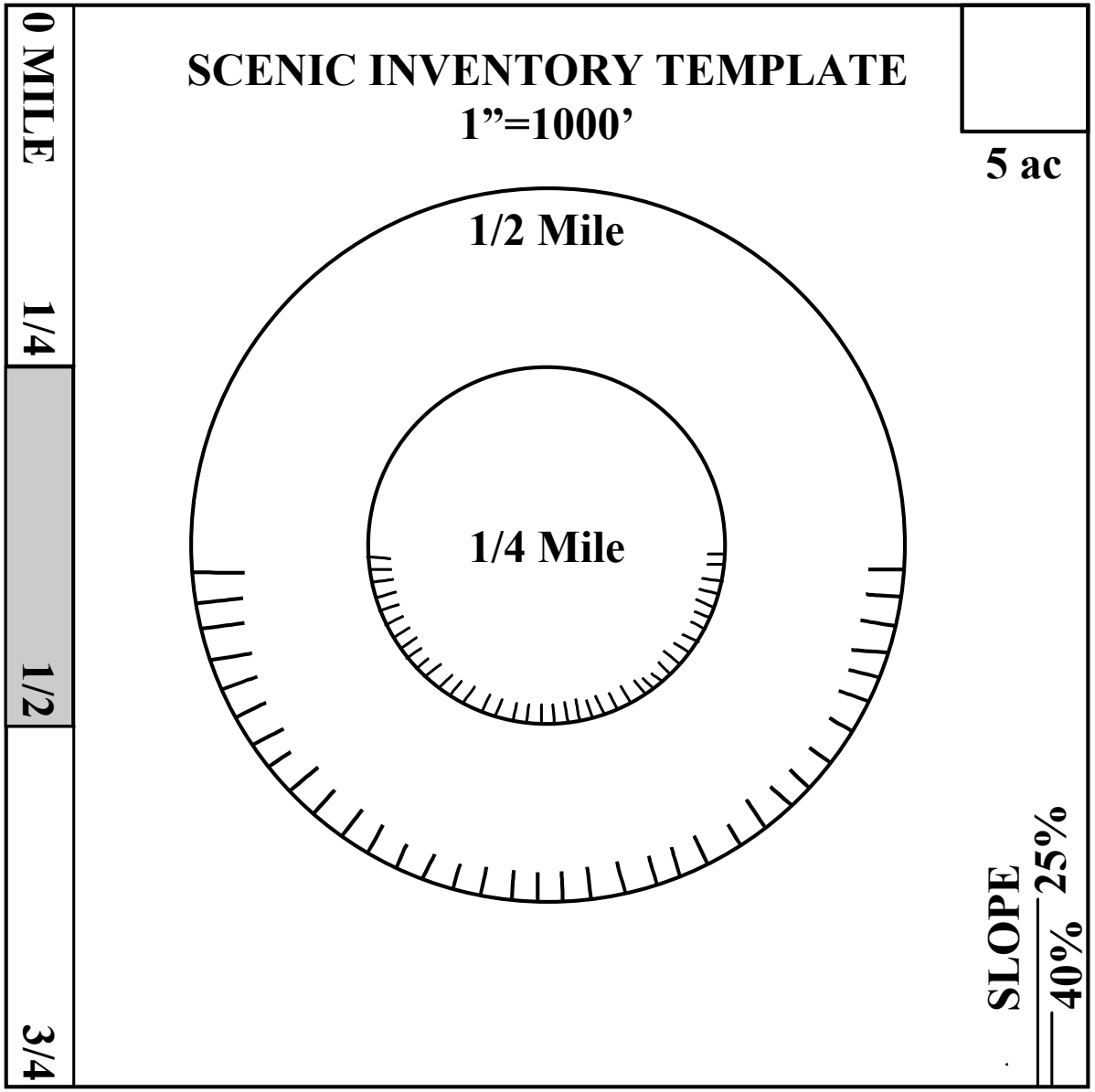
Context

Take photographs of surrounding land uses to document the context of the scenic area. These should be typical views showing homes, commercial and institutional buildings, industrial development, roadways, parking areas, etc., especially if they are oriented toward the view or contribute to the sense of cohesiveness. In addition to recording the positive aspects of the landscape, photograph elements that may be considered scenic detractors, such as transmission lines, structures that block views, and junkyards. If possible, include people in the photographs who are engaged in typical activities (hiking, picnicking, dog-walking) to show how the community uses the scenic area.

Points of Interest

Significant cultural resources (e.g., historic structures, cemeteries, cultural landscapes of note) that add richness and variety to scenic areas should be well documented as part of the inventory. Photographs should show both the resource itself as well as how it influences the surrounding landscape. For example, in addition to a head-on photo of an historic church, the inventory should illustrate its prominence as a landmark in the community from a variety of viewpoints. As another example, if stone walls or old trees are important parts of a rural landscape, the photographs should show how they define the edge of the road or frame distant views.

E. SITE INVENTORY TEMPLATE



The Site Inventory Template has been designed to assist in the office evaluation of Slope, Open Land, and Shoreline Configuration. See individual sections for specific instruction for use.

To use for office evaluations, copy template at full scale onto an 8.5” x 11” sheet of acetate (transparent plastic).

SCENIC INVENTORY EVALUATION FORM

Location _____ **Date** _____

SI	SC	IP	INDICATORS	COMMENTS
			1. Landform	
			Elevation	
			Slope	
			2. Open Land	
			3. Shoreline Configuration	
			4. Scenic Features	
			5. Scenic Quality of Water	
			Duration of View	
			Type of Water	
			Quality of Horizon	
			Indicators Present	
			DESKTOP SUBTOTAL	

			6. Landscape Character	
			Land Use	
			Roadside Characteristics	
			Settlement Characteristics	
			7. Vegetation	
			8. Composition & Effect	
			FIELD EVALUATION	

			TOTAL SCORE	

SI: Special Interest
SC: Scoring
IP: Indicators Present

Comments_____
_____
_____

G. GLOSSARY OF TERMS

Visual impact assessments and scenic inventories are relatively recent developments in natural resource analysis. Several federal agencies have instituted Visual Resource Management (VRM) systems, utilizing their own procedures and terminology, many of which have applicability to Maine.

Over the past two decades a vocabulary has evolved which has been used to describe the landscape and to evaluate changes to it. Many of the concepts developed by the federal agencies have relevance to the Inventory of the Penobscot Bay Islands.

The vocabulary's origin and use vary. Some are common terms employed in the usual way. In other cases, technical meanings have been applied to very specific functions. Terminology has also been drawn from specialized areas like aesthetics and human physiology.

ADVERSE VISUAL IMPACT. The negative effect of a regulated activity on the visual quality of a landscape.

AESTHETICS: The science or philosophy concerned with the quality of sensory experience; the use here is limited to visual experience.

ANGLE OF OBSERVATION: The vertical angle between a viewer's line of sight and the slope being viewed. The visual magnitude of a slope or object being viewed increases as the angle of observation approaches 90 degrees.

ASPECT: The side of a surface of a landscape element facing a given direction. Visual impacts decrease as the viewer aspect, or lateral viewing angle, increases and as the aspect of the main surface of a landscape element is oblique to the viewer.

ATMOSPHERIC PERSPECTIVE: The effect of distance from the viewer on the color and distinctness of objects. Typically, as distance increases, objects become bluer, grayer, lighter, less contrasting and less distinct.

CHARACTER TYPE: A relatively large area of land that has common distinguishing visual characteristics of landform, rock formations, water forms, and vegetative patterns.

CHARACTERISTIC LANDSCAPE: The naturally and culturally established landscape in a region. It is described visually by the basic vegetative patterns, landforms, rock formations, water forms, and structures which are repeated throughout the area.

COGNITIVE FACTORS: The largely quantifiable characteristics of visual impact assessment: the number and location of viewers; distances, angles, duration, and conditions of viewing; the characteristic landscape types; and the size, character, and location of the proposed changes. In addition to these, visual assessment involves compositional and connotative factors.

COLOR: The portion of the electromagnetic spectrum visible to the human eye which causes activity in the retina of the eye and its associated nerve systems, enabling one to distinguish between identical objects. Color consists of the three components of saturation, hue and brightness.

COMPOSITIONAL: The arrangement of the component parts of a landscape. Component parts are objects or activities usually described in terms of color, texture, line, form, dominance, and scale.

CONNOTATIONAL FACTORS: Observers' mental connections, or associations between a viewed landscape and sensations, perceptions, ideas, feelings, or memories. Associative values also cause nuclear cooling towers, for example, to receive extreme negative visual ratings despite their handsome, hyperbolic shapes. Together with cognitive and compositional factors these form the basis for visual assessment.

CONE OF VISION: The horizontal and vertical angle of the landscape that is visible from a viewpoint. Constrictions to the viewer's eye may include buildings, street trees, forest edges, or foreground landforms. Travel speed and the design of the automobile are additional constrictions to the viewer's eye.

CONFIGURATION: The amount of irregularity and/or enclosure in the shoreline. Shorelines with coves, points, bays, islands, and other features are considered highly configured, and are usually thought to be highly scenic.

CONGRUITY: The conformity of one landscape element to its surroundings. The opposite of contrast.

CONTRAST: The way in which an introduced element may be compared to determine differences. Contrast is measured in terms of form, line, color, texture, dominance, or scale.

DISTANCE ZONES: Horizontal divisions of the landscape being viewed.

- **Foreground** - The visible landscape within one quarter mile from the observer. At this range textures and gross details are easily discernible. Trees, for example, may be appreciated for their individual characteristics. In some visual evaluation systems this distance can fluctuate from one quarter to one half a mile from the observer.

- **Midground** - Extends from the edge of the foreground to 4± miles from the observer. Texture is normally characterized by the masses of trees in stands of uniform tree cover.

- **Background** - Extends from the midground to infinity.

DOMINANCE: The extent to which an object is noticeable when compared to the surrounding context. An object(s) may be:

- **Dominant** - The element is visually prominent and occupies a visually sensitive position within a landscape, usually at an upper elevation. A dominant object will greatly influence the visual perception of the landscape from a particular viewpoint.

- **Co-Dominant** - Two or more elements have relatively equal visual importance in the landscape.

- **Subordinate** - The object is visually inferior to the rest of the landscape as a result of its relative size, brightness, distance, color, or mass.

DURATION: Relative measure of the time available to experience a view. The actual elapsed time will be a function of many factors: mode of transportation, speed of movement, obstacles in the foreground, intention of the viewer, amount of clearing between viewer and view, and opportunities for pull-offs along a road.

- **Short Views** - Fleeting glimpses of relatively short duration, from 1 to 3 seconds.

- **Medium View**s - Visible for a moderate amount of time, from 3 to 10 seconds.

- **Long Views** - Visible for extended periods of time, greater than 10 seconds.

FORM: The mass or shape of an object or combination of objects which appear unified: the physical structure of an object(s).

HUE: The name of a color, such as yellow-green or red, and one of color's three components.

LANDFORM: The dominant topographic features of the landscape, described in terms of slope and repetitive natural forms.

LANDSCAPE: The surface features of an area including landform, water, vegetation, cultural features and all other objects and aspects of natural and human origin.

LANDSCAPE QUALITY: Relative level of visual diversity or landscape character. Features such as Landform, Vegetation, Water, and Cultural Features are compared singularly or in combination with those commonly found in the study area. Landscapes can be classified into variety classes to indicate the degree of variety present:

- **Class A: Distinctive** - Areas where vegetation patterns, landforms, water bodies, rock formations, cultural patterns, or combinations of these elements are of unusual or outstanding visual quality, and are generally considered to be of state-wide or national significance. Examples might include Mount Katahdin, Camden Harbor, or the Loop Road at Acadia National Park.

- **Class B: Noteworthy** - A combination of landscape elements that is above the average for the characteristic landscape, but not outstanding relative to national or state-wide measures. Examples might include Wolfes Neck Woods State Park, Rangeley Lake, or Rockland Harbor.

- **Class C: Common** - The characteristic landscape of an area.

- **Class D**: **Below Average** - Little or no visual variety with the landscape. Characterized by monotonous patterns of tree growth, little topographic relief, and the lack of water bodies.

- **Class E: Disturbed** - Landscapes that have been severely altered by natural or man-made forces that result in an alteration or degradation of visual quality. Disturbed landscapes may be either temporary, semi-permanent, or permanent in nature. Examples might include a forest scarred by a forest fire, tailings from a mining operation, or a highly visible quarry on an island.

LINE: Anything that is arranged in a row or sequence. The path, real or imagined, that the eye follows when perceiving abrupt differences in form, color, or texture, or when objects are aligned in a one-dimensional sequence. Line is usually evident as the edge of shapes or masses in the landscape.

MITIGATION: Any action taken or not taken to avoid, minimize, rectify, reduce, or eliminate actual or potential adverse environmental impact, including adverse visual impact. Actions may include:

- **Avoidance** - Not taking a certain action

- **Design** - Measures taken during the siting or design of a facility to minimize contrasts in form, line, color, texture, or scale with the surrounding landscape.

- **Screening** - Installation or preservation of physical visual barriers to minimize views of a proposed activity.

- **Minimization** - Limiting the magnitude, duration, or time of an activity.

- **Rectification** - Restoration, repair, or rehabilitation of an affected environment.

- **Management -** Reducing or eliminating an impact through preservation and maintenance operations during the life of a project.

- **Compensation** - Replacement of affected resources or provision of substitutes.

SCALE: The proportional size relationship between an introduced object(s) relative to the surrounding landscape. Severe contrasts result from the introduction of major objects significantly larger than their surroundings. Viewing angle can affect the perception of scale. Scale can be described in terms of:

- **Absolute Scale** - A measurement of height or width

- **Relative Scale -** The apparent size relationship between the object and its surroundings.

SCENERY: The general appearance of a place; the features seen in the landscape.

SCENIC AREA: An area which exhibits a high degree of variety, harmony, and contrast among the basic visual elements, resulting in a place with greater than normal visual quality.

SCENIC HIGHWAY: A section of state-assisted highway that has been noted by the Maine Department of Transportation for its scenic quality.

SCENIC RESOURCE: Public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment, and appreciation of natural or cultural visual qualities. The attributes, characteristics, and features of the landscape of a scenic resource provide varying responses from, and varying degrees of benefits to, humans.

SIGHTLINE: The unobstructed line of sight between an observer and an object.

TEXTURE: The aggregation of small forms or color mixtures into a continuous surface pattern, resulting in a surface's mottling, graininess, or smoothness. These smaller parts do not appear as discrete objects in the landscape.

VALUE: The sensation that one color appears to be lighter or darker than another. Value is one element in determining the relative contrast or congruity between landscape elements.

VIEW: That portion of the landscape that is seen from a particular vantage point.

VIEWER ELEVATION: The position of the viewer relative to the scene being viewed.

- **Viewer Inferior** - Viewer is below that portion of a scene with the greatest visual interest.
- **Viewer Normal** - Viewer looks straight ahead to see the majority of the view; the most common relationship between viewer and scenery.
- **Viewer Superior** - Viewer is elevated above the scene observed, usually looking down to the rear portions of the foreground. This position tends to increase the importance of landscape elements observed because of the viewer's usual tendency to look slightly downward and more of the view is obstacle-free.

VIEWER EXPECTATION: An estimate of people's concern for visual quality in the environment.

VIEWERS: People who see the landscape at present, or who are likely to see a project in the future.

VIEWPOINT: The actual point from which a viewer sees the landscape or a proposed alteration.

VIEWSHED: All the surface areas visible from a particular viewpoint or a proposed activity; also, the surface area(s) within which a critical object or viewpoint is seen. The viewshed may include the total visible activity area from a single observer position or the total visible activity area from multiple observers' positions.

VISUAL ACCESS: The degree to which a landscape element can be seen from a particular viewpoint. The loss of visual access to a scenic resource could be considered an adverse visual impact.

VISUAL CHARACTER: The overall impression of a landscape created by the order of the patterns composing it: the visual elements of these patterns are the form, line, color, and texture of the landscape's components. Their interrelationships can be described in terms of dominance, scale, diversity, and continuity.

VISUAL IMPACT: The degree of scenic quality change that results from a land use activity. Negative visual impacts affect en-

vironmental quality, either by limiting visual access to scenic resources or by disrupting the harmony, diversity or character of natural landscape elements.

VISUAL QUALITY. The essential attributes of the landscape that when viewed elicit overall benefits to individuals and, therefore, to society in general. The quality of the resource and the significance of the resource are usually, but not always, correlated.

VISUAL RESOURCES: The features that make up the visible landscape.

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