DOWNEAST COASTAL SCENIC INVENTORY

HANCOCK AND WASHINGTON COUNTIES, MAINE

St Croix River, Calais

Prepared for the Maine State Planning Office Coastal Program by the
HANCOCK COUNTY PLANNING COMMISSION &
WASHINGTON COUNTY COUNCIL OF GOVERNMENTS

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WCCOG

Credits

Collaborating Organizations and staff:

James H. Fisher, AICP, Thomas E. Martin, AICP, & Keith Fisher *Hancock County Planning Commission*
Judith C. East, AICP, Jeremy Gabrielson, Misha Mytar, *Washington County Council of Governments*
Tora Johnson, Inez Lombardo & Derik Lee, *University of Maine Machias, GIS Service Center*
James Connors, Coastal Program, *Maine State Planning Office*
Terrence J. DeWan, *Terrence J. DeWan Associates*

Volunteer Organizations:

Acadia National Park
Acadia All American Road Corridor Committee
Blackwoods Scenic Byway Corridor Committee
Blue Hill Heritage Trust
Bucksport Area Chamber of Commerce
City of Ellsworth
Crabtree Neck Land Trust
Downeast&Acadia Regional Tourism
Downeast Lakes Land Trust
Frenchman Bay Conservancy
Friends of Acadia
Fundy Audubon
Great Auk Land Trust (now Downeast Coastal Conservancy)
Great Pond Land Trust
Island Heritage Trust
Machias Bay Area Chamber of Commerce
Mount Desert Island Chambers of Commerce
Quoddy Regional Land Trust (now Downeast Coastal Conservancy)
Pathfinders
Pleasant River Wildlife Foundation
Schoodic National Scenic Byway Corridor Committee
Sunrise Trail Coalition
Vacationland Resources Committee/Downeast Resource Conservation and Development Council

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Web sites where Downeast Coastal Scenic Inventory are posted:
www.wccog.net/scenic.htm
www.hcpcme.org/environment/view/
www.maine.gov/spo/coastal

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1. INTRODUCTION AND PURPOSE

a. Goals of the Study

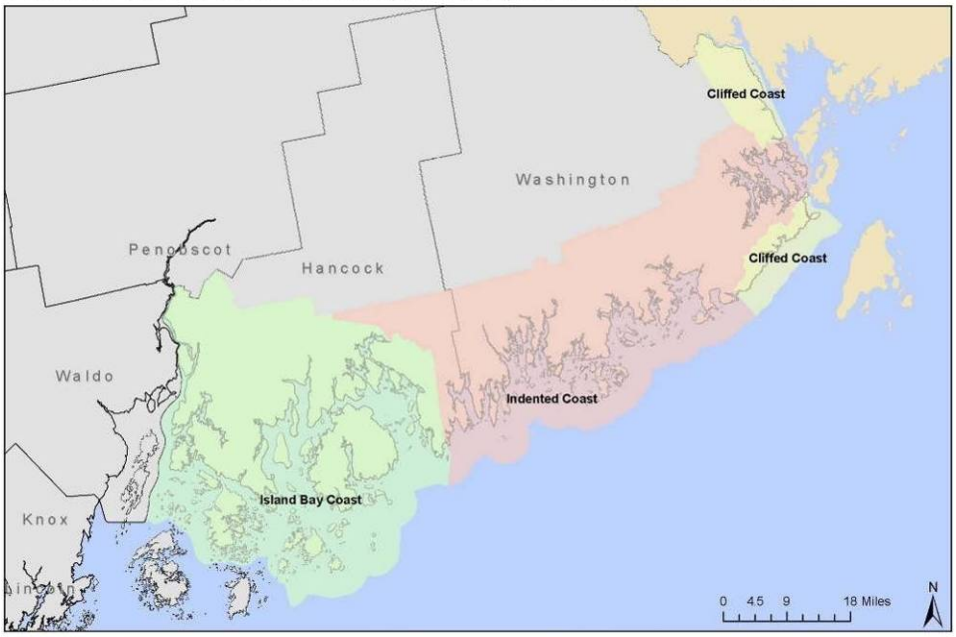
This report is part of an effort to prepare an inventory of scenic views from public places along the Maine coast. Inventories have been largely completed for other portions of the coast. The study area for this inventory includes coastal zone communities in Hancock and Washington counties.

This inventory was prepared following the methodology outlined in the State Planning Office publication Scenic Assessment Handbook (referred to hereafter as the "Handbook"), October 2008 (see: www.maine.gov/spo/publications/). The written report is supplemented by an on-line data base. **All web addresses where the material is posted are noted on the Table of Contents of this document.**

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. This inventory is limited to scenic resources viewable from public places such as roads, parks, scenic turnouts, coastal water bodies, great ponds, public hiking trails and similar features. There are many scenic resources in Maine that are visible only 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 Hancock and Washington County coastline offers a large number of Scenic Areas. For planning and assessment purposes, the State Planning Office has divided the coast of Maine into four major regions, Southern Beaches and Headlands, Indented Shoreline, Island-Bay Coast and Cliffed Coast, the last three of which are found in the Downeast region of Hancock and Washington County. Note that the map at right differs slightly from the one shown in the Handbook. After reviewing the methodology it was agreed that it needed some refinement to match up with the geomorphic characteristics of the region as shown in this map. This

Scenic Eco-Regions
Downeast Coastal Scenic Inventory, Washington & Hancock Counties



Map prepared by UMM GIS Service Center, June 2009
Source, MEGIS, WCCOG, HCPC

change in the assignment of the geomorphic regions is significant as each region is defined by common physiographic characteristics (geology, landform, water bodies, vegetation, and settlement patterns) which affect the scoring of the scenic qualities within each region.

This project assessed scenic qualities of defined areas through both a map analysis or "desk top" assessment, and a field evaluation. Each Scenic Area was assigned a score according to a variety of factors. These include the degree to which the view is obstructed, shoreline configuration, landscape character, type of human-made features such as historic buildings, among others. For details on the attributes included in the assessment and their relative importance, see Section 2 (Methodology). The structured assessment criteria encouraged consistency in scoring Scenic Areas. This allows areas in different parts of the two-county region to be compared in a relatively consistent manner.

b. Uses of the Information

The Downeast Coastal Scenic Inventory is useful for numerous purposes. These include:

Planning and Resource Protection

- Comprehensive planning at the municipal level.
- Strategic regional and statewide land conservation efforts (e.g., local land trusts, Land for Maine's Future program) that help determine which lands to protect, seek to prioritize scarce resources and decide whether to take action when a property is for sale.
- Identification of scenic resources per the Natural Resource Protection Act, chapter 375.
- Charitable contribution decisions in accordance with Internal Revenue Service requirements for conservation easements.

Community Development and Tourism

- Maintaining community scenic character when considering both the short-term and cumulative impacts of development.
- Promotion and management of tourism including documentation of history, natural resources and scenic beauty for the design of interpretive signs, brochures and other publications.
- Planning and implementing State and National Scenic Byway corridor strategies.

Infrastructure Location Decisions

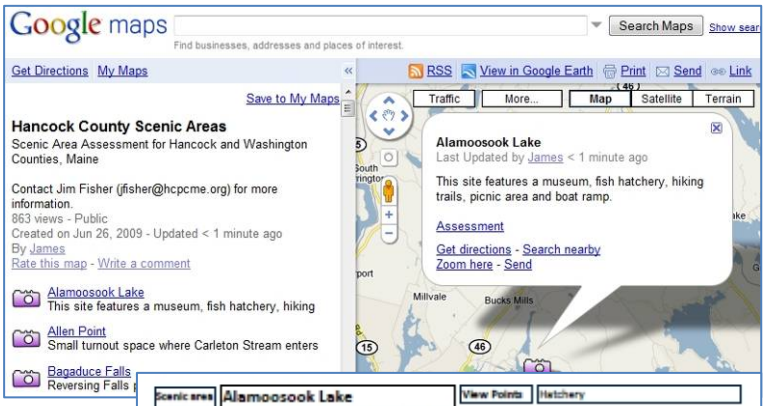
- Site analysis for wind energy facilities that require identifying scenic viewpoints of state or national significance in accordance with the Wind Power law (Title 35-A MRSA Ch. 34-A).
- Alignment studies for highways and above-ground utility corridors.
- Assessing visual impacts of communications infrastructure, principally cell towers.

In summary, this inventory is a tool that can be used in a variety of planning projects. As land development continues, it is important to know which views are most valuable so that protection strategies can be recommended. Also, the inventory can be used in tourism promotion efforts. Organizations such as chambers of commerce can use this inventory in brochures and web-based tourism information.

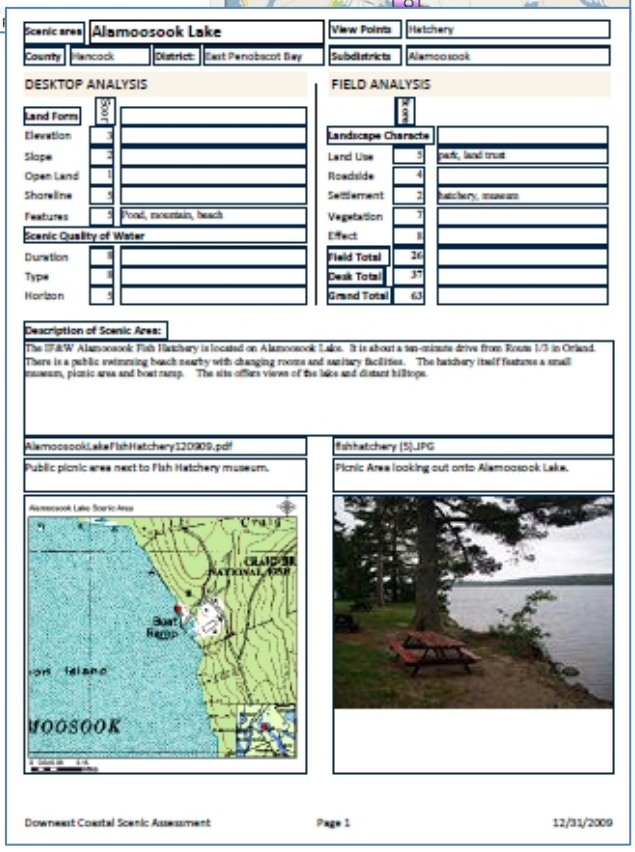
This project created a comprehensive and indexed set of GIS maps, photos and documentation that will be used in future planning, analysis, and promotional activities.

c. How to access the data

This report is available online in static and interactive formats. Users are encouraged to visit the web sites listed on the Table of Contents page where they will find this summary document as well as the individual site assessments. These can be viewed and downloaded though Google Maps either by locating the name of the Scenic Area or by finding the camera icon on the map.



For example, a local official interested in identifying the Scenic Areas in or near her town can go to our website, enlarge the Google map window and look for icons in the area of interest. Alamoosook Lake, is one such area located in the town of Orland. The **name** appears alphabetically on the left and the **icon** appears on the map. Clicking on either of these opens a dialogue box with a short description about the location and a hyperlink titled **Assessment**.



Clicking on **assessment** opens the detailed information sheet about the site of interest. In this example the detailed sheet for Alamosook Lake includes scoring, a short description, a map indicating the view point and surrounding area and a photograph indicative of the area.

The dimensions of Scenic Areas are suggestive and depend on the user's needs as much as geographic character. Users interested in impacts of cell towers may cast a wide net, while users considering location of an interpretive sign may be narrowly focused.

The individual reports have a common format and are restricted to one page including one photo and one map.

The underlying database and file tree often include multiple photos and maps. To obtain these please see Section 3 Database Management and Analysis below.

2. Methodology

a. State Planning Office Scenic Assessment Methodology

The Scenic Assessment Handbook of 2008 (the "Handbook") prepared for the State Planning Office by Terrence J. DeWan and Associates is referenced above. It provided the methodology for this two-county scenic inventory. The Handbook's approach gives policy-makers and citizens a set of tools to achieve a higher level of precision identifying and evaluating scenic resources through the use of descriptive language, illustrative maps, and characteristic photographs.

The Handbook describes approaches to the identification of Scenic Areas using both manual and digital or GIS (geographic information system) mapping techniques. The initial scenic inventories sponsored by the State Planning Office in the 80s and 90s relied upon USGS 7.5 minute topographic maps and graphics prepared with a series of hand-drawn symbols on acetate overlays. While this technique provided useful and easily understood results the final product is not easily searched or stored in an Internet-ready format. The project team chose to complete the scenic assessment in Hancock and Washington County using entirely digital information. All photos, data and GIS maps of the assessment are digital and accessible in electronic format.

The mapping analysis portion of the assessment, performed in the GIS laboratory, evaluates five separate (though 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 evaluation is a preliminary map that forms the basis for the field evaluation.

The field portion of the analysis checks the results of the maps generated by the preliminary map analysis and evaluates an additional three indicators best assessed in the field:

- **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**.**

In addition, field assessment allowed staff and volunteers to ground truth and refine the desktop analysis.

Scenic Areas are places where these indicators occur in groups or in close proximity with one another. The relative importance of indicators will vary from region to region with changes in topography, shoreline configuration, development patterns, open space, and other variables. The Handbook provides values that assign this relative importance based on the region type. As noted above the region types in the Downeast region are Indented Shoreline, Island-Bay Coast and Cliffed Coast. The

GIS mapping analysis, described below, uses the relative scores assigned to landform, open land, shoreline configuration, scenic features and water views within each region type.

ii. Public Participation

The Handbook methodology stresses the benefits of extensive public involvement in the preparation of scenic inventories. Members of the public can act as an advisory committee to oversee the study, provide guidance, convene public meetings, review the results of the inventory and the evaluation of significance. They can also provide valuable input on what is of scenic significance and provide volunteer assistance in gathering field information.

Many individuals and organizations assisted in the preparation of this inventory. The contributing agencies are listed on the credits page at the beginning of the report and the individual volunteers are listed in Appendix A.

In addition to the volunteers who were trained in the methodology (described below) we developed press releases and handouts to inform the public that the Scenic Inventory was being done. To obtain input from the public on the location and extent of Scenic Areas in the region we informed all municipalities in the study area that the scenic inventory was being conducted, posted an on-line survey instrument to obtain input on areas of scenic significance, gave several presentations to regional groups and town committees, and conducted a review of locally adopted Comprehensive Plans throughout both counties.

iii. Training

As recommended by the Handbook we provided training in the Scenic Assessment Methodology to all volunteers who assisted with the field work. Two training days were held for volunteers, one in Hancock County and one in Washington County, and an additional half day of training was provided to the staff. All training was provided by the author of the Handbook, Terry DeWan.

Trainings were conducted as the mapping or desk-top analyses of Scenic Areas were being completed by project staff. The morning training session described the method used to generate the desk-top ratings (see sections b and c below) and the afternoon portion of the training was conducted in the field. In this way volunteers were able to use one of the desk-top analyses that were completed for an actual Scenic Area and then conduct the field portion of the work with the guidance of the instructor. Field work included taking photographs, using the maps and scoring the field components of the assessment. Later field work by volunteers was supported by staff or student interns.

While the desk-top mapping values in this scenic inventory were generated by GIS mapping software (see section c below), the training was conducted using the manual method so that volunteers and staff were educated in the steps taken by the computer model to generate the values used to rate each Scenic Area.

For example, the shoreline configuration scoring criterion evaluates how close (or far) away the observer is from islands, other shorelines or cultural structures of interest (like a lighthouse) and assigns values accordingly. The GIS model does this for you but the volunteers were trained in how to measure the distance and to go through the decision processes of the computer model.

This was instructive and useful because the field work required verification of the desk-top analysis as well as the addition or qualification of information that may not be available in the GIS data layers.

Volunteers conducting field assessment on Mount Desert Island with intern Keith Fisher and staff Jim Fisher

b. Identification of districts and areas

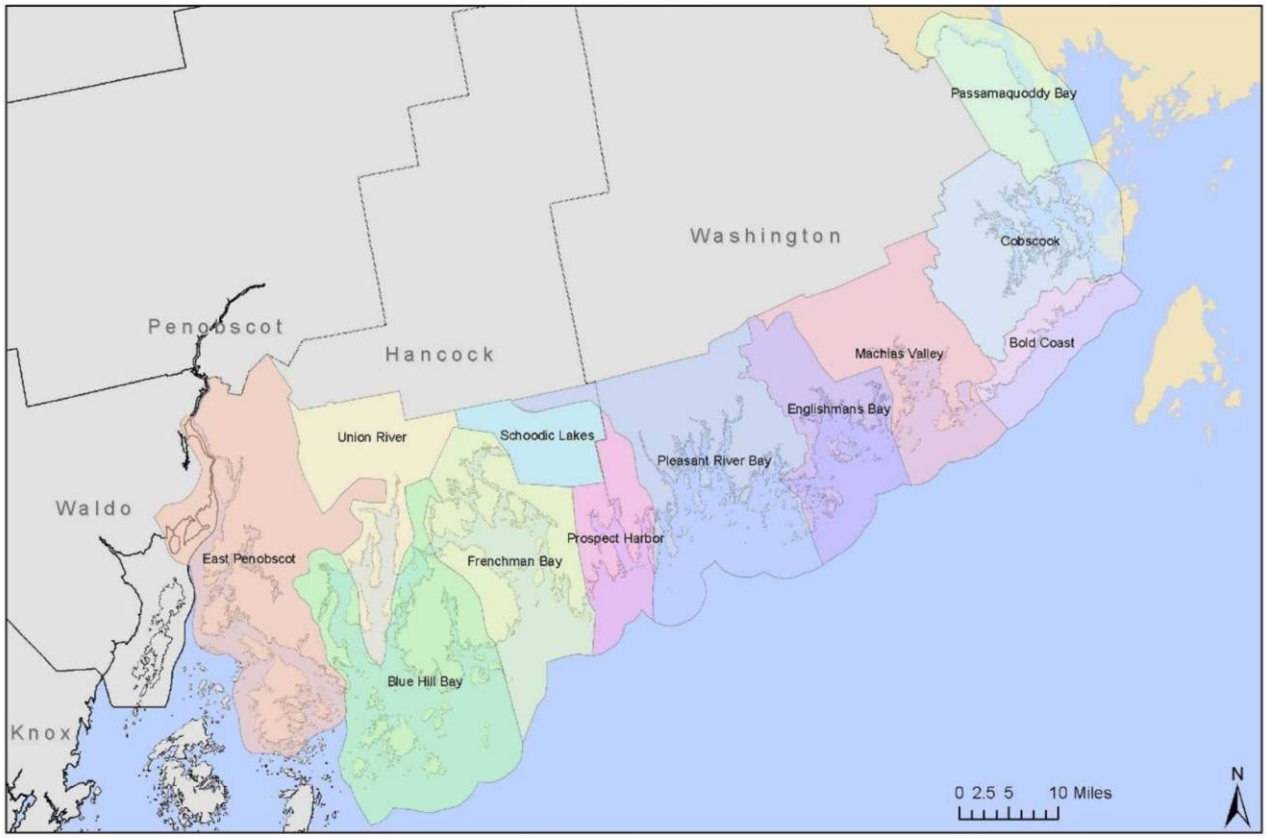
The study area for this inventory includes the coastal towns of Hancock and Washington County from East Penobscot Bay to the St Croix River at the head of Passamaquoddy Bay.

The Handbook notes that 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). As a result the Handbook suggests defining the outer limits of the study area by ridge lines instead of political boundaries.

Districts: The Scenic Districts that make up the study area, depicted below, were iteratively determined by staff, interns and volunteers. As directed by the Handbook these decisions were based on a general sense of the topographic barriers, land features, watershed divisions, embayments, water views, land use patterns, and vegetation.

Scenic Districts

Downeast Coastal Scenic Inventory, Washington & Hancock Counties



Map prepared by UMM GIS Service Center, June 2009
Source, MEGIS, WCCOG, HCPC

Sub-Districts and Scenic Areas: The Scenic Districts were further divided into sub-districts (see map below) in order to establish working units to encompass the large number of Scenic Areas generated by the public outreach efforts (discussed below) and the reality of a very scenic Downeast Coast.

Scenic Sub-Districts

Downeast Coastal Scenic Inventory, Washington & Hancock Counties

Map prepared by UMM GIS Service Center, June 2009
Source, MEGIS, WCCOG, HCPC

Defining and Mapping Scenic Areas: In the spring of 2009, the planning team compiled a list of potential Scenic Areas for inclusion in the scenic inventory projects through public outreach efforts and reference to prior planning efforts. The planning team started with a list of Scenic Areas defined for parts of Hancock County based on previous scenic inventory projects. The team also reviewed local documents including comprehensive plans, scenic byway corridor plans and land trust reports to incorporate Scenic Areas already identified locally.

Public outreach efforts to solicit nominations for Scenic Areas included:

- meeting with community organizations, such as land trusts and corridor committees,
- an online survey publicized through local media, community-based list serves, and social networking sites, and
- soliciting recommendations from towns in the coastal zone.

These methods yielded a list of approximately 200 potential Scenic Areas for inclusion in the study. At this point in the process, the geographic extent of many potential Scenic Areas was fairly poorly defined. The University of Maine Machias GIS lab, WCCOG and HCPC created draft maps of the districts, sub-districts and areas. Through an iterative process, the extent of Scenic Areas was edited and refined in consultation with staff from the UMM GIS Service Center and various professionals familiar with scenic attributes of the study area including staff from Maine IF&W, Downeast RC&D, Friends of Acadia, Maine Coast Heritage Trust, Island Heritage Trust, the Downeast Coastal Conservancy and other local stakeholders.

A guiding principle in this process was to define Scenic Areas as "outdoor rooms." In some cases, this meant splitting one Scenic Area into two based on a perception that portions of nominated Scenic Areas constitute separate distinct places or "rooms." One example is the area around eastern Cobscook Bay. Shackford Head in Eastport and the Pike Land in Lubec look over the same water body and one Scenic Area is visible from the other. Because the two areas are separated by almost 90 minutes driving time, they feel like separate places.

In other cases the outdoor room concept proved more difficult to apply. The Pigeon Hill Scenic Area in Steuben is an example of place where views extends along the coast 40 miles or more in either direction. As a mapping convention, the project teams chose to delineate the Scenic Area boundary around areas in the foreground. It is worth remembering, though, that many other places are visible and indeed the sweeping vistas are the defining characteristic of headland and hilltop Scenic Areas such as Pigeon Hill. The key point to acknowledge is that boundaries drawn on Scenic Area maps do not capture the entire vista. Places outside the boundaries of the Scenic Area may be visible from public vantage points within the Scenic Area and may play an important role in preserving the scenic quality of the area.

Field visits resulted in other changes in Scenic Area designation and mapping. In some instances Scenic Areas were removed from the study when no good public vantage point could be identified. In other cases Scenic Areas were merged as field assessment indicated that a particularly good vantage point served both. Because vegetation plays an important role in enhancing or entirely blocking a scenic view, even undisturbed locations will have changing scenic character.

Scenic Areas (rather than viewpoints) are the basic unit of analysis for this report. The final list of 234 Scenic Areas are provided in the table below organized with each Scenic Sub-District and Scenic District.

Castine Dock

Scenic Areas within each District and Sub-district

District	Sub-district	Scenic Areas	
Blue Hill Bay	**Blue Hill Bay**	Allen Point	Herrick Head
		Blastow Cove	Naskeag
		Blue Hill Falls	North Sedgwick
		Blue Hill Mountain	Parker Point Road
		Blue Hill Village	Peters Cove
		Flye Point	South Blue Hill Wharf
		Grindleville Road	
	MDI West	Bass Harbor	Seal Cove Pond
		Bass Harbor Marsh	Seal Harbor
		Bracy Cove	Seawall Pond
		Echo Lake	Ship Harbor
		Greening Island	Somes Harbor
		Jordan Pond	South Long Pond
		North Long Pond	South Somes Sound
		North Somes Sound	Southwest Harbor
		Northeast Harbor	Western Bay
		Seal Cove	Wonderland Point
Bold Coast	**Bold Coast**	Bailey's Mistake	Haycock Harbor
		Bog Brook	MCHT Bold Coast
		Bog Brook Cove	Schooner Cove
		Cutler Harbor	West Quoddy Head
Cobscook Bay	**Cobscook Bay East**	Denbow-Leighton Point	Pennamaquan River
		Hamilton Cove	Reversing Falls
		Hardscrabble River	Sipp Bay
		Head of Sipp Bay	Whiting Corner
		Head of South Bay	
	Cobscook Bay West	Bellier Cove	Dennysville
		Cobscook State Park	Youngs Cove
	Eastport	Carrying Place Cove	Halfmoon Bay
		Eastport Waterfront	Shackford Head
		Gleason's Cove	Sipayik
	Lubec	Johnson Bay	North Lubec
		Lubec Channel	Pike Lands
		Morong Cove	
Donnell/Tunk Unit	**Donnell/Tunk Unit**	Schoodic Mountain	Tunk Mountain
East Penobscot Bay	**Alamoosook**	Alamoosook Lake	Great Pond Mountain
		Craig Pond	Toddy Pond
	Bagaduce River	Bagaduce Falls	Penobscot
		Battle Island	South Penobscot River
	Cape Rosier	Bakeman Beach	Orr Cove
		Castine Village	Smith Cove
		Goose Falls	S. Brooksville Bucks Harbor
		Harborside	Wadsworth Cove
		Hatch Cove	Weir Cove
		Horseshoe Cove	West Brooksville
		Indian Bar Point	
East Penobscot Bay (cont'd)	**Deer Isle**	Barred Is. Nat. Preserve	Sand Beach
		Buckmaster Neck	Scott's Landing
		Carrying Place	Sheephead Island

District	Sub-district	Scenic Areas	
		Deer Isle Causeway	Shore Acres
		Deer Isle Village	South Deer Isle
		East Side Cove	Stonington Coop
		Hatch Cove	Stonington Village
		Lily Pond	Sunshine Causeway
		Long Cove	Swain's Cove
		Mill Pond	Sylvesters Cove
		Moose Island	Tennis Preserve
		Mountainville	Webb Cove
		Oak Point	Weeds Point
		Pine Hill	West Stonington
		Pressey Cove	Western Cove
	Eggemoggin Reach	Bridges Point	Haven
		Caterpillar Mountain	Sedgwick
		Christy Hill	Sedgwick Ridge Road
		Eggemoggin	
	S. Penobscot River	Bucksport Harbor	
Englishman's Bay	**Jonesboro**	Flake Point	Pond Cove
		Chandler River Bridge	Roque Bluffs State Park
		Great Cove	Tide Mill Creek
		Little Kennebec	
	Jonesport-Beals	Alley Bay	Sandy River Beach
		Mooseabec Reach	
Frenchman Bay	**MDI East**	Bar Harbor	MDI Bluffs
		Bubble Pond	MDI Narrows East
		Cadillac Mountain	MDI Narrows West
		Eagle Lake	Northeast Creek
		Hamilton Pond	Oak Hill Cliff
		Hulls Cove	Old Soaker
		Jones Marsh	Otter Cove
		Lamoine Beach	Salisbury Cove
		Little Hunters Beach	Skillings River
		Marlboro Beach	
	Schoodic West	Crabtree Neck	Schoodic Point
		Frenchman Bay	Taunton Bay
		Jones Pond	Tidal Falls
		Long Cove	Winter Harbor
Machias Bay	**Cutler Inner Coast**	Holmes Bay	Little Machias Bay
	Hadley/Gardner Lakes	Indian Lake	Jacksonville Bridge
		Gardner Lake	Six Mile Lake
		Hadley Lake	
	Machias River	Bad Little Falls	Upper Machias
		East Machias	Whitneyville
		Middle River	Woodruff Cove
		Shipyard Cove	
	Machias Bay West	Bucks Harbor	Machiasport
		Fort O'Brian	Sanborn Cove
		Jasper Beach	Starboard
		Larabee Cove	
Passamaquoddy Bay	**L. Passamaquoddy**	Boyden Lake	Mill Cove Robbinston
		Gin Cove	
	St. Croix River	Devils Head	St. Croix Island

District	Sub-district	Scenic Areas	
		Maguerrowock	St. Croix Waterfront
		South Calais	Whitlock Mills
Pleasant River Bay	**Addison**	Blueberry Hill	South Addison
		Crowley Island	The Bar
		Indian River	Tibbett Island
		Snare Creek	
	Harrington	Back Bay	Curtis Creek
		Beaver Meadow Brook	Harrington Boat Launch
		Cole Creek/Mill River	Harrington Marsh
	Narraguagus	Boise Bubert	Milbridge
		Cable Pool	Narraguagus
		Cherryfield Downtown	Pigeon Hill
		McClellan Park	Unionville
	Pleasant River	Addison Point	Pleasant Bay
		Columbia Falls	Wescogus
Prospect Harbor	**Corea**	Corea Harbor	Sand Cove Young's Point
		Cranberry Point	
	Prospect Harbor	Petit Manan	Sand Cove
		Pinkham Bay	Steuben Village
		Prospect Harbor	West Bay
Union River	**South Union River**	Ellsworth Waterfront	
	Union River Bay	Contention Cove	Morgan Bay
		Curtis Cove	Newbury Neck
		East Blue Hill	Surry

c. GIS Map Analysis

A geographic information system (GIS) is a computer system that allows the user to store, display, and analyze a wide variety of spatial data. The GIS mapping techniques used in this assessment were conducted in collaboration with the University of Maine at Machias GIS Service Center staff, interns and students. As noted we chose to conduct all of the map analysis using digitally mapped information and GIS mapping software. The reader is directed to the Handbook for a complete description of the manual mapping method. The following description of the mapping analysis applies to manual or digital approaches and is taken directly from the Handbook.

In the mapping analysis 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 chart at right.

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**

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 use of regional indicators (see table) 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.

	ELEVATION	SLOPE	OPEN LAND
SOUTHERN BEACHES	100'–200' 1 pt. 200'–400' 3 pts. >400' 6 pts.	20% – 40% 2 pts. >40% 3 pts.	25–50 ac / filtered view 3 pts. >50 ac / filtered view 4 pts. 25–50 ac / unobstructed 5 pts. >50 ac / unobstructed 6 pts.
INDENTED SHORELINE	100'–200' 1 pt. 200'–400' 3 pts. >400' 6 pts.	27% – 40% 2 pts. >40% 3 pts.	25–50 ac / filtered view 3 pts. >50 ac / filtered view 4 pts. 25–50 ac / unobstructed 5 pts. >50 ac / unobstructed 6 pts.
ISLAND-BAY COAST	300'–450' 1 pt. 450'–600' 3 pts. >600' 6 pts.	25% – 40% 2 pts. >40% 3 pts.	50–100 ac / filtered view 3 pts. >100 ac / filtered view 4 pts. 50–100 ac / unobstructed 5 pts. >100 ac / unobstructed 6 pts.
CLIFFED COAST	100'–150' 1 pt. 150'–200' 3 pts. >200' 6 pts.	25% – 40% 2 pts. >40% 3 pts.	50–100 ac / filtered view 3 pts. >100 ac / filtered view 4 pts. 50–100 ac / unobstructed 5 pts. >100 ac / unobstructed 6 pts.

The task of the UMM GIS Service Center was to develop several GIS models that would generate maps depicting how these indicator values identify scenic features within the study area.

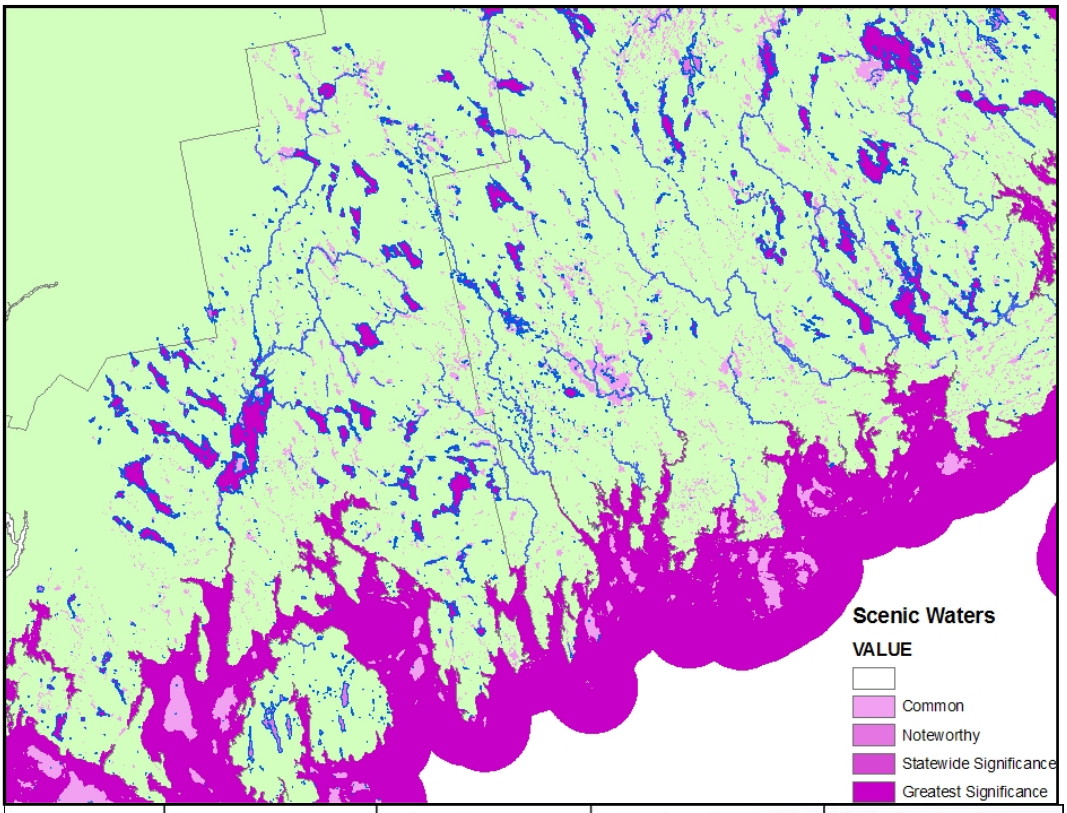
Professional Recognition of UMM Student's Work on GIS Scenic Analysis Model

UMM students and staff presented the findings of their scenic analysis modeling in the form of two posters at the Maine GIS Championship Undergraduate Poster Competition in April of 2009: "GIS Tools for Assessing Scenic Values in the Coast of Maine" and "Washington and Hancock Counties - A Coastal Scenic Assessment Project" (posted at http://megischamps.org/undergrad2009.html). The competition was judge by a panel of GIS professionals.

The "GIS Tools" poster was prepared by Joshua Keuster and Megan Begley who won three prizes for their work: first prize in the Earth, Biology and Environmental Science event ($200 scholarship), second prize in the Cartographic Design event ($25 scholarship) and second prize in the Service (to the client) event ($50 scholarship).

The "…Coastal Scenic…Project" poster was prepared by Thomas Cochran, Sarah McDarby, Noach Tangeras and Derik Lee who received Honorable Mention for Service & Innovation for their work.

The first model prepared by the GIS Service Center was used to establish values for the shoreline configuration and scenic quality of the water. Using ArcGIS Model Builder, a model was constructed using hydrologic feature layers and wetlands layers obtained from the Maine Office of GIS.



This model assigns specific values to areas that exhibit what are deemed under the Handbook methodology to be pleasing characteristics. Points are assigned for water bodies of different sizes, whether they are associated with a scenic wetland, or if there is an island or islands within view. The model then adds these values together and displays them in a way that makes it easy to see what areas may be of interest to the scenic inventory. The Scenic Waters map and Table of Values for Water Characteristics above describes the model output.

	Common	Noteworthy	Distinctive: of Statewide significance	Distinctive: Greater than statewide interest
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

A second model generated values for the landform indicator. The Elevation and Slope Model used the rating scale as outlined in the handbook and as modified by the project staff. Each county was sectioned off according to the parameters of the handbook into three main regions: indented shoreline, island-bay coast, and cliffed coast. The model reclassified a digital elevation model (10 meter resolution) according to the ranking system for each category. The slope and elevation scores for each category were then added together to produce a grid showing ratings for the entire study area.

Another series of models generated values for the open land indicator. These models estimate what can be seen and how far a person can view scenery in a location such as a public trail or road. View sheds were generated using digital elevation models with a 10 meter resolution.

The vegetation and land use has a tendency to change overtime, so the accuracy of the estimated view must be field verified to eliminate some of that error.

Examples of some of the mapped model output are depicted on the "Washington and Hancock Counties - A Coastal Scenic Assessment Project" poster referenced above and in "Figures 1 and 5" reproduced here.

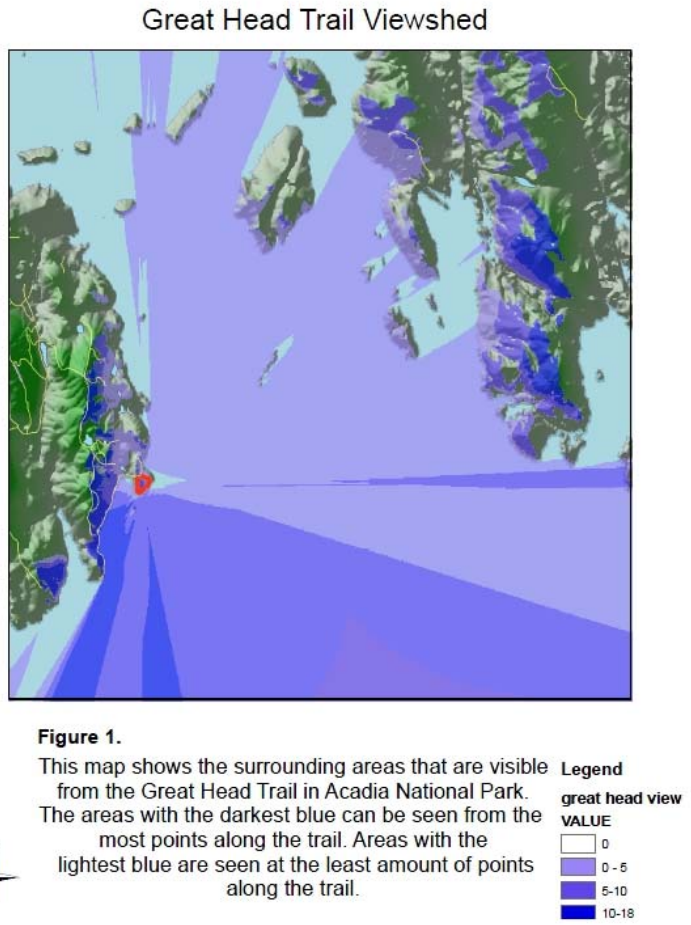
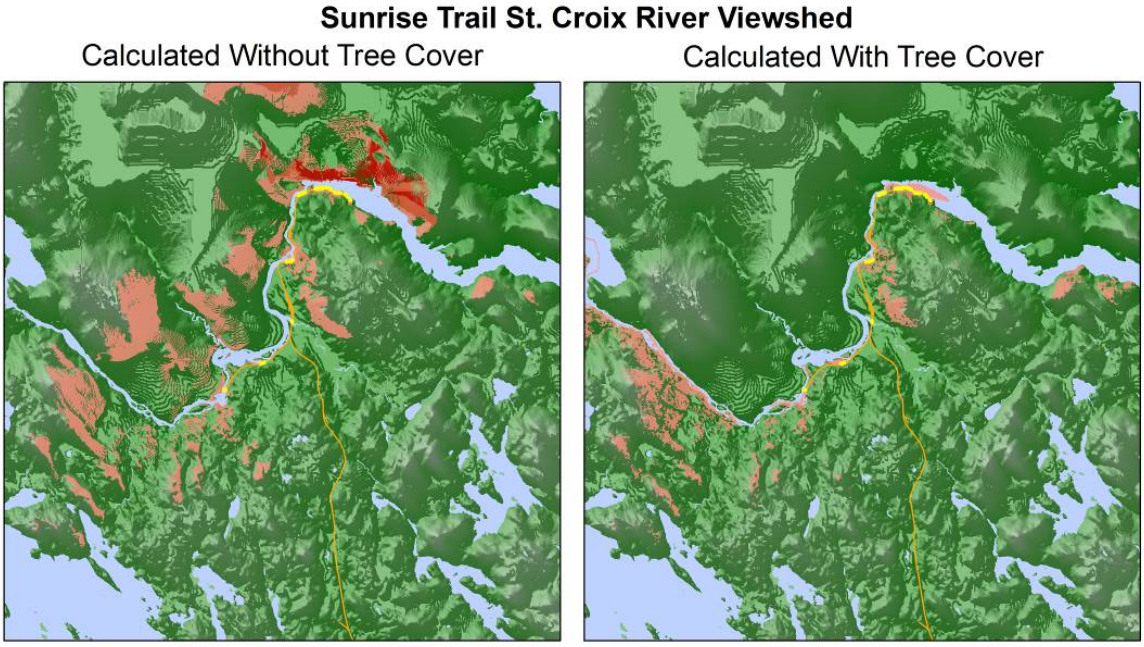


Figure 1.
This map shows the surrounding areas that are visible from the Great Head Trail in Acadia National Park. The areas with the darkest blue can be seen from the most points along the trail. Areas with the lightest blue are seen at the least amount of points along the trail.

The process of generating desktop values using GIS could not be further automated due to technical hurdles that are beyond the scope of the project. For example, while you can use GIS to generate values for configuration of shoreline using the criteria in the Handbook, no GIS tool yet exists to automate this task. Inventing such a tool is possible but is also beyond the scope of this project. Instead a technician performed the process manually for each site in this study using GIS to make the task faster and easier.



The final task in the desktop analysis was to transfer the individual scores for each scenic indicator into an Evaluation Form for each Scenic Area. Volunteers used the Evaluation Form in the field to verify the model output and insert field based evaluation scores.

This analysis was completed using output from the models described above as well as review of additional models developed by staff and interns at the UMM GIS Service Center. Additional models developed scores for the presence or absence of scenic features using available state data of historic sites, lighthouses and other scenic features.

In addition to this desk top analysis, staff and interns created maps to depict each Scenic Area on an aerial photo and a USGS topographic map so that field teams would have points of reference during the field portion of the analysis.

All of the Evaluation Forms and Scenic Areas maps were assembled into geographically specific field binders. Example field binder contents are provided on the web sites listed in the Table of Contents.

Scenic Area Evaluation Form - Downeast Scenic Inventory

Major Scenic Region:	MEC	Date:	
Coastal Region:		County:	
District:		Sub-District:	
Scenic Area:		Scenic Viewpoint:	

Names of Field Team Members:

Summary Form of Several Viewpoints: YES NO
IF YES, # of viewpoints evaluated:
IF NO, Viewpoint (indicate #): of Total # of Viewpoints:
NOTE - can be 1 of 1 viewpoint

INDICATORS	Special Interest	Scoring	Indicators Present	COMMENTS
1. Landform				
Elevation (0-6)				
Slope (0-3)				
2. Open Land (0-6)				
3. Shoreline Configuration (0-6)				
4. Scenic Features (0-9)				
5. Scenic Quality of Water				
Duration of View (0-9)				
Type of Water (0-12)				
Quality of Horizon (0-9)				
Indicators Present				
DESKTOP SUBTOTAL				
6. Landscape Character				
Land Use (0-7)				
Roadside Character (0-6)				
Settlem't Character (0-9)				
7. Vegetation (0-9)				
8. Composition/Effect (0-9)				
FIELD EVALUATION				
TOTAL SCORE				

General Comments:

Fall Colors on Route 1 – Pembroke

d. Field Analysis

Field teams of staff, interns and volunteers conducted the field work between June and October of 2009. Staff assembled binders for the field teams that included the office evaluation and all the information (see Field Binder - Table of Contents inset) needed to get to the Scenic Areas and assemble the field evaluation data.

While the desk top evaluation resulted in quantifiable data, the field evaluation relies on more qualified observations.

The Handbook emphasizes there are several objectives to this critical step in the evaluation process:

- Field-verify and fine-tune the results of the desk top 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.

Field Binder – Table of Contents

NOTE: Items in bold are unique to the GEOGRAPHIC AREA of each FIELD TEAM

1. Field work Instructions – read this first!
2. "Cheat" sheets for Indicator scoring
3. **Evaluation Forms and Photo Log forms for each Scenic Area**
   - **a. List of Scenic Areas/sites within district and sub-district**
   - **b. Forms for Scenic Areas with DESKTOP ANALYSIS including photo log sheet**
   - **c. Extra forms**
4. **Maps for each Scenic Area**
   - **a. Sub-District map – covers multiple Scenic Areas**
   - **b. Scenic Areas/Scenic Viewpoints (topographic and aerial photo for each Scenic Area)**
5. **Tide Tables**
6. Scenic Assessment Introductory materials
   - a. Purpose Statement
   - b. Eco-Regions Map
   - c. Scenic districts Map
   - d. Copies of Hand-out to introduce/describe the project
7. Volunteer Job Description

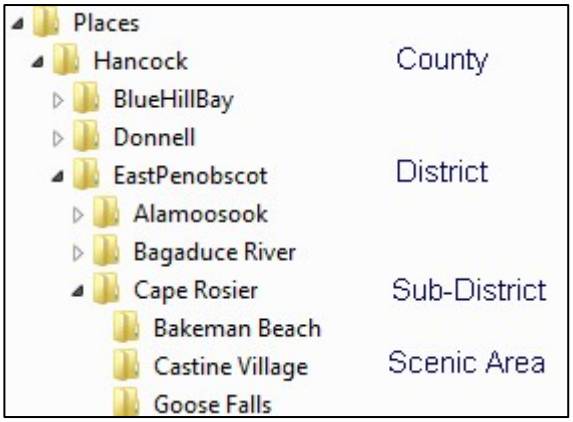
Field teams conducted their field evaluations with these instructions and prepared a summary description of the Scenic Area. All field data was then forwarded for entry into the database. In some cases Scenic Areas generated by the desktop analysis were deleted (not assessed) if there was no way to observe a scenic view from the mapped location. This was rare but most often a result of vegetation obscuring a view over water from a public road.

Half Moon Bay - Cobscook Bay, Pleasant Point

3. DATABASE MANAGEMENT AND ANALYSIS

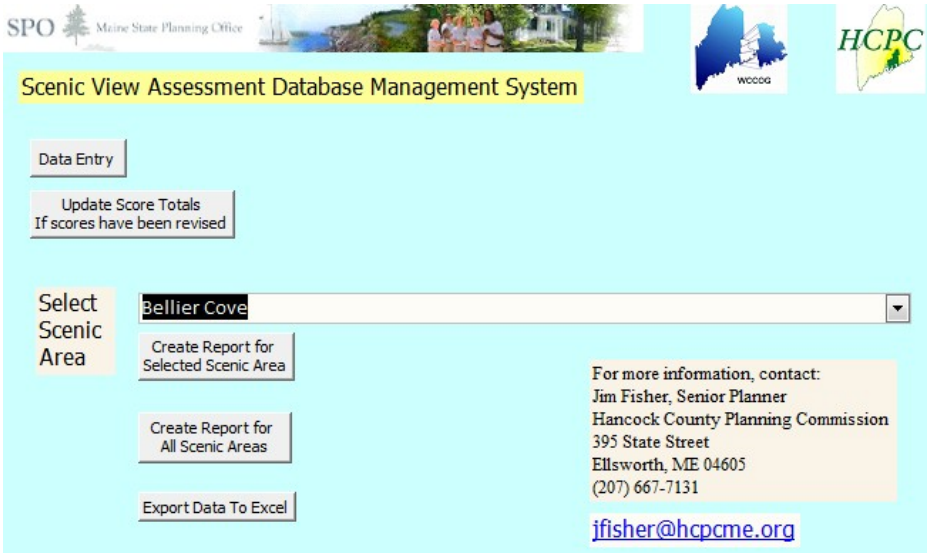
Past scenic inventories have relied upon traditional photography and paper-based records keeping. In this study all data, maps and digital photos are maintained in a three-tiered system intended to provide quick access to the public while also preserving higher quality imagery for internal use. The three tiers are a Windows Directory tree for maps and high resolution photographs, an Access database of detailed information for all Scenic Areas, and an on-line database of summary PDFs for each Scenic Area using a Google maps platform.

a. Windows Directory Tree:



All high resolution photography and maps are preserved in a directory tree using the Windows operating system. The hierarchical directory structure is geographically driven: County → District → Sub-district → Scenic Area. Photographs and maps are named in accordance with the Scenic Area or specific scenic points. In most cases we have multiple photographs for a given Scenic Area, and in many cases these photographs reflect multiple viewpoints within that area. This material is comprised of over 6GB of digital information. It will be provided on-line in a comparable format by the State Planning Office. It is currently available on a flash drive from Jim Fisher at the HCPC.

b. Access Database



The data assembled through desktop and field analysis, representative thumbnail photographs and PDF maps are compiled using Microsoft Access 2007 (accdb format). The database uses a relational structure to permit an unlimited number of photographs and maps to be associated with any given Scenic Area. In practice we have assigned one to three representative photographs to each view. While the database structure permits high resolution photographs, we have used only thumbnail size (200 * 200 pixel) photographs to reduce the overall database size. The full resolution photograph name is

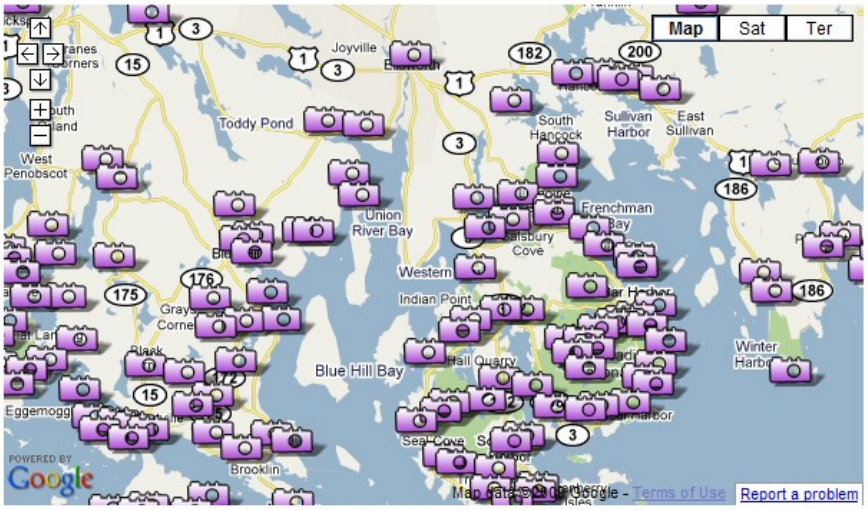
included, facilitating retrieval from the Windows directory tree. The PDF maps, typically only one per site, were also created in a small format of approximately 3"X 3". As vector driven graphics, these PDF files can be enlarged within the database for easy viewing. A front end user interface in the database was created to facilitate data extraction and reporting. The Access database could run on-line but it is beyond the project scope and budget to do so. The project authors could assist the State Planning Office with this task in the future. See Next Steps below.

c. On-line database

The online database, already described in this report, further reduces flexibility and image quality in exchange for rapid access to information. The Access database was used to preprocess PDF files, one for each Scenic Area, which have been posted online. Google Maps was employed to provide users with alphabetical and geographical selection tools for viewing these PDF files. The PDF format is also vector driven and can be enlarged, but the map and photograph in each sheet are not high resolution.

- Latest Ratings for Scenic Areas (01/17/10)

- Google Maps - Hancock and Washington County Assessment - source for detailed individua



View Larger Map with Street Level View

Users interested in seeing a high resolution map can use Google itself by zooming-in on the area of interest or can request maps as noted in the Windows Directory tree above. Google Maps also provides a "street level view" function so that in some of the Scenic Areas, those along public roads for instance, the user can click on the street level view icon and see the Scenic Area as it was photographed (by Google Maps) by a car mounted video camera.

The data assembled in the Access database was analyzed using a variety of tools including advanced statistical functions within Excel and EpiInfo. Data were merged with spatial tools in ArcGIS and Google Maps to create a variety of presentations as described in the next section, Summary of Findings.

4. SUMMARY OF FINDINGS

As noted in the section How to Access the Data, the Downeast Coastal Scenic Inventory is a compilation of multiple types of information. This document provides a description of the methods used to complete the inventory and a summary of its findings.

Given that the method relies on digital files that are large in both number and size we have posted the majority of the maps and photographs on-line in thumbnail size. This format recognizes that the cost of printing the maps, photographs and databases is not only prohibitive but would undermine a user's ability to search them for a variety of purposes. Most of the information is therefore available on-line or in electronic format from the project authors. At the time of publication (February, 2010), all of the high resolution photographs and detailed maps are not available on line. The State Planning Office has indicated they have the space to post the material but it will take some time to get it organized and posted for easy access. **Please note that all web addresses for the study and data locations are provided in hyperlinks on the Table of Contents page of this document.**

The information is organized and available as follows:

i. A 234 page PDF file (~42 MB) with one page per Scenic Area that includes a short description, the scoring the site received in both the desktop and field analyses, a map indicating the view point and surrounding area and a photograph indicative of the area. (on SPO site).
ii. An interactive Google map that allows users to identify an area of interest and to select Scenic Areas to view in a one-page-per-scenic-area PDF that includes the items as summarized above (on HCPC and WCCOG web sites).
iii. An Excel spreadsheet (~700KB) with the data for each Scenic Area which can be sorted by its location within each county, region, district, and sub-district. The spreadsheet also contains the desktop and field scores for each Scenic Area, a description, the date of the field work and the team members who conducted the field work, some limited calculations and correlations but no graphics (on HCPC, WCCOG and SPO web sites).
iv. An Access 2007 Database (~700 MB) with thumbnail photos and attached PDF maps (available on CD from Jim Fisher at HCPC and in future on SPO web site) that is programmed with a few basic functions, such as data editing, data export and reporting on individual Scenic Areas.
v. Additional high resolution photographs, aerial photos and maps for all 233+ Scenic Areas (~6GB) (available on flash drive for nominal cost from Jim Fisher at HCPC and in future on-line on SPO web site).

The first two formats provide the information in a summary format to anyone with Internet access. The 3rd and 4th formats allow a knowledgeable user to download or obtain all of the information generated by this project and perform statistical calculations or to query and report upon some or all of the material. The 5th repository of data provides a visual/photographic library of these Scenic Areas as they existing in the summer of 2009.

a. Site ranking in the Downeast Coastal Inventory

As noted in the Handbook the 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 will require further evaluation and analysis to establish levels of significance (e.g., local, regional, statewide, or national) to assist in the prioritization process. For instance the Handbook highlights two additional criteria that need to be considered in any final site specific evaluation of significance. These include *Visual Accessibility and Use* and *Public Recognition*.

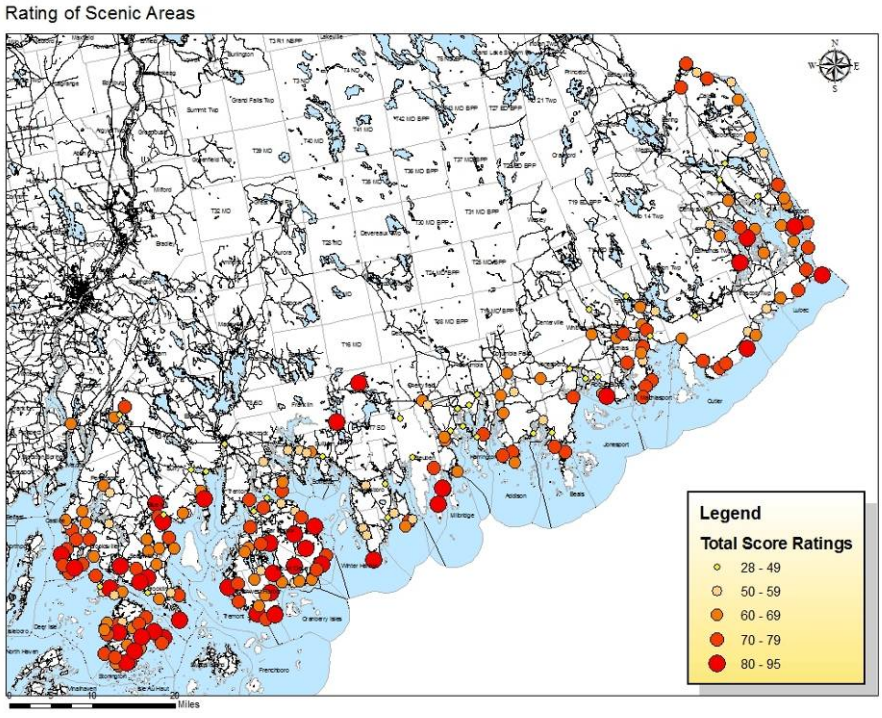
At the 'high' end of the Visual Accessibility and Use spectrum Dewan (2009) describes Scenic Areas that are fully or mostly visible from major public vantage points, e.g., on or adjacent to main highways; historic districts and village centers; major hiking trails with established, well-marked trailheads. Water bodies are also easily accessed through boat 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, remote or little used hiking trails, water bodies that have no public access. Public Recognition is measured through the results of surveys, whether a site is included in a community's Comprehensive Plan or other publicly adopted documents, reference to a site in published works of art or literature or other guidebooks, or whether a site has official recognition such as the State and National Scenic Byways of Acadia, Schoodic and Blackwoods in the Downeast Region.

The Downeast Coastal Scenic Inventory did not formally consider Visual Accessibility and Use or the Public Recognition criteria in the scoring of the 233+ sites. These are criteria that may change over time, as land is protected by public purchase or conservation easement for instance, and should be evaluated further as the data may be used in the future. Thus the following chart provides a numerical summary of the Scenic Areas in each county whose total score (desktop and field analysis combined) fell into the initial Handbook-defined rating of significance.

Handbook definition of significance and representative photo in Downeast Coastal Scenic Inventory:		Number of Scenic Areas with rankings in the Handbook-defined levels of significance		
		Washington County	Hancock County	Total
Local Significance - Areas that score in the 30's and 40's are generally of local (i.e., town-wide) significance. While these 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.	*Beaver Meadow Brook, Milbridge*	7	6	13

Handbook definition of significance and representative photo in Downeast Coastal Scenic Inventory:		Number of Scenic Areas with rankings in the Handbook-defined levels of significance		
		Washington County	Hancock County	Total
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	*Holmes Bay, Whiting*	59	64	123
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.	*Jordan Pond, Mount Desert Island*	35	62	97

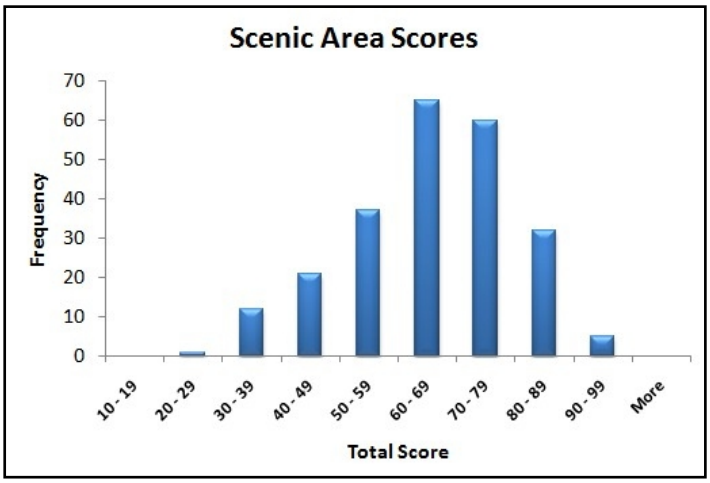
Every district in each county had at least one Scenic Area with a score greater than 70 and many had 2 to 5 high ranking sites. In Hancock County the highest number of high ranking sites was in the East Penobscot Bay scenic district and in the two districts that encompass Mount Desert Island and Acadia National Park (Blue Hill Bay and Frenchman Bay). In Washington County the greatest concentration of high ranking Scenic Areas was in Cobscook Bay and the Bold Coast scenic districts.



This is an expected outcome given the spectacular setting of Acadia National Park. But it is important to qualify the absolute tally and the even the scores themselves with a few observations:

1. The ranking was conducted by different groups of volunteers on different days. Therefore some variation in the relative ranking is inevitable.
2. While some field teams added more scenic districts than were in the initial field binders, there were over 20 in Deer Isle as a result of an earlier assessment and the field team in Deer Isle added more, in part because there is new public access on recently protected land trust lands.
3. The total number of Scenic Areas within Acadia National Park could arguably be infinite but was limited to 20 based on input from Park Service staff to keep the project manageable.
4. The scoring is numerical but the choices made still rely on the judgement of the observer. Beauty is, as ever, in the eye of the beholder.

The map above and the chart of Scenic Area scores is graded to depict scoring increments of 10 rather than the local (<40), regional (40-69) and potentially statewide/national (>70) significance scale. The finer scale depicts a normal distribution of the data points and more information than the local, regional, statewide distinctions. The inventory information will be most consistent within the District and Scenic Areas of interest. It is also likely to be used at that scale by municipalities, regional land trusts and others.



b. Characteristics of Scenic Areas

The characteristics of the Scenic Areas that ranked high in both counties were most often associated with elevation, shoreline configuration, scenic quality of the water (across all three measures) and the variety and abundance of specific scenic features.

Scenic features specifically noted included bridges, marshes, sail boats, historic buildings, cemeteries, islands, cliffs, working docks, lighthouses, cottages, tidal creeks, wildlife (specifically whales), rocky outcrops, and a compact fishing village.

West Quoddy Light, Lubec

Each Scenic Area was assigned thirteen individual scores that were added to create the desktop analysis, field analysis and total scores. In order to explore patterns among the thirteen individual

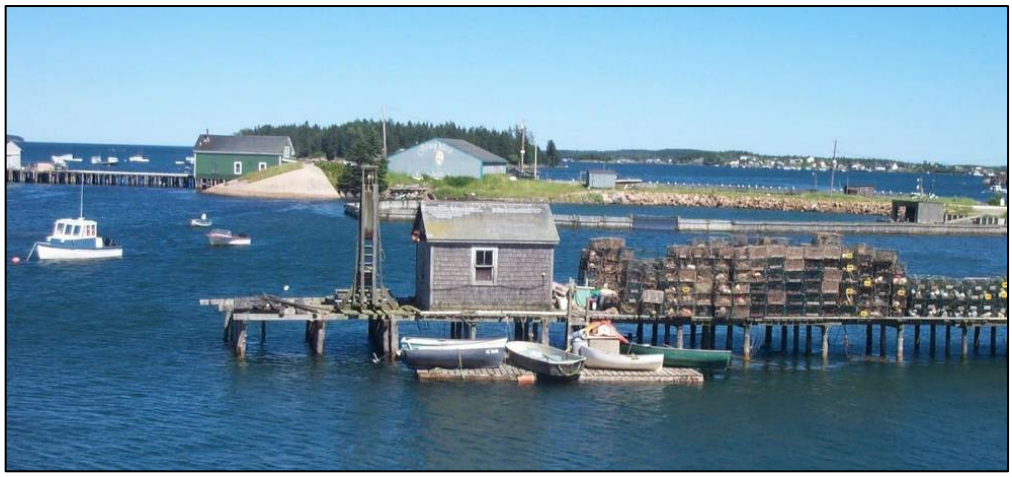
scores, a correlation analysis was carried out. Correlation is a measure of association between pairs of scores. With a range from +1 to -1, the correlation coefficient shows either a strong positive relationship when close to +1, a strong inverse relationship when close to -1 or no measurable relationship when close to 0. The correlation matrix (below) and the raw data are available in Excel format online.

Scenic Area Scores Correlation Matrix

Correlation	*Elevation*	*Slope*	*Open Land*	*Shore*	*Scenic Features*	*Water Duration*	*Water Type*	*Hori-zon*	*Land Use*	*Road Side*	*Settlement Character*	*Vege-tation*	*Compo-sition*
Elevation	1.00												
Slope	0.57	1.00											
Open Land	0.19	0.12	1.00										
Shore	-0.12	-0.01	-0.12	1.00									
Features	0.16	0.15	-0.01	0.16	1.00								
Water Duration	0.16	0.14	0.23	-0.01	0.39	1.00							
Water Type	0.02	0.13	-0.05	0.22	0.52	0.30	1.00						
Horizon	0.37	0.34	0.09	0.02	0.54	0.32	0.59	1.00					
Land Use	0.14	0.16	0.06	0.05	0.54	0.39	0.35	0.48	1.00				
Road	0.07	0.15	-0.07	0.13	0.44	0.39	0.42	0.30	0.49	1.00			
Settlement	0.10	0.17	-0.03	0.05	0.52	0.38	0.32	0.43	0.63	0.49	1.00		
Vegetation	0.19	0.13	0.22	0.06	0.36	0.15	0.25	0.44	0.39	0.30	0.37	1.00	
Composition	0.19	0.10	-0.01	0.11	0.68	0.44	0.49	0.62	0.58	0.46	0.53	0.48	1.00

The results of this analysis support our expectations with respect to the validity and consistency of these measurements.

- Composition and Effect was most strongly correlated with Scenic Features, Horizon and Settlement Character.
- Settlement Character and Land Use were strongly correlated.
- Quality of the Horizon was correlated with the Type of Water and composition.
- Slope and Elevation were strongly correlated.



Beals Island

Weak negative and non-significant correlations were also found.

- Shoreline Configuration was negatively correlated with Elevation and Open Land. The distance from viewer to view may be too great for the details of the shoreline to be appreciated.
- Scenic Features, Type of Water, Roadside Character and Composition and Effect were negatively correlated or uncorrelated with amount of Open Land.

While this data set is not large enough to quantify a clustering of views, the results thus far suggest that a few factors would emerge. Smaller, more compact views such as narrow inlets, coves and historic villages offer one kind of beauty, much of it detailed and close at hand.

Bold Coast trail, Cutler

Large open fields, mountains, sweeping valleys, and expansive ocean provide a more grandiose if less detailed scenic effect. In some instances the grandiose and the detailed come together, such as the view from Cadillac Mountain to the village center of Bar Harbor. These views scored in the upper range.

Cadillac Mountain, Bar Harbor

c. Next Steps

This study opens a great many new paths for public participation, viewshed analysis and application. Several valuable extensions to this project are readily apparent.

Extension of Current Research

This project resulted in 233+ scenic assessments of coastal Hancock and Washington Counties. These are certainly some of the most significant coastal views in eastern Maine, but they are not exhaustive. The vast interior of eastern Maine includes lakes, mountains, streams, expanses of blueberry barrens and forestland. These lands continue to draw attention from visitors seeking a back-woods experience, developers seeking natural resources, utilities seeking transmission and distribution corridors and others. These interior regions merit future assessment as time and funding permit. Further, as designed, each assessment reflects a status at a particular point in time. Periodic assessment or eventually a process for continual monitoring may be merited.

Refinements to Assessment Methodology

The generation of desktop values in the Downeast Coastal Scenic Inventory made greater use of GIS models than any earlier inventory. The Handbook and the training provided to the volunteers focus on the manual method of generating the desktop scores. This is understandable as the manual method provides the logic behind decisions about shoreline configuration, duration of view and others. It is also based on an assumption that volunteers of varying technical background will be involved.

We had a strong partner in the University of Maine at Machias GIS Service Center and chose to draw upon the technical expertise of the director and the keen interest of her students to develop sophisticated modeling skills. This process revealed numerous opportunities for mining geographic data such as elevation, land cover and hydrography to streamline and automate the desktop scoring process. Much was learned in this first effort at marrying technology to a manual process created for volunteers. The exigency of completing this project within the project window and the periodic turnover of students at UMM resulted in a hybridized system involving individual processing of data one Scenic Area at a time. We propose that future analyses further streamline this process to produce an easily replicated system using GIS data processing and tabular data management. This will facilitate faster production of desktop values and a built in strategy for refining and calibrating the GIS models to various regions within Maine. UMM is well suited to carrying out this methodological refinement.

Using software such at ArcGIS Model Builder (unavailable when the previous scenic inventories were done), models such as those developed by the UMM GIS students and staff can be packaged as easy-to-use GIS tools for scenic assessment and modified, as needed, to apply to different regions or to incorporate additional data. Such tools can make the process faster and easier for non-GIS experts to accomplish, and they are easy to share by download or email.

Also, it is important to note that the output of GIS analysis can only be as good as the input data. The Handbook method provides for field verification of the model output, ensuring the quality of the assessment. However, the value of the GIS analysis for future revisions of this assessment or assessments made elsewhere could be improved with more updated and comprehensive data. Specifically, since physiography and land cover play such a key role in the assessment criteria, higher resolution elevation and landform data, such as the LIDAR[1] proposed for the coastal region, and updated land cover data would greatly improve the accuracy and utility of the analysis.

Public Awareness and Application of Scenic Inventory to Decision Making

As with any inventory, the value lies in its application. The inventory, left alone, will be consigned to occasional application over a relatively short life. The many potential applications for planning, permitting, infrastructure decisions, community development and tourism will only be realized with an ongoing outreach effort. The Hancock County Planning Commission and Washington County Council of Governments remain committed to informing local, regional and statewide organizations about this scenic assessment and how it can be used to improve land use decisions. We are already giving presentations to corridor committees, Rotarians, and community based organizations to build awareness and encourage use of this new resource. One or more presentations at the state level, illustrating the methodology and uses of scenic assessment is also encouraged.

Tourism Promotion

The scenic wonder that is documented in the photographs and maps of the two counties in this inventory is extensive and of high quality. As noted already this information will reside on the web sites of the Hancock County Planning Commission, the Washington County Council of Governments and the State Planning Office. However visitors to the state and those who wish to promote visitation are more likely to find this information if there are links to it posted on the web sites of the Maine Office of Tourism, Downeast&Acadia Regional Tourism and the Scenic Byways and trip planning portion of the Maine Department of Transportation. Such links should make it clear to the prospective visitor or promoter that the Downeast Coastal Scenic Inventory exists and that it has a Google map based portal by which the areas of interest can be seen for purposes of choosing to visit!

During the training and preparation of the inventory we made an explicit decision that all of the photographs would become public domain with no copyright restrictions on their use. This was done not only to eliminate the added logistical burden of tracking the ownership of over a thousand photos from dozens of cameras. It was also done to assist those in the tourism sector to see, appreciate and promote this fantastically beautiful part of Maine.

Thumbnail photographs are used in the inventory and database to reduce the already large file sizes. However most of the original photographs are high resolution images. The State Planning Office has determined that they have sufficient space to host them and we recommend that they seek out

[1] Light Detection and Ranging - an optical remote sensing technology that measures properties of scattered light to find range and/or other information of a distant target.

resources to ensure they reside permanently on-line in an easy to use searchable format that is linked to sites frequented by visitors and those who seek to promote tourism visitation.

Horton Emerson Park, Blue Hill

REFERENCES USED IN THE TEXT

DeWan, Terrence. *Scenic Assessment Handbook*. State Planning Office. Augusta Maine. 2008

Dominie, Holly, and Mary Droege. *A Proposed Method for Coastal Scenic Landscape Assessment*. Augusta, Maine. 1987.

DeWan, Terrence J., and Don Naetzker. *Scenic Inventory Mainland Sites of Penobscot Bay*. Maine State Planning Office. 1990.

Appendix A: List of Volunteers

The following individuals contributed their time and energy to assist in the field data collection and assessment in the Downeast Coastal Scenic Inventory. Most attended one of the three training days provided in the Spring of 2009 and many also took photographs, filled in data forms or helped define Scenic Areas.

The weather in the summer of 2009 was extremely wet during the months of June, July and parts of August! As a result some volunteers were not called upon and staff had to complete some field work that had to be repeatedly re-scheduled.

Regardless of the variety of their contribution all volunteers were enthusiastic in their assistance and enjoyment in learning the Scenic Assessment techniques.

The project authors wish to thank them all and apologize if we have missed anyone.

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Barbara Southworth
Betsy Fitzgerald
Bill Haefele
Bill Haviland
Craig Snapp
Dale Crowley
Dale Miller
David Porter
Davis Pike
Donna Madonna
Dorothea Crowley
Dorothy Clair
Gail Finlay
Gail Peters
George Fields
Georgianna Pulver
James Madonna
Janet Michaud
Jean Madonna
Jef Fitzgerald
Jim Dow
Jim Thompson
Jody Rose
Joe Hartounian
John T. Kelly
Josephine Jacob
Judy Classen
Lauren Suerth
Linda Jellison
Louise Bernardini
Mike Little
Noach Targesas
Pete Lazas
Peter Cannon
Peter Cannon
Peter Classen
Rebecca Greenburg
Rich Bard
Rick Tanney
Robert Pulver
Rose Arseneau
Sarah Gabrielson
Stephanie Clement
Tom Finlay
Vicki Landry

Appendix B: Intern Job Description

Student Summer Intern Position – Summer, 2009

The Hancock County Planning Commission and Washington County Council of Governments seek student interns to begin in May to assist in completing an assessment of scenic views in coastal towns of Hancock and Washington Counties.

Responsibilities

- Work under the direction of planners at the Hancock County Planning Commission and Washington County Council of Governments (one intern for each county)
- Coordinate community volunteers
- Field train volunteers in photography, operating GPS units and visual assessment
- Conduct field surveys, including identifying locations, photography, GPS and visual assessment
- Edit assessment data to assure completeness and consistency
- Enter data into assessment database
- Update maps in ArcView and Google Maps
- Additional project information is posted to www.hcpcme.org/environment/view or www.wccog.net/scenic

Qualifications

- Education and experience using GIS software
- Good spoken and written communications skills and experience with Microsoft Office
- Ability to work independently and maintain professional demeanor
- Ability to reach-out to communities, train volunteers and coordinate surveys
- Ability to meet project deadlines
- Personal transportation to travel between office and view sites

Benefits

- Stipend of $10 / hour for 280 hours: ~ seven weeks full time or more weeks part time.
- Dormitory housing option for UMM Students ($40 – Double, $50 - Single per week)
- Reimbursement for mileage expenses
- Training in scenic assessment, GIS, GPS, landscape photography and database management. Free training will be provided on April 27 and April 28.
- Opportunity to network with coastal Maine communities, land trusts, conservation organizations and local businesses
- A great balance of outdoor field work and indoor management and research

Interested persons are encouraged to submit a letter of interest and a resume by April 23, 2009 to: Contact information was provided for staff at HCPC and WCCOG

An Equal Opportunity Employer

Appendix C: Volunteer Job Description

Downeast Coastal Scenic Assessment and Inventory
Hancock and Washington County

Volunteer Job Description

Study Purpose:
A comprehensive scenic inventory will be conducted in the summer of 2009 in Hancock and Washington counties. Several scenic inventories were conducted in the last 30 years for the Maine coast. The most comprehensive ones exist for the coast south of Penobscot Bay. However, inventories for Downeast Maine are limited and not in digital format.

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 scenic inventory methodology (Scenic Assessment Handbook, State Planning Office, October, 2008 available at http://www.maine.gov/spo/landuse/index.htm) is limited to scenic resources viewable from public places (e.g., roads, parks, scenic turnouts, coastal waterbodies, great ponds, public hiking trails, etc.). The method gives 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 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.

The assessment methodology involves a multi-step process involving both office and field evaluation. It is based upon an assessment of landforms, vegetation, water bodies, and cultural patterns that define the visible landscape throughout Maine.

Benefits to Volunteers:
Volunteers in this project will learn land perform visual assessment of scenic sites including how to use a GPS in the field and the way to capture a photographic record of the site. They will also enjoy extensive field work in settings that are, by definition, extraordinarily beautiful!

Roles of staff and team members:
Groups and professionals performing scenic inventories using the methodology 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.

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.

A combination of professionals and volunteers provide the following assets:

- 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.

Volunteer Responsibilities:

- Assist with field identification and assessment of Scenic Areas in Washington and Hancock counties.
- Cooperate with project staff and interns in this assessment using the Scenic Assessment methodology provided by the State Planning Office.
- Participate in 2-3 person teams to complete field assessments of specific areas identified for further evaluation within a given geographic sub-region.
- Share existing inventories of Scenic Areas as identified in local and regional Comprehensive Plans and land trust strategic plans.
- Attend a one-day training on Scenic Assessment methodology.

Volunteer Time Commitment: 5-7 days over the course of May to July, 2009 including one full day in late April – early May for training.

Appendix D – Representative Field Binder

There were eight field binders created for adjoining clusters of Scenic Districts, four for each county. The Table of Contents in each field binder is reproduced on page 17 of this document.

Each binder was customized to the Scenic Areas within it with the following information for each Scenic Area:

- desktop scores entered on the field scoring sheets
- USGS topographic map depicting Scenic Sub-District and Scenic Areas
- Aerial photo depicting Scenic Sub-District and Scenic Areas
- District and sub-district maps specific to the Scenic Areas to be assessed
- Tide tables

Examples of this information are posted on the HCPC web site or available from project authors

Appendix E – Ranked Scenic Area Scores by County

The following table provides the total scores (desktop analysis and field values) for each Scenic Area within each county in descending order from the highest ranked Scenic Area to the lowest.

Hancock County Scenic Area Scores in Descending Order			Washington County Scenic Area Scores in Descending Order		
Scenic Area	**Scenic District**	**Total Score**	**Scenic Area**	**Scenic District**	**Total Score**
Cadillac Mountain	Frenchman Bay	95	Pigeon Hill	Pleasant River Bay	92
Bass Harbor	Blue Hill Bay	93	Shackford Head	Cobscook Bay	88
Bar Harbor	Frenchman Bay	92	MCHT Bold Coast	Bold Coast	86
Blue Hill Mountain	Blue Hill Bay	91	Roque Bluffs State Park	Englishman's Bay	85
Schoodic Mountain	Donnell/Tunk Unit	89	Petit Manan	Prospect Harbor	84
Seal Cove	Blue Hill Bay	88	Cobscook State Park	Cobscook Bay	83
Wonderland Point	Blue Hill Bay	88	Sipp Bay	Cobscook Bay	81
East Side Cove	East Penobscot Bay	87	West Quoddy Head	Bold Coast	81
Harborside	East Penobscot Bay	84	Reversing Falls	Cobscook Bay	80
Jordan Pond	Blue Hill Bay	84	Flake Point	Englishman's Bay	79
Long Cove	East Penobscot Bay	84	Gleason's Cove	Cobscook Bay	79
North Somes Sound	Blue Hill Bay	84	Eastport Waterfront	Cobscook Bay	78
Stonington Village	East Penobscot Bay	84	St. Croix Waterfront	Passamaquoddy Bay	78
Schoodic Point	Blue Hill Bay	83	Hamilton Cove	Cobscook Bay	77
Eagle Lake	Frenchman Bay	82	Machiasport	Machias Bay	77
Old Soaker	Frenchman Bay	82	Mooseabec Reach	Englishman's Bay	77
Greening Island	Blue Hill Bay	81	Alley Bay	Englishman's Bay	76
Naskeag	Blue Hill Bay	81	Cutler Harbor	Bold Coast	76
South Somes Sound	Blue Hill Bay	81	Lubec Channel	Cobscook Bay	76
Sunshine Causeway	East Penobscot Bay	81	Schooner Cove	Bold Coast	76
Tunk Mountain	Donnell/Tunk Unit	81	South Addison	Pleasant River Bay	76
Caterpillar Mountain	East Penobscot Bay	80	Johnson Bay	Cobscook Bay	75
Newbury Neck	Union River	80	Youngs Cove	Cobscook Bay	75
Parker Point Road	Blue Hill Bay	80	Jasper Beach	Machias Bay	74
Pine Hill	East Penobscot Bay	80	Maguerrowock	Pleasant River Bay	74
Sedgwick	East Penobscot Bay	80	The Bar	Pleasant River Bay	74
Tennis Preserve	East Penobscot Bay	80	Carrying Place Cove	Cobscook Bay	73
Webb Cove	East Penobscot Bay	80	Little Kennebec	Englishman's Bay	73
Weir Cove	East Penobscot Bay	80	Pinkham Bay	Prospect Harbor	73
Indian Bar Point	East Penobscot Bay	79	Whitlock Mills	Passamaquoddy Bay	73
MDI Bluffs	Frenchman Bay	79	Little Machias Bay	Machias Bay	72
Orr Cove	East Penobscot Bay	79	Starboard	Machias Bay	72
Somes Harbor	Blue Hill Bay	79	Upper Machias	Machias Bay	71
Barred I Nature Preserve	East Penobscot Bay	78	Bucks Harbor	Machias Bay	70
Blue Hill Village	Blue Hill Bay	78	Shipyard Cove	Machias Bay	70
Flye Point	Blue Hill Bay	77	Bailey's Mistake	Bold Coast	69
Great Pond Mountain	East Penobscot Bay	77	Bog Brook Cove	Bold Coast	69
Northeast Creek	Frenchman Bay	77	East Machias	Machias Bay	69
Ship Harbor	East Penobscot Bay	77	Sandy River Beach	Englishman's Bay	69
Shore Acres north/south	East Penobscot Bay	77	Milbridge	Pleasant River Bay	68

Hancock County Scenic Area Scores in Descending Order			Washington County Scenic Area Scores in Descending Order		
Scenic Area	Scenic District	Total Score	Scenic Area	Scenic District	Total Score
Blue Hill Falls	Blue Hill Bay	76	Mill Cove Robbinston	Passamaquoddy Bay	68
Smith Cove	East Penobscot Bay	75	Morong Cove	Cobscook Bay	68
West Stonington	East Penobscot Bay	75	North Lubec	Cobscook Bay	68
Horseshoe Cove	East Penobscot Bay	74	Pond Cove	Englishman's Bay	67
Western Bay	Blue Hill Bay	74	Tibbett Island	Pleasant River Bay	67
Bakeman Beach	East Penobscot Bay	73	Halfmoon Bay	Cobscook Bay	66
Castine Village	East Penobscot Bay	73	Bad Little Falls	Machias Bay	65
Christy Hill	East Penobscot Bay	73	Bellier Cove	Cobscook Bay	65
Deer Isle Village	East Penobscot Bay	73	Denbow-Leighton Point	Cobscook Bay	65
Eggemoggin	East Penobscot Bay	73	Head of Sipp Bay	Cobscook Bay	65
Seal Cove Pond	Blue Hill Bay	73	McClellan Park	Pleasant River Bay	65
Stonington Coop	East Penobscot Bay	73	Pike Lands	Cobscook Bay	65
Moose Island	East Penobscot Bay	72	Cable Pool	Pleasant River Bay	64
Oak Hill Cliff	Frenchman Bay	72	Sipayik	Cobscook Bay	64
Otter Cove	Frenchman Bay	72	Whitneyville	Machias Bay	63
Sheephead Island	East Penobscot Bay	72	Addison Point	Pleasant River Bay	62
Goose Falls	East Penobscot Bay	71	Narraguagus	Pleasant River Bay	62
Oak Point	East Penobscot Bay	71	Sanborn Cove	Machias Bay	62
Seawall Pond	Blue Hill Bay	71	St. Croix Island	Passamaquoddy Bay	62
Western Cove	East Penobscot Bay	71	Columbia Falls	Pleasant River Bay	61
Corea Harbor	Prospect Harbor	70	Holmes Bay	Machias Bay	61
Lamoine Beach	Frenchman Bay	70	Pleasant Bay	Pleasant River Bay	61
MDI Narrows West	Frenchman Bay	70	Blueberry Hill	Pleasant River Bay	60
Allen Point	Blue Hill Bay	69	Boise Bubert	Pleasant River Bay	60
Bucksport Harbor	East Penobscot Bay	69	Jacksonville Bridge	Machias Bay	60
Cranberry Point	Prospect Harbor	69	Indian River	Pleasant River Bay	59
Deer Isle Causeway	East Penobscot Bay	69	Cherryfield Downtown	Pleasant River Bay	58
East Blue Hill	Union River	69	Fort O'Brian	Machias Bay	58
Little Hunters Beach	Frenchman Bay	69	South Calais	Passamaquoddy Bay	57
Marlboro Beach	Frenchman Bay	69	Haycock Harbor	Bold Coast	55
Scott's Landing	East Penobscot Bay	69	Gardner Lake	Machias Bay	54
South Brooksville Bucks Harbor	East Penobscot Bay	69	Gin Cove	Passamaquoddy Bay	54
South Long Pond	Blue Hill Bay	69	Dennysville	Cobscook Bay	53
Battle Island	East Penobscot Bay	68	Larabee Cove	Machias Bay	52
Hatch Cove	East Penobscot Bay	68	Middle River	Machias Bay	52
Haven	East Penobscot Bay	68	Whiting Corner	Cobscook Bay	52
Morgan Bay	Union River	68	Wescogus	Pleasant River Bay	51
North Long Pond	Blue Hill Bay	68	Bog Brook	Bold Coast	50
Seal Harbor	Blue Hill Bay	67	Devils Head	Passamaquoddy Bay	50
West Brooksville	East Penobscot Bay	67	Indian Lake	Machias Bay	49
Northeast Harbor	Blue Hill Bay	66	Tide Mill Creek	Englishman's Bay	49
Pressey Cove	East Penobscot Bay	66	Woodruff Cove	Machias Bay	49
Sedgwick Ridge Road	Blue Hill Bay	66	Crowley Island	Pleasant River Bay	48
Carrying Place	East Penobscot Bay	65	Great Cove	Englishman's Bay	48
Wadsworth Cove	East Penobscot Bay	65	Boyden Lake	Passamaquoddy Bay	47

Hancock County Scenic Area Scores in Descending Order		
Scenic Area	**Scenic District**	**Total Score**
Buckmaster Neck	East Penobscot Bay	64
Penobscot	East Penobscot Bay	64
South Blue Hill Wharf	Blue Hill Bay	64
South Deer Isle	East Penobscot Bay	64
Alamoosook Lake	East Penobscot Bay	63
Frenchman Bay	Frenchman Bay	63
Grindleville Road	Blue Hill Bay	61
Mill Pond	East Penobscot Bay	61
Sand Beach	East Penobscot Bay	61
Southwest Harbor	Blue Hill Bay	61
Sylvesters Cove	East Penobscot Bay	61
Bass Harbor Marsh	Blue Hill Bay	60
North Sedgwick	Blue Hill Bay	60
Sand Cove	Prospect Harbor	59
Tidal Falls	Frenchman Bay	59
Blastow Cove	Blue Hill Bay	58
Jones Pond	Frenchman Bay	58
Mountainville	East Penobscot Bay	58
Salisbury Cove	Frenchman Bay	58
Bubble Pond	Frenchman Bay	57
Curtis Cove	Union River	57
Echo Lake	Blue Hill Bay	57
Lily Pond	East Penobscot Bay	57
Sand Cove Young's Point	Prospect Harbor	57
Bracy Cove	Blue Hill Bay	56
Hulls Cove	Frenchman Bay	56
South Penobscot River	East Penobscot Bay	56
Bagaduce Falls	East Penobscot Bay	55
Crabtree Neck	Frenchman Bay	54
Hatch Cove	East Penobscot Bay	54
Winter Harbor	Frenchman Bay	54
Weeds Point	East Penobscot Bay	53
Taunton Bay	Frenchman Bay	52
Herrick Head	Blue Hill Bay	51
Skillings River	Frenchman Bay	51
Toddy Pond	East Penobscot Bay	50
Peters Cove	Blue Hill Bay	47
Long Cove	Frenchman Bay	46
Bridges Point	East Penobscot Bay	45
Craig Pond	East Penobscot Bay	45
Ellsworth Waterfront	Union River	45
MDI Narrows East	Frenchman Bay	45
Prospect Harbor	Prospect Harbor	44
Hamilton Pond	Frenchman Bay	39
Jones Marsh	Frenchman Bay	39
Swain's Cove	East Penobscot Bay	39

Washington County Scenic Area Scores in Descending Order		
Scenic Area	**Scenic District**	**Total Score**
Steuben Village	Prospect Harbor	46
Harrington Boat Launch	Pleasant River Bay	45
Hardscrabble River	Cobscook Bay	44
Head of South Bay	Cobscook Bay	44
Unionville	Pleasant River Bay	44
Back Bay	Pleasant River Bay	43
Chandler River Bridge	Englishman's Bay	43
Hadley Lake	Machias Bay	43
Six Mile Lake	Machias Bay	39
Beaver Meadow Brook	Pleasant River Bay	37
Pennamaquan River	Cobscook Bay	36
Cole Creek/Mill River	Pleasant River Bay	35
Curtis Creek	Pleasant River Bay	35
Harrington Marsh	Pleasant River Bay	32
Snare Creek	Pleasant River Bay	31

Hancock County Scenic Area Scores in Descending Order		
Scenic Area	**Scenic District**	**Total Score**
West Bay	Prospect Harbor	38
Contention Cove	Union River	32
Surry	Union River	28

Washington County Scenic Area Scores in Descending Order		
Scenic Area	**Scenic District**	**Total Score**