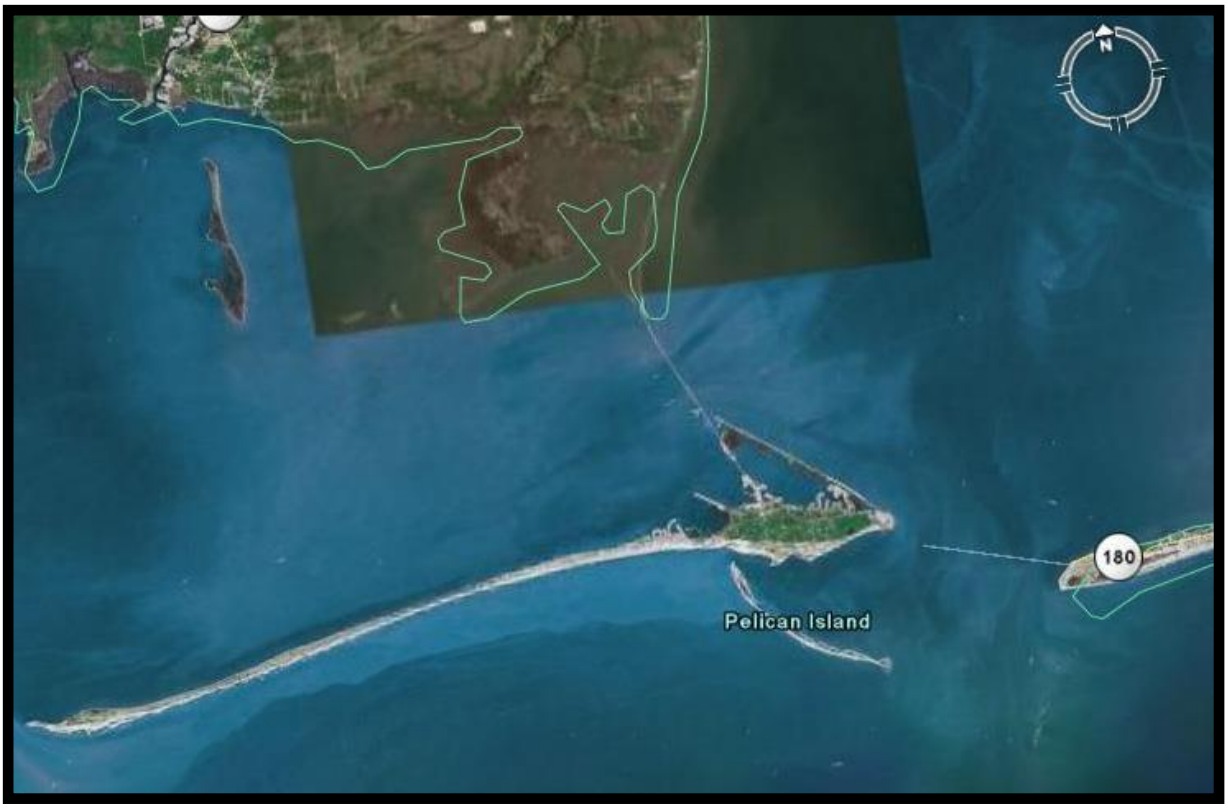
Strategic Planning Services for the Town of Dauphin Island, Alabama



Proposal for Contracted Consultant Services
Submitted by

Five E's Unlimited

1221 1st Avenue, Suite #231
Seattle, WA 98101

Contact Person: Dr. R. Warren Flint

Tel: (206) 749-9755
E-mail: *rwflint@eeeee.net*
Web Site: http://www.eeeee.net

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Fail to honor people, they fail to honor you; but a good leader who talks little -- when his work is done, his aims fulfilled, they will all say, "We did this ourselves."
Lao Tzu, Tao Te Ching, chapter 17, 6th Century BC

INTRODUCTION

The Town of Dauphin Island, AL desires to develop a strategic approach for sustaining its economic livelihood and environmental relevance. The island community recognizes the importance of natural resources and ecologic systems in supporting both economic development and societal well-being, as represented by maintenance and improvement in quality of life and preservation of cultural integrity. The community shows a deep concern for environmental sustainability as it relates to the social and economic capacity concerns of people. There is real possibility for significant change on the Island landscape in the years to come because of recent natural disasters. The anticipated change encourages concern about community well-being. It also motivates a needed emphasis on "sustainable" development for effectively influencing the direction and momentum of the change affecting resource management and growth over the next several decades. The consulting firm, ***Five E's Unlimited***, from Seattle, WA is very interested in assisting the Dauphin Island community to develop sound strategies for achieving sustainable development, which we characterize as the ability of humans to harmoniously coexist in a manner that maintains wildlife, wildlands, decent environments, social equality, and economic well-being today and for future generations.

UNDERSTANDING THE PROJECT

We have identified four key requirements in the preparation of a strategic sustainability plan which will guide the Town of Dauphin Island towards an environmentally, socially and economically sustainable future. These requirements are:

1. the consultant team's understanding for where the Town has been with planning activities that will appreciably inform this project and what the stakeholder aspirations and core values look like regarding a future, sustainable Dauphin Island community, which will require:
2. the community's deep and extensive science-based understanding of ecological, economic, and social sustainability, in all of its temporal, spatial and systemic dimensions, communicated effectively to participants and stakeholders in a way that inspires vision and action, to inform:
3. a thoroughly community-based and community-driven process of deliberation and decision making, engaging <u>all</u> stakeholders in the identity of weaknesses and threats as well as

community assets, and capable of guiding the making of difficult trade-offs while creating cohesive win-win solutions, whose outcomes are expressed in:

4. a solid, comprehensive, implementable Strategic Plan fulfilling all best-practice planning and statutory requirements, which will identify the necessary resources to overcome challenges and take advantage of opportunities, and will be a model for change management that effectively guides the Town of Dauphin Island in revising its Comprehensive Plan in order to direct progress toward a successful, resiliently enduring future.

Our Team

Through the firm, ***Five E's Unlimited***, Dr. Warren Flint, the firm's principal, is joining with Mr. Gene Martin of CommEn Space (Seattle, WA) and the University of Washington to propose and carry-out an effective plan of action in meeting the four requirements listed above. The Team's services will assist the Town of Dauphin Island in developing a long-term strategy and implementation plan for community development that creates a more hazard resistant community able to balance economic development with environmental sustainability.

Five E's Unlimited was formed to offer clients consultative services for taking charge of their own destiny and achieving sustainability goals that they, themselves identify for improving community economic opportunities and social vitality in environmentally sound ways. ***Five E's*** assists clients to integrate environmental, economic, and social equity concerns into project design and problem-solving that focuses upon community-based natural resource management, comprehensive planning, promotion of environmental sustainability in watershed and coastal zone strategic plan development, community awareness and capacity building, and sustainable eco-tourism planning. We decode, de-mystify, and put into layman's terms science needed by communities, organizations, and governments to achieve economic prosperity and improve social well-being, compatible with natural environmental systems. Our national and international leadership in community capacity-building facilitation, research, strategic planning, education, and policy recommendations toward achieving sound economic development and natural resource conservation goals has assisted governments, corporations, academic institutions, communities, and non-governmental organizations (NGOs) for more than 9 years.

Gene Martin's specialty in the ***Five E's*** team partnership is providing local and regional community driven initiatives with information, analysis and visualizations using Geographic Information Systems (GIS). His success with GIS and local empowerment come with integration of information technology information transparency, community values, and strategies to engage with all stakeholders involved. To support citizen action Gene established a not for profit consulting group the Community and Environment Spatial Analysis Center (CommEn Space) in 1998 located in Seattle, WA. The mission of this organization is to provide affordable map, analysis and geographic information technologies to support proactive environment and community development organizations and initiatives. His skilled leadership and guidance for teams of GIS technicians engaged with community leaders has contributed to improve human and environment relationships in the Pacific Northwest. For example, in 2001 Martin developed new information resources meant to change community planning in the Northwest.

The addition of several species of salmon to the list of endangered species drove demand for situation specific map information. Martin created some of the first detailed measurements of built surfaces used to assess watershed degradation and prioritize restoration.

Our team is able to work hand-in-hand with stakeholders to facilitate understanding of how one practice affects another and how one resource affects another, helping people to clearly see how sustainable economic development can only occur if the natural environment upon which it depends is carefully managed. We roll up our sleeves and work with groups to encourage collaborative relationships among ecologic, economic, and social equity interests, while assisting individuals to think broadly across disciplines and boundaries. Through our facilitation and mediation work, ***Five E's*** assists stakeholders to create authentic and practical choices and provide effective solutions to environmental decline, weakened economies, and community separation. And we are available all the time. If we are not physically on-site, we can still interact live with individuals or groups in the Dauphin Island community through the ***Five E's*** video-conferencing facilities. So we are able and willing to interact with the community continuously throughout the duration of the project.

Phases of Dauphin Island Community Strategic Planning

The proposed scope of work for the Dauphin Island project will include the following parts:

1. Assemble and review of existing planning documents and town statutes applicable to future development
2. Stakeholder sustainability awareness and creation of an information base that expresses community members' place-based interests, values, practices, and future vision.
3. Community asset identification through public participation, including visualization of historical and current Island conditions that reflect upon changes in the environment, community development, and cultural views.
4. Planning and design management that includes visualization of possible futures and timelines.
5. Implementation management

1. Finalize project design and review of historical and existing Town plans.

Consultant community sustainability planning experience. We have worked with a number of communities assisting them in their efforts to develop planning strategies that will help them achieve their self-defined sustainability goals. Warren Flint just finished (June 2006) assisting the Guemes Island (WA) community in the Puget Sound region to design a strategic plan for community development that included transportation concerns, drinking water conservation, cultural integrity preservation, and coastal resource protection. In 2003 Dr. Flint served as a team member of a consultant group assisting the community of Rathlin Island (Northern Ireland) in the development of a strategy that would build upon their grand history to preserve their way of life and protect their unique environmental setting, while being able to compete with mainland Northern Ireland in economic development. In 2002 Flint served as one of two lead consultants directing a team to assist the Resort Municipality of Whistler in its discovery of stakeholder values, identification of appropriate strategies, and preparation for action regarding a comprehensive sustainability plan that would promote both environmental sustainability and enduring viability of its resort and tourism industry.

In 2005 Martin created map and landscape visualizations to support a three county wide one hundred year planning agenda titled "The Cascades Dialogues." The project's maps are well recognized as

instrumental to the initiative's perceptions of the landscape and dialogue progress. In 2000 Martin provided GIS support for neighborhood planning in West Seattle. Maps and visualizations were needed to facilitate debate and consensus development on location and features for construction of a pedestrian and bicycle trail. Under Martin's leadership, CommEn Space facilitated the community's planning process with interactive maps portraying community landscape patterns, values, and transportation system. In 2000, Martin and the CommEn Space team began an extended relationship with The Cascades Conservation Partnership (TCCP). Their objective to purchase lands to create a wildlife corridor between Mt. Rainier National Park and the Alpine Lakes Wilderness area required extensive information on landscape conditions and ownership patterns to support strategic planning. The project's maps are well recognized as instrumental to the initiative's collaborative progress between citizens, financing, agencies and political process. Concurrently, a debate over the State's capacity and resources for oil spill response erupted. Martin teamed with People for Puget Sound to model the potential end result shoreline impact of small mock spills in the shipping lanes. The maps and quantified expected costs were made clear to local political figures and helped inform debate over the issue.

Proposed Tasks. At the start of the project the consultant team will meet with representatives of the four different governing bodies of the Town to discuss best practices for reaching the majority of citizens and stakeholders to obtain their ideas for the future of the Island. We plan to work closely with Town officials in order to identify all the potential key stakeholders who are likely to have a vested interest in participating in the strategic planning process for framing a sustainable Dauphin Island future. Each organization and/or individual contacted will also be asked for information on other potential key stakeholders that might not have been identified to-date as potential participants. The contact data collected on organizations and stakeholders to potentially be interviewed and become participants in the public consultation process will be maintained in a searchable electronic data base such as Microsoft Excel spreadsheet and FileMaker Pro software, and linked with the coordinates of their address on a computerized GIS map data base for Dauphin Island.

The meeting with Town officials will also include the discussion of overall project design to evaluate Town concerns for needed alterations in the plan proposed by the consultants for the project. The consultants will use their experience to offer best practices in the final design of this public consultation process.

Our work with the Dauphin Island community will begin with a formal evening presentation by the consultants to introduce the community to ***Five E's*** and to share with the public our overall approach to community planning along with the specifics about the Dauphin Island project. Prior to this first formal community meeting, a mail survey of all Dauphin Island residents will be conducted. In addition to the mailing, additional blank survey forms will be left in gathering places. Through specific questions this survey will set the pattern of "you tell us – you see it on a map." This can set the stage for the first meetings dialogue with community participants.

During this initial presentation there will be an introduction of how information will be collected from the community and how this information will "feed into" prospects for map-driven decision sessions later in the project. This introductory session will include some initial citizen participatory information-gathering using maps of Dauphin Island for individual data input and feedback/correction on initial consultant interpretations from the survey information. For example, participatory interaction will include asking "where are people located" – a distribution map of participants will be

created with address and dot on a map. Representation of the island drawn from initial input will be included as a summary to this initial presentation for each participant.

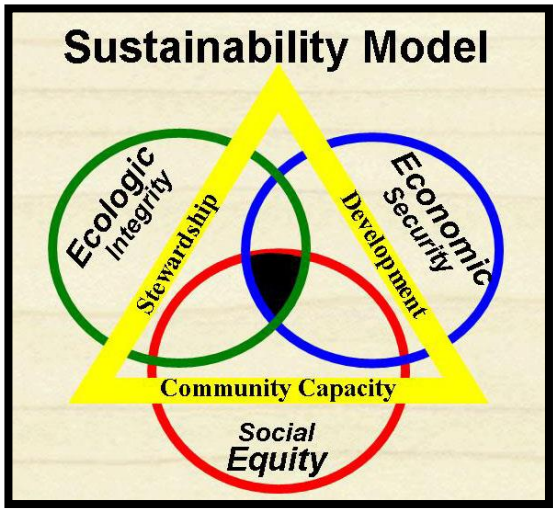
We will follow this community introduction with research of existing organizational policies, planning documents, and statutes to better inform further planning activities. This will be a key place to pick up legacy patterns on the Island that will become part of the base mapping activity as the project moves along. Off-island public officials with influence and regulatory authority for Island development will also be consulted during this initial phase.

2. Stakeholder sustainability awareness and value, interest, and practice discovery.

The importance of public empowerment. We understand profoundly that stakeholder empowerment is an integral aspect of community sustainability, not an add-on. For any long-term plan to work, it must be the outcome of a well-planned, transparent, accountable process of genuine and extensive community-driven dialogue and decision-making. Any plan development must be initiated, driven, and concluded by the community. We are able to use the many tools available to us to design the most effective public engagement and consultation processes, as dictated by the circumstances.

Our typical approach to client work is to immerse ourselves in the communities we are serving by spending significant blocks of time on-site. In this way we more effectively familiarize ourselves with circumstances, get to know the different stakeholders, and discover first hand what will work and what won't. Being off-island "strangers" is actually a big plus since we won't walk in with previously established biases. Our full immersion is the place where locals get to explain to us the Island through its history, development, economics, and crises and how their lives grew in the midst. We will ask questions like we had never been their before, requiring them to explain parts of Island life that they never thought remarkable or worth mentioning in a planning process. Our ability to serve a client's needs depends on our full understanding of local circumstances and opinion. Thus, we literally become a part of a community's fabric for the duration of most projects we are engaged in.

We know sustainability. Sustainability encourages a coming together of socio-economic and ecological concerns representing issues often in opposition but requiring reconciliation. Sustainability means working to improve human's quality of life without damaging or undermining society or the environment, now or in the future. In this way our economic desires become accountable to an ecological imperative to protect the biosphere, and a social equity imperative to create equal access to resources and maximize human well-being. Warren Flint is an internationally-recognized expert on sustainability, who has worked on its theoretical foundations and its practical implementation in many different global contexts. He is also an expert in sustainable ecological design principles. Gene Martin is an expert in converting public dialogue and input to computerized map overlays that conceptually articulate the public's perspective and he is highly experienced in the application of GIS functions to quantify and evaluate components of the most promising alternatives for achieving stakeholder sustainability goals.



We can explain sustainability to others. As sustainability experts we have websites that are effective public learning and awareness tools, have published papers and books, and have taught students and the public about the many dimensions of sustainability. Gene Martin teaches students and assists researchers in practical, effective spatial measurement practices for analysis and visualization of complex landscapes used to evaluate geographic relationships in analysis and planning. His work with CommEn Space always requires exploration and explanation with clients of what GIS maps can do and how they can be effective. Completed maps come with descriptions written for the general public on their content and value. Warren Flint has created several ecological and environmental justice courses, has published *Living a Sustainable Lifestyle for Our Children's Children* (October 2001), and has created a website packed with sustainability information for the average reader (http://www.eeeee.net).

We understand the language of sustainability. We speak its dialects: the Natural Step, Ecological Footprinting, Natural Capitalism, Triple Bottom Line, Bio-mimicry, Conservation-Based Development, Life Cycle Analysis, and more. Through maps we deliver Gap analysis, environmental justice, risk assessment and analysis of change. We relate to its audiences, from those who read peer-reviewed academic journals to those who join in spirited town-hall debates, intense coffee-shop conversations, and front porch or backyard discussions. We understand the incentives and objectives of its different publics, from legislators and business owners to community residents and environmental activists. We can tell the story of sustainability in ways that make sense to everyone, and we will vividly present innovative and reality-based sustainability strategies, fully appropriate to the specific place and culture of Dauphin Island. We fully recognize and can effectively demonstrate that sustainability means transforming our ways of living to maximize the chances that environmental and social conditions in a place will perpetuate human security, well-being, and health. Our team is able to provide both visionary inspiration and pragmatic, science-based understanding for the Dauphin Island community.

We understand sustainability in the context of a tourism destination community. Warren Flint has focused on sustainable eco-tourism in Scotland, Ireland, Whistler (British Columbia, Canada), and the coastal regions of Virginia's Eastern Shore (USA). He has researched methodologies to balance tourism demands with environmental protection and evaluated numerous means to add value to community assets that enhance the tourism experience in sustainable ways. Dr. Flint also has experience with sustainable, green building design and is able to evaluate best building practices that will enhance environmental protection and human security in settings like the Gulf coast. Gene Martin has contributed to assessment and planning for green spaces that benefit local citizens and visitors alike.

Proposed Tasks. The consulting team will spend considerable time in the Town of Dauphin Island surveying community issues and ideas for future development through open discussions at public gathering venues, as well as in formally scheduled workshops that will be of a number to adequately address the varying schedules of all potential participants. We will initiate individual dialogues with representatives of the different special interest groups within the community and beyond to gain full appreciation for the diversity of concerns, desires, and values. Stakeholder interviews will be used to define stakeholder core values and to help us fully understand the most important issues, concerns, and constraints of the different potential development opportunities for Dauphin Island. Workshops will also be facilitated to identify stakeholder core values, interests, and practices to elicit their vision of what the community can become, and to initially identify the community's perspective on assets of the Island that can be used in its sustainable development strategy. Again maps specific to the Island will be used as a backdrop and record for community input to the initial strategic planning process. For

example, interviewees and workshop participants will be provided with multiple copies of the island's base map and asked to draw their personal experiences of day-to-day elements like homes, neighborhoods, areas at risk, most valuable area, and the like. This sort of real life and cultural information will be included in the database and become available for the planning process to come. Techniques to assess population density and landscape values will form a vision of the "lay of the land" from the community perspective with feedback corrections. This basic cultural template will be placed alongside available landscape information resources and enable us to better assess development issues. This serves as a means to integrate sustainability concepts while improving public awareness and participation in the general development strategy the project will pursue.

3. Public participation process that prioritizes community assets and guarantees the drive and buy-in necessary for sustainability.

We are experts in public participation. We have broad and varied experience with aspects of the public consultation process. Warren Flint is very knowledgeable in public process design, trained as a group facilitator, worked as an effective stakeholder interviewer, and certified as a mediator/conflict resolution specialist. Gene Martin has regularly engaged with GIS as an aid to encourage transparent public processes. These experiences are integral in his academic and professional ventures with decision making for land and resource use outcomes from planning and region futuring exercises. We are able and willing to be available in Dauphin Island as much as the public participation program requires, and will maintain an ongoing presence in, and responsiveness to the community, both on-site and through video-conferencing.

Engaging the entire community. In group facilitation Warren Flint employs methods such as Technology of Participation (TOP), Collaborative Community Problem-Solving, Appreciative Inquiry (AI), Open Space Technology (OST), and Future Search Conferencing (FSC - using concepts of vertical conferencing). In these different methods he uses the private, non-judgmental, non-coercive character of Transformative Facilitation processes to help parties understand attitudinal change is the key to achieving results and desired outcomes from the exploration of opinions and options. The transformative approach works because it allows people to increase their ability to control their own lives. This empowerment creates more fulfilling experiences through mutual efforts to resolve shared problems according to the group's self-defined values. With collective understanding and action people can then successfully resolve their issues as well as organize and implement change. Transformative facilitation promotes a sense of accomplishment and belonging through shared learning and dialogue in a process of growing self-realization, self-definition, and self-determination.

Resolving conflict is about choices and relationships -- those with which we free ourselves and those with which we imprison ourselves. Conflicts are created by the choices people make and therefore can be resolved by electing different choices with resolution so firmly in mind that it naturally leads to a shared vision of the future towards which to build. To create this kind of setting, Dr. Flint subtly promotes the philosophy that

duality of right versus wrong does not have to exist. There can instead be a continuum of "rightness," predicated on a participant's knowledge and perception of possible outcomes. In this framework people can learn to listen to one another's ideas, not as points of debate but as different and valid experiences, significantly broadening their understanding. Then they can fully participate in a search for common ground and better policy can be produced through a process of triangulation in which a problem is analyzed from a number of different perspectives, instead of from a single approach which can be dangerously incomplete. Through appropriately facilitated communication the many individual perceptions are then coordinated and integrated into a collective vision of reality by the participants.

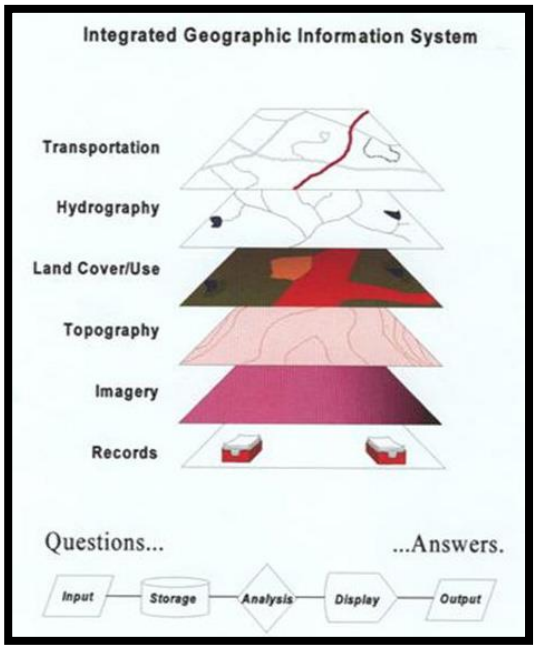
The strength of a consensus-building process comes from its flexible, inclusive, voluntary, and participant-driven nature. But dramatic, fundamental change is necessary if we are really concerned with bettering a perceived situation. Transformative facilitation has the potential to engender moral growth in people by helping them -- in the very midst of conflict -- to wrestle with difficult inner and outer circumstances and bridge human differences. Flint's approach to building consensus is thus, intuitively transformative because he is able to apply methodologies such as Alternative Dispute Resolution (ADR). He promotes ADR because it involves collaborative problem solving through neutral facilitation that provides disputants a "safe-place" and greater ability for control and buy-in. Flint has observed in his work that ADR techniques are very effective in transforming much of the combative conversation into dialogues toward collective understanding and agreement on findings.

The principles that guide our public consultation. While the specifics of the public participation plan need to be addressed by all the stakeholders, not just by the consulting team, our experience has taught us principles to apply. We will:

- become deeply familiar with and credible to the community;
- clearly define and articulate the purpose and goals of the public participation program;
- optimize the program's benefits for both citizens and government, and minimize costs;
- create a two-way flow of information and views, both collection and dissemination;
- provide ample opportunities for participation at the goal-setting and problem-definition stages, as well as at the recommendation, adoption, and implementation stages of the decision-making process;
- develop a framework for dialogue which allows the participants to develop non-confrontational relationships with one another, with the goal of providing clear decision processes and building crucial long-term cooperative relationships;
- take into account the views of all with legitimate interests, not just those with the loudest voices or those attending meetings;
- use a variety of methods that suit the convenience and learning/communication styles of different participants, for both information dissemination (*e.g.*, open meetings, conferences, publications, mass media, displays, exhibits, mail, advertising/notices, drop-in centers, web sites, correspondence, word of mouth) and information collection (*e.g.*, hearings, workshops, meetings, conferences, consultation, research, participant observation, interviews, surveys, etc.);
- ensure that all consultation processes taking place in the community are fully integrated, to avoid confusion and public burn-out;
- undertake negotiation and conflict-resolution as needed among parties;
- use divergent and convergent thinking at the appropriate stages in the dialogue; and
- demonstrate to participants how their contributions have influenced the decisions.

Our team is well able to work hand-in-hand with all sectors of the community to lead an optimal and community-driven dialogue and decision-making process.

GIS to assist community asset mapping. Asset mapping can be an important technique for collecting "heart and soul" features of a community. While you can see landscape characteristics of a place by simply drawing the locations of features on a paper map, however, it is impossible to work with the full complexity of a landscape. Roads, buildings, utilities, vegetation, habitats, elevation and many more data components must be available on the map for it to be useful in the planning process. Even more helpful is the ability to apply a GIS to overlay all these important landscape features to quantify position, concentration, cultural value, relationship and interactions among features. Combination of the multifaceted conditions across the region can be integrated together and form a better view for the planning process. With maps specific to local conditions people can work collaboratively to improve and continuously update their understanding of what their community and surrounding environment really look like, as well as what potential assets they possess that will be important in planning for the future. For example, many of these mapping tools were effectively applied recently for comprehensive planning purposes in Berthoud, CO, a community of 5,000 people. All of Gene Martin's work with GIS is driven by the values that communities place on the features and assets that surround them. Through his work with GIS and cooperation of participants the map becomes a mirror of how the community relates to its landscape.



Proposed Tasks. As a follow-up to the initial stakeholder asset identification from above, the consultants will research the entire Dauphin Island landscape to evaluate for themselves if there are additional environmental, social, and economic assets that were missed by the public consultation process, but need to be included in the final analysis for further development support or because of their need for protection from some potential development strategies. We will conduct surveys of the Island and with the aid of GPS hardware accurately correct and update the database and map landscape issues that might not have been mention through public consultation.

The consultant team will then design and conduct a workshop set that meets the scheduling needs of all potential participants. This workshop process will be designed using the same group dynamic facilitation technologies described above (Engaging the entire community) and will focus upon both identifying stakeholder core values and articulating a vision for future Island development by obtaining consensus from an in-depth analysis of the stakeholder inventory of assets the Dauphin Island geography possesses that will be important in its future development planning. For example, questions posed to the participants might include: which streets are used the most and where do they go; where on the Island do you spend the most time outside home; what parts of the Island do you feel are most important for tourism; where do the people live who work in the service industries on the Island; where would you like to build a road and where would it go; which parts of the Island are most exposed and threatened by storms? The consensus on important assets will be prioritized using a “Sticker Dot” manual voting process and transferred to a computerized dot density map for the Island from the

different responses. Assembled together responses to these questions and others can generate a "vision" of the Island as it is in people's minds. Then the consultants will use a GIS platform to illustrate to all stakeholders the distribution of these assets upon the Dauphin Island landscape for their consideration in the next steps of the planning process. This GIS distribution of assets will be displayed on the web in order to afford all stakeholders time to fully evaluate the importance of different assets.

4. The capacity to develop a Plan which fulfils all best-practice sustainability planning and statutory requirements.

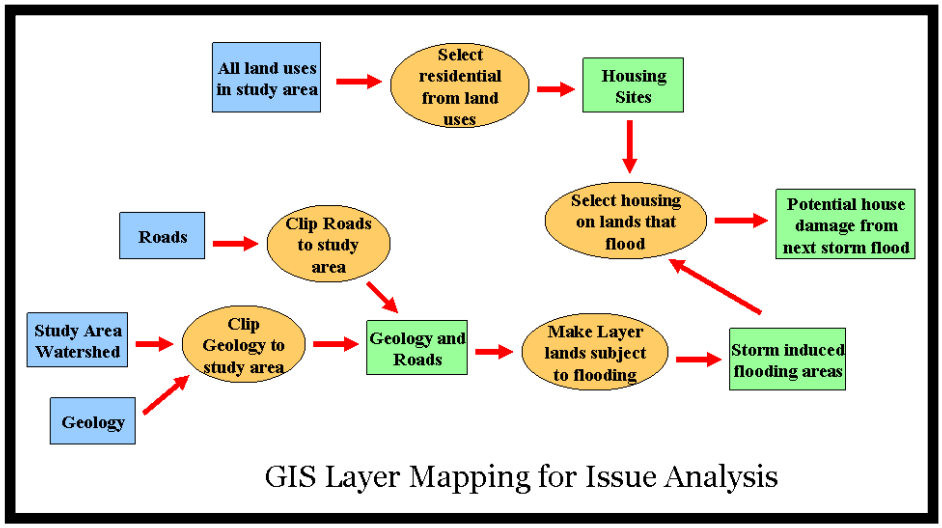
Our team has a solid background in planning, as well as in municipal operations and the development of comprehensive plans. Gene Martin is an internationally recognized expert in sustainable land use planning, having the ability to employ geographic information systems to effectively aid the evaluation of land uses that are environmentally, socially, and economically sustainable. Warren Flint has consulted extensively on the development of comprehensive plans for communities, including several on the Eastern Shore of Virginia (USA) and for the Resort Municipality of Whistler in British Columbia (Canada), and advised on integrated sustainable development plans in an international context (Ireland and Scotland). We can work and liaise effectively with the Dauphin Island Planning Commission to produce a strategy which not only conforms to all long-range planning requirements, but also serves as an implementable vehicle of the community's vision.

Proposed Tasks. Following the preliminary work of the community in articulating their core values, describing a vision for the future of Dauphin Island, and identifying important assets to protect and use in the sustainable development of the Town, the consultants will focus upon designing a process for delineating community-defined development strategies and then testing the potential of alternative development paths for their potential sustainability promise. It is hoped that through the many opportunities the consultants create for public engagement in the project prior to this point, stakeholders will be duly impressed by the consultative process and the importance of their continued contribution so that we can count on an involvement effort that will achieve a majority of participation in the strategic planning process described from this point forward.

A multi-day charrette will be designed to engage all stakeholders in a dialogue process that mobilizes local support and fosters new levels of cooperation for encouraging desirable change in the community. Our experience has been that these grassroots, charrette-based approaches to planning have been the kernel that starts major planning initiatives, reorganization efforts, agency advancement, and legislative adoptions affecting communities for decades after their occasion. It is through our well-designed charrette process that the community can engage in dynamic, live input and discover sustainable solutions to their issues in a manner that can be endorsed by all the Islanders and perhaps become a model for other communities in the region.

We will pursue a charrette design similar to what we have done with other communities (*e.g.*, Whistler, Rathlin Island, Guemes Island, etc.) while seeking the input of governmental representatives to the actual design of the process. The group dynamics of the charrette will be managed by the use of

facilitation technologies described earlier. After initial "big picture" presentations the charrette participants will work in small groups to overlay their ideas on base asset maps of the Dauphin Island region in order to physically envision and model different land uses and potential impacts on socio-economic and ecologic resources. The paper maps as well as any supporting GIS platforms can become a "chess board" to anchor discussion and debate. Following the completion of small group work, that includes periodic times for updating the whole charrette about their progress, the groups will report to all participants regarding their objective of designing a development scenario for Dauphin Island that in their opinion maximizes social and economic benefits and minimizes negative environmental consequences, while reducing the hazard risks of future natural disaster events.



At this point in the charrette the capabilities of GIS, as generally illustrated by the example in the adjacent diagram, will be used to conceptually integrate the data for each group scenario, do spatial analysis on the data, and use mapping displays to address complex geographic issues delineated by the different group scenarios (*e.g.*, housing development, business placement, and other land use development in relation to the storm hazard of flooding). The use of simple GIS modeling will provide periodic instances of graphic landscape-grounded versions of current and future conditions for the Island. Through this process Island stakeholders will be able to play "what if" scenarios for the area by testing alternative choices in land use, transportation, water quality, waste management, economic strategies (*i.e.*, eco-tourism versus small-scale industrial development). During the scenario planning process (some refer to this as "futuring") stakeholder participants will be asked to identify problems they perceive from the different scenarios being examined. Following the futuring activities the charrette will provide the opportunity for developing consensus on the development course judged most appropriate and sustainable by participants. Through their earlier identification of problems related to the different scenarios, participants will then be able to identify solutions that can be built into the future comprehensive planning process for Dauphin Island in order to advance the public's preferred path of development.

As a final element of the charrette process, stakeholders will be asked to use their collective wisdom for identifying indicators of success that can be used to evaluate progress on the publicly preferred strategy direction. Dr. Flint published a journal paper in 2004 entitled The Sustainable Development of Water Resources (Water Research Update 127:41-51) which defines a process for establishing sustainability criteria and defining indicators to measure those criteria. This same kind of indicator development model will be employed to assist the Dauphin Island community in examining where it wants to go with its strategic plan and how to measure success in achieving specified goals.

5. Balancing the other planning requirements through management of an implementation strategy.

The four requirements implicitly demand a fifth, the ability to weave the four threads into one cohesive and integrated whole as represented by the development of a strategic plan and implementation design. Our team can readily respond to this challenge because we are experienced in "wearing different hats" and working in a team environment. More than this, we have a commonly-held, deep commitment to sustainability and to community empowerment. In addition, we offer an unusually strong capacity in project management which will ensure on-time, on-budget deliverables consistent with high standards of excellence. Warren Flint and Gene Martin have come together specifically for this challenge, combining local and international knowledge in all needed disciplines with communication skills, dedication and enthusiasm, problem-solving analytical cartography, and a strong capacity in project management to ensure we can perform what we promise. We will bring visionary inspiration, pragmatic action planning, science-based comprehension, and democratic commitment to the task of assisting Dauphin Island in becoming a premier sustainable community of the future.

The community already knows the value of natural resources and ecological systems in supporting enduring economic improvements and societal well-being. The services of ***Five E's Unlimited*** will enhance the coming together of all interested stakeholders to broaden this collective wisdom in a way that the community will be able to articulate and evaluate the best strategies for ensuring economic viability and social integrity in ways that are environmentally sustainable.

Proposed Tasks. Following the community-wide charrette process the consultants will evaluate what all stakeholders said and proposed for the future of Dauphin Island. We will compare the public consultation process outcomes and suggested strategic plan direction with our experiences from working in other similar communities, as well as our research on communities we have not worked with that have been successful with this kind of planning effort. From these evaluations we will prepare a Final Strategic Plan Report that will include the outcomes of the community planning process as defined by the report content's list in the Dauphin Island Request for Proposals. In addition to this final strategic plan, based upon our experiences with other similar communities and the outcomes of the Dauphin Island project, we will develop a series of recommended implementation strategies that include both short-term actions able to take advantage of "low-hanging fruit" and longer-term actions that will build upon the short-term progress and begin addressing the community's vision in a sustainable way, including minimizing risk to future natural disaster hazards. Through our thorough reporting of what the outcomes were from the public consultation processes regarding vision setting, community values, asset identification, and potential futuring scenarios, and our own recommendations about the long-term strategy for community development on Dauphin Island from the collective wisdom we have gained through the conduct of the project, we will work collaboratively with the Planning Commission and others in identifying how this strategic planning process can be integrated into the Island's Comprehensive Plan.

Project Deliverables

The different deliverables we will provide during the project period will include the following:

- Final, agreed-upon strategy for the total project design with timeline.
- Summary map of where strategic planning participants live on the Island.
- Base maps (on paper) of Dauphin Island with traditional geographic overlays that will be used in interviews and initial public consultation processes.
- Public report of the Visioning and Asset Mapping Workshop results for their review and comment.
- Provision of formal Dauphin Island base maps for distribution to participants in PDF format on CD-ROM media for use in preparation for further public participation activities.
- Publication on the web of the Base Map of Dauphin Island showing all public and consultant identified assets for full public review.
- Design for the charrette process submitted for contractor review.
- Iterative large format maps to ground conversations and discussions on the landscape during the charrette process.
- Background materials to the public for their enhanced participation in the charrette process.
- Final Strategic Plan Report.
- Plan Implementation Strategy.
- Computerized file of all participant contact information and provision "Google" type maps of the entire spatial database as a means of continually reinforcing the outcomes of the planning process to the community.

Project Timeline (Assumes a November 1, 2006 start-date)

Activities	Time Period
• Initial design meeting with Town officials. • Identification of historic and existing background, planning, and statutory documents. • Consultant Introductory Presentation.	November, 2006
• Review of existing planning and statutory documents. • Initial public interviews and consultation workshops regarding stakeholder values, interests, practices, and vision and stakeholder sustainability awareness.	November-December, 2006
• Community asset mapping workshops.	February, 2007
• Planning charrette workshops and GIS futuring scenario testing.	April-May, 2007
• Final report and recommendations preparation.	June-July, 2007
• Development of Town implementation strategy.	August, 2007
• Report and Implementation Strategy submission.	September, 2007
• Planning Commission assistance with codifying strategic plan recommendations.	September, 2007

Previous Project References

For Warren Flint:

GUEMES ISLAND PROJECT (Washington; June, 2006)
Roz Glasser, Vice. Pres.
Guemes Island Planning Advisory Committee (GIPAC)
7779 Hideaway Lane
Anacortes, WA 98221
Tel: (360) 293-6143 e-mail: rozglasser@juno.com

RATHLIN ISLAND PROJECT (Northern Ireland; November, 2003)
Ms. Judith M. LaBelle, President
Countryside Stewardship Exchange Inst.
Glynwood Center, P.O. Box 157

Cold Spring, NY 10516
Tel: (914)265-3338 e-mail:

WHISTLER PROJECT (BC, Canada; May, 2002)
Mr. Mike Purcell, General Manager
Planning & Development, RMOW
4325 Blackcomb Way, Whistler, BC V0N 1B4
Tel: (604)935-8160 e-mail: purcell_m@rmow.whistler.bc.ca

For Gene Martin:

COMMENSPACE ORGANIZATION (Seattle, 1998 – present)
Janice Thompson 206-624-6430 x231
The Wilderness Society
The Center For Landscape Analysis (Seattle)
http://www.wilderness.org/Newsroom/experts.cfm#gis

UW NSF BIOCOMPLEXITY PROJECT (University of Washington, Seattle, 2001-2002)
Dr. Marina Alberti malberti@u.washington.edu (206) 616-8667
Urban Ecology Research Laboratory (UELR), Seattle WA
http://faculty.washington.edu/malberti/
http://www.urbaneco.washington.edu
http://www.urbaneco.washington.edu/bxi.htm

THE CASCADE CONSERVATION PARTNERSHIP AND CASCADE AGENDA PROJECT
Charlie Raines: (206) 523-1347 (Seattle, 1999-present)
The Cascades Conservation Partnership and
Chair of the Checkerboard Project Committee
http://www.conservationnw.org/centralcas/the-partnership

PUGET SOUND SUSTAINABILITY PROJECT (Seattle, 2000-2002)
Clark Williams-Derry, (206) 447-1880
Sightline (formerly Northwest Environment Watch)
http://www.sightline.org/about/staff/clarkbio

Proposed Budget

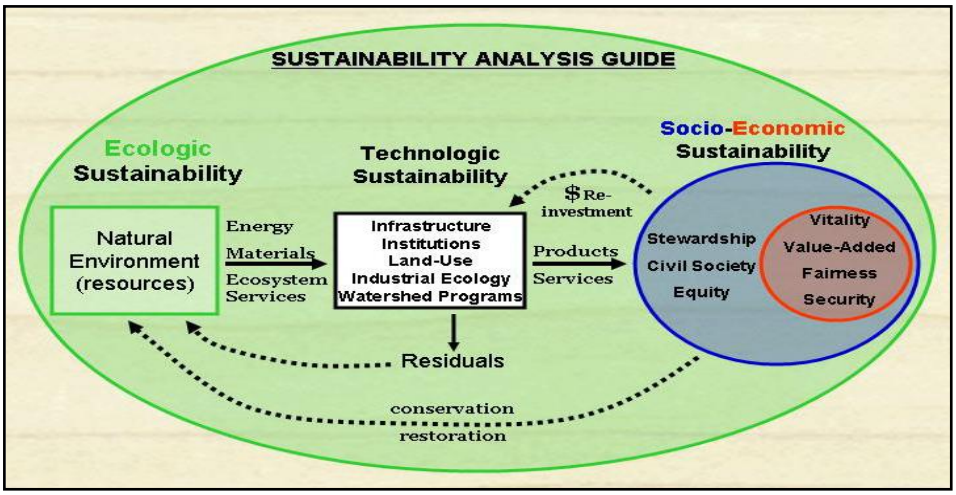
Category	
Dr. Warren Flint Consultant Fees	Travel Costs Airfare [1] Rental car Lodging, & per diem
Mr. Gene Martin Consultant Fees	
Facilitator Fees	Communication Costs

		Costs
Other Expenses (*e.g.*, software, supplies, map printing, etc.)		$ 30,000
Sub-Total		$ 20,000
Administrative Fee (10% of Budget)		$ 8,000
	$ 9,600	
	$ 1,500	
TOTAL	$ 7,250	
		$18,350
		$ 1,000
		$ 3,150
		$80,500
	$ 8,050	
		$88,550

[1] Airfare costs may vary according to market condition at time of travel

Five E's Unlimited

Five E's Unlimited (*http://www.eeeee.net*) was formed 9 years ago as a consulting firm that uses science to support the duality of natural resource conservation and socio-economic improvement. We assist clients to understand the connected issues in our world and how the kinds of choices you make based upon this understanding affect the consequences of actions. ***Five E's*** offers a diverse array of skills, tools, and knowledge to assist clients to integrate environmental, economic, and social equity concerns into sustainability project design and problem-solving processes that they identify in order to take charge of their own destiny. The totality of our work is captured in the following conceptual model. Services include community-based natural resource management; comprehensive planning; sustainable development program design; promotion of environmental sustainability in watershed and coastal zone strategic plan development; community awareness and capacity building; sustainable eco-tourism planning; green building/conservation design; design of sustainability education strategies; and guidance on sustainable lifestyle decision- making for individuals, groups, and governments.



Dr. Warren Flint is the owner and principal of ***Five E's*** and is personally committed to encouraging people around the world to think and act sustainably by the Firm's provision of current information and unique services not found anywhere else. With over 25 years of experience in sustainable development and environmental science, Dr. Flint and his partners offer more than anybody else can in clearly articulating information important to integrate your self-defined community and business goals into environmentally sound decisions. ***Five E's*** encourages collaborative relationships among ecologic, economic development, and social justice interests and assists people to think broadly across disciplines and boundaries, uniquely serving client needs for achieving sound sustainable development awareness, understanding, and action.

Through its facilitation and mediation approaches, ***Five E's*** helps stakeholders in making authentic choices and providing consensus-based solutions at the nexus of perceived ecologic, economic, and social justice issues. We develop an assessment of present circumstances and then help you to seek common-ground solutions to your problems by evaluating, articulating, and clarifying crucial controversies and identifying strategies to advance your objectives. These strategies are enhanced by our assistance to clients in being able to see across borders and barriers, turning data into knowledge and understanding into sustainability. ***Five E's*** encourages

looking beyond solving problems one at a time, to a position where you envision the development of systems that prevent problems from occurring in the first place.

One of the things that is unique about our client services in the area of sustainable development, is that we consider ourselves Virtual Assistants through the use of video-conferencing technology. By being virtual assistants to your group in providing client services, we can consistently interact via electronic communications and solve many of your problems in a quick turn-around manner. In providing virtual assistant services we can respond immediately to our client needs without the limitation of distance between your office and ours.

Some of our projects in recent years include the following:

- **Community Sustainable Development Assistance, Guemes Island, WA** (June, 2006).

- **Sustainable Community Development Strategies in the Niger River Delta Region of Nigera - South-Sea Datcomm, Inc. and the Niger Delta Development Commission (NDDC)**. (March-September, 2005).

- **Directed Public Consultation Processes to Develop Strategies for Urban Revitalization and Sustainable Economic Development of Inner-City Neighborhoods - Shaw Main Streets**, Washington, DC (January - October 2004).

- **Sustainable Community Development and Natural Resource Protection on Rathlin Island, Northern Ireland – Countryside Stewardship Exchange Program**, Cold Spring, NY (October-November, 2003).

- **Facilitated Workshops on "Biotechnology-Derived Perennial Turf and Forage Grasses: Criteria for Evaluation" - Council for Agricultural Science and Technology** (CAST), Washington, DC (January 2003).

- **"Whistler Its Our Future" – Comprehensive Sustainability Planning for the Resort Municipality of Whistler**, British Columbia, Canada (March-October, 2002).

- **Directed Public Participation Process for Revisions to Comprehensive Plan - The Town of Exmore**, VA (January - August, 1997).

- **Community-based Natural Resources Management, Watershed Resource Conservation, and Sustainable Economic Development, Dumphries-Galloway Region of Scotland – Countryside Stewardship Exchange Program**, Cold Spring, NY (September, 1996).

- **Development of a Comprehensive Conservation Management Plan - State of Louisiana, Barataria-Terrebonne National Estuary Program** (March 1993 – February 1994).

RESUMES

Warren Flint, Ph.D.

Warren Flint obtained his Ph.D. in Ecology from the University of California, Davis (1975). He has 25 years of university research, teaching, and administrative background in environmental sciences, as well as 10 years experience operating a consulting business in sustainable development. He helps communities achieve sustainability by design of integrative strategies that balance social, economic, and ecological concerns. His technical expertise includes: coastal zone science & policy development, comprehensive land-use planning, conservation-based community development, integrated watershed assessment, sustainable urban revitalization, community-based natural resources adaptive management, sustainability studies, ecosystem research, estuarine/coastal ecology, community capacity building, environmental justice, interdisciplinary environmental studies education, environmental conflict resolution, green building, community facilitation/training, ecotourism planning, workshop/conference design, and Internet web site design.

Warren has provided leadership for international, interdisciplinary inquiries into scientific, technological, and societal problems in adaptive conservation, management, and remediation of large ecosystems. He works in the areas of comprehensive natural resource and watershed planning, sustainable development program design, community awareness and capacity building, sustainable eco-tourism development, and guidance on sustainable lifestyle decision-making. His more than 60 peer-reviewed publications include three books, the most recent being *Living a Sustainable Lifestyle for Our Children's Children* (October 2001). He has led several educational programs that deepen ecological and sustainability awareness, and administered an international Great Lakes research/policy program that included design of ecosystem-scale research projects and bi-national interdisciplinary fact-finding activities on environmental management and policy.

As evidence of his reputation as an acknowledged sustainability specialist by others, please visit *http://www.arnoldcreekproductions.com* where he is interviewed on this subject. He has published websites that are effective public learning and awareness tools (*e.g.*, *http://www.aBetterFuture.org*), has published papers and books, and has taught students and the public about the many dimensions of sustainability. His web site, ***http://www.eeeee.net*,** demonstrates his ability to make complex sustainability issues readily understandable. For example, a recent acquaintance said, "I work and research in sustainability and I wanted to express my gratitude to Dr. Warren Flint for such a well planned and conceived website. I find it extremely engaging, thorough, and passionate about sustainability. It is a pleasure to discover such a dedication. It is definitely a better world, knowing that there are dedicated researchers who divulge the concept of sustainability thru their services" (Dr. Mark Esposito, University of Massachusetts Amherst, Switzerland Program, Luzern, Switzerland; e-mail: *m.esposito@ht.umass.edu*). Warren Flint also gained first-hand understanding of the hospitality and tourism industry through co-owning and operating Chestnut Manor House, a seven-room Victorian Bed & Breakfast in Buffalo, NY, that involved significant community organizing to take advantage of the US-Canadian Free Trade agreements.

Flint is experienced in working at the interface of science, research, and technology in the way they impact sustainable development policy. In his work at the nexus of science and real world application, he strongly promotes the concept of science accurately articulated to the public and decision-makers at the "tipping point" of real opportunities to implement change. In this regard he is a strong advocate for the concept of "Citizen Science." Dr. Flint is able to function in this capacity because of his ability to interact with a wide variety of people from different backgrounds, cultures and professions, and because he is able to articulate scientific information to non-scientific audiences. For example, one of his colleagues said a few years ago, "Dr. Warren Flint works very effectively at directing teams of individuals from a variety of backgrounds. He knows how to talk to us and how to help us talk to one another. His ability to negotiate relationships among scientists, politicians, community leaders, and regular citizens serves his science dissemination and management work well." (Dr. Mona Danner, Associate Dean of Social Sciences, Old Dominion University, Norfolk, VA; e-mail: *mdanner@odu.edu*).

A summary of his professional experience includes the following:

- 10 years consulting in sustainable development, coastal resource protection, community-based conservation, adaptive watershed management, land-use planning, conflict resolution, environmental science, and environmental education.
- 25 years of university research, teaching, and administrative experience in environmental sciences.
- Served as administrative Director for several academic units and two non-profit, community-based organizations.
- Leadership in international, interdisciplinary, multi-institutional inquiries and mediation for scientific, technological, and societal problems related to the conservation, management, and remediation of natural resources in large ecosystems.
- College teaching in environmental studies, marine ecology, limnology, benthic ecology.
- Expert in ADR applications for environmental conflict resolution; member of U.S. Institute for Environmental Conflict Resolution (Tucson, AZ) mediator's roster.
- More than 60 peer-reviewed publications demonstrating a research career in natural resource assessment & management, estuarine ecology, marine biology, coastal oceanography, and Great Lakes ecosystem science.
- Deep commitment to interdisciplinary application of knowledge learned from science toward real world problems.
- Worked & written on sustainable development to promote sound philosophies in natural resource management, supporting healthy economic growth, preservation of environmental integrity, and advancing of social equity.
- 8 international work experiences, including Nigeria (2005), northern Ireland (2003) and western Scotland (1996) evaluating watershed conservation, community revitalization, and sustainable agricultural & fisheries development.
- Funding and management of programs totaling over $5,000,000 with as many as 16 personnel on any one project.
- Conducted community training (MIRA - Kellogg Foundation) on sustainable land-use, natural resource protection, community-based conservation development & telecommunications applications.
- Worked as a leader in neighborhood organizing and sustainable cities revitalization.

- Owned and operated the ***Chestnut Manor House***, a seven-room Victorian Bed & Breakfast.

Description of Key Qualifications:

Adaptive Coastal Zone Research & Management: Led interdisciplinary research teams evaluating anthropogenic effects on marine and Great Lakes coastal waters; Assessed status of current management practices & policies in mid-Atlantic, Gulf Coast, Great Lakes areas and international settings; Worked with governments to modify and advance protocols that stressed adaptive, sustainable, integrated coastal zone management approaches.

Rural Smart Development Applications: Designed an integrated rural development model for transforming regional economies to increase local environmental stewardship and regional financial security; Employed smart design protocol using GIS landscape assessment to assist rural community development; Facilitated formulation of regional comprehensive plans to identify major social, economic, environmental, and cultural concerns and actions toward sound solutions; Guided urban growth development to maintain integrity of rural natural resources and open space; Researched value-added natural resources activities and designed/assessed eco-tourism programs.

Community Development - Participation/Training: Conducted formal and informal training in ecosystem management and community-based environmental protection for governments, the private sector, NGOs, and community groups; Developed communication strategies to provide public information and change behaviors toward coastal resource exploitation/protection; Led neighborhood organizing for development of diverse, self-sufficient community plans, "village" economic re-development, and cross-boundary linkage of neighborhoods; Facilitated stakeholder activity in community-based natural resource research, mapping, ecological appraisal, & management; Implemented stakeholder conferences and workshops, which included their design, facilitation, and reporting, stressing the "public way of knowing" for the advancement of citizen science capacity.

Integrated Watershed Assessment: Studied interactions among water users, land-use patterns, community practices, and industries, to recommend actions to advance equity, participation, and water resources sustainability for multiple watershed users; Recommended institutional arrangements to achieve adaptive, integrated watershed management; Provided technical advice on sedimentation and nutrient control, forestry and range management, water conservation, and use of information systems; Promoted stewardship in watershed natural resource protection through sustainable agriculture and other sound land-uses; Designed and facilitated public participatory approaches toward identification of information needs research and community-based environmental protection activities.

Sustainable Urban Design: Led business/resident efforts at sustainable economic development & neighborhood revitalization to benefit from NAFTA implementation; Developed and consulted on comprehensive urban design concepts; Conducted conflict resolution processes among competing urban sectors; Researched and facilitated strategic planning for neighborhood eco-team development.

Aquatic/Coastal Ecology & Habitat Restoration: Researched ecology and food web interactions of estuarine/marine communities; Developed strategies for environmentally sound management/protection of coastal living resources and ecosystems; Assessed impacts of water diversions on water quality and coastal ecosystems; Developed plans for aquatic habitat restoration/management; Assessed environmental & socio-economic importance of critical marine habitats and biodiversity.

Environmental Conflict Resolution: Served as a third party, peer neutral in developing stakeholder consensus on comprehensive conservation and management planning; Facilitated, as a third party, environmental dispute resolution processes (ADR) on sustainable agriculture, rural land-use, and how rural communities manage change; Fashioned ways to seek common understanding, maintain stakeholder dignity, enhance communication, and develop consensus in natural resource related conflicts; Appointed a roster member of the U.S. Institute for Environmental Conflict Resolution (ECR).
Environmental Education: Developed a distance-learning curriculum in sustainable development for presentation to high schools nationally and internationally; Designed multi-cultural college/university education program in environmental literacy ("ecology across the curriculum"); Developed an interdisciplinary upper-level college course in Science, Sustainable Development, and Global Society; Taught college environmental science courses; Guest lecturer for high school classes in environmental education.
Sustainable, Green Building: Demonstrated how sustainability and conservation issues can be achieved in residential sub-division development; Developed procedures to integrate energy/resource efficient design strategies into affordable housing development; Designed and built homes in South Texas and upstate New York incorporating energy resource efficient concepts into traditional home building, encouraging more sustainable life styles.
Internet Applications: Advised organizations on use and application of the Internet in meeting various research & information needs; Employed distance-learning technology for sustainability education; Designed & published five web sites for different organizations; Assisted organizations in developing e-mail capabilities and publishing internet newsletters; Used internet media for environmental education/communication and research.

Dr. Flint has published more than 60 refereed journal articles and 3 books, including those examples listed below.

- Flint, R.W. 2006. Report on the Progress of the Sustainable Water Resources Roundtable: Resources and Conditions. Water Resources Impact 8(4): 19-22. [http://www.awra.org/impact/0607imp_toc.pdf]

- Flint, R.W. 2004. Chapter 4 - Sustainable Development: What does sustainability mean to individuals in the conduct of their lives and businesses, pp. 67-87. In*:* G.M. Mudacumura and M.S. Shamsul Haque (eds.), *Handbook of Development Policy Studies*, (ISBN: 0-8247-0602-1) Marcel Dekker, Inc., New York, NY. 754 p. (URL - http://www.dekker.com/servlet/product/ productid/0602-1).

- Flint, R.W. 2004. The Sustainable Development of Water Resources. Water Resources Update, Issue 127, February 2004: 41-51. (URL - http://www.ucowr.siu.edu/updates/127/Flint.pdf).

- Flint, R.W., R.C. Rich, and K. Lamphier. 2001. Sustainable Communities: Their Definition and Science Needs. Proceedings 25th Annual World-System Conference, Virginia Tech, Blacksburg, VA. (URL - http://filebox.vt.edu/users/wdunaway/flint2.htm) Greenwood Press, Westport, CT.

- Flint, R.W. and M.J.E. Danner. 2001. The nexus of sustainability and social equity. Int. J. Econ. Dev. 3(2): (URL - http://www.spaef.com/IJED_PUB/v3n2.html).

- Flint, R.W. and W.L. Houser. 2001. *Living a Sustainable Lifestyle for Our Children's Children*. iUniverse, Campbell, CA (ISBN: 0-595-20013-3). 288 pp.

- Flint, R.W. 1996. Virginia's Regional Approach to Sustainability: Balancing Environment and Economy, pg. 70-75. *In*: (K. Beidler, P.Gant, M. Ramsay, and G. Schultz ed.); Proceedings - Delmarva's Coastal Bay Watersheds: Not Yet Up the Creek (A Conference on Ecology and Economy). U.S. Environmental Protection Agency, National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division, Narragansett, RI. EPA/600/R-95/052. 103 pp.

- Flint, R.W. 1992. Risks from Environmental Chemical Exposure as Exemplified in the Great Lakes Basin Ecosystem of North America. Pharmacopsychoecologia 5: 15-28.

- Flint, R.W. and R.D. Kalke. 1985. Coastal resource management: The ecosystem perspective, pg. 1201-1214. *In*: O.T. Magoon, *et al*. (eds), Coastal Zone 85, Proc. 4th Symp. Coastal and Ocean Management. Amer. Soc. Civil Eng., NY.

- Flint, R.W. and N.N. Rabalais (eds). 1981. Environmental Studies of a Marine Ecosystem: South Texas Outer Continental Shelf. Univ. Texas Press, Austin. 272 pp.

Gene Martin, MA

Eugene Martin completed a Master's degree in Geographic Information Systems (GIS) at the University of Washington, Department of Geography (1998) and is currently a doctoral candidate in the same program. Outside the classroom he spent five years as the founder and leader of a successful GIS consultation service (CommEn Space, Seattle, WA; http://www.commenspace.org) followed by two years as a professional consultant to a landscape analysis laboratory on campus. His strength is application of landscape information, analysis and community interaction to promote wise, careful use of natural resources. Success in community empowerment with GIS comes from his skills with information needs assessment, evaluation of institutional practice, landscape measurement, air photo interpretation, satellite image analysis, Geographical Positioning Systems (GPS), information assessment, data integration, database development, spatial analysis, cartography, communication media, organization, documentation and direct engagement with the community. These activities are effective when combined with his understanding of client objectives, knowledge of organizational processes, technology limitations, error propagation control, resource management, efficiency and support for client decision-making.

His knowledge of the natural environment initiated with an undergraduate degree in forest biology (Univ. Vermont, 1989) and continues with research on the environmental contexts for contract locations which include Vermont, Massachusetts, Ecuador, Wyoming, Utah and across the Pacific Northwest. Direct experience with the marine environment comes from modeling

shoreline impacts of oil spills, assessment of storm water outfall sources and curriculum development for a university course in GIS that features integration of terrestrial and marine environments.

Written and verbal presentations are strengths from his experience with teaching university courses and preparing material for academic publications, client reports, press releases and conference presentations. He maintains personal, academic and contract specific Internet sites that exhibit his facility for communication with a variety of audiences (*e.g.*, http://www.eugenemartin.net; http://students.washington.edu/ewmartin)

Select examples of his professional experience:

- Presently designing a course in marine and coastal GIS for the University of Washington.
- 11 years application of major GIS software packages on multiple platforms in diverse contexts.
- 6 years as founder and leader of the Community and Environment Spatial Analysis Center (CommEn Space) in Seattle WA. Operations include written proposals, evaluation of client needs, data analysis design and execution, creation of project specific analysis software, produce audience driven cartography, final written reports, computer network maintenance, management of technician teams and business operations.
- 2 years professional consultant on data analysis and database management for university research laboratory on human and environment interaction.
- 10 years creation of project specific location measurements with traditional survey methods and geographical positioning system hardware and software.
- 5 years university instruction on analytic cartography and GIS at the undergraduate and graduate levels that included curriculum design, engaging lecture presentations, progressive laboratory exercise sequence, analysis laboratory mentorship and evaluation of student deliverables.
- 5 years of grass roots encouragement for wise management of environmental resources at the community level; three as a forestry volunteer with Peace Corps followed by two more as an instructor.
- Application of questionnaires and surveys that invite participation in exploration of organizational or industry practices past, present and future.
- Leadership in local and national organizations on the applications of GIS
- Designed and delivered family level education programs for Vermont State Parks on the miracles of plants, trees and biotic communities.
- Lifetime dedication to photography variously as amateur, semi-pro and professional with emphasis on environmental education featuring the interactions of the natural environment and human culture culminating in four national and international gallery expositions.
- Eagle Scout

Description of Key Qualifications:

Efficient effective design for success: Managed multiple simultaneous small contracts with limited resources to enable proactive community and environmental organizations; Evaluated available time, information, technology and financial resources and means to accomplish stated goals; Established sources of action that met recipient's expectations when required.

Data design and measurement implementation: Designed and developed data specific for the clients needs; Collected GPS measurements of landscape features with +/- five yards accuracy of for database entry and analysis; Participated with client organizations to create mapped digital data from their observations and experiences; Assembled data and information resources from a wide variety of local and governmental agencies to augment limitations in local availability; Created new data products from combination and analysis data products from diverse sources.
Information quality and reliability: Evaluated the lineage of contract datasets to insure suitability for use; Tested data structure and content for error, integrity and completeness prior to application; Assessed data content to actual landscape features and relationships to insure validity; Investigated the histories and origins of acquired data for ability to support intended uses; Prepare reports of data deficiencies to information providers and clients in time for correction before application.
Database development and integration: Transferred and converted data from multiple computer operating systems and/or software formats; Corrected disparity in coordinate systems, classification schema and temporal reference; Updated data sets that where deficient within time and money limitations; Integrated all data resources into a functional database that supports analysis goals and project expectations.
Data analysis and original software: Assembled appropriate hardware, software, information and disciplinary support leading to efficient and effective assessment of landscapes; Created innovative software tools and adjustments for off-the-shelf software packages to meet contract specific needs or increase productivity; Successfully marketed several software tools to more than 7,000 peer clients.
Communication and cooperation with work team and client: Organized collaborative initiatives with multiple organizations to meet shared goals; Coordinated cooperation of multiple team elements and stakeholders with diverse perspectives to participate; Secured data resources or other information from sources with limited availability; Arranged nontraditional exchanges of skills and resources that kept project within set financial limitations; Ran meetings with technicians and clients to verify progress and alteration of objectives when required.
Proactive community based empowerment: Engaged in durable relationships with client communities on projects that require significant time to accomplish; Fostered mutual respect and recognized capabilities with community leaders; Prepared sequential engagements and activity across levels of community hierarchy; Negotiated continuation of ongoing projects during leadership transitions; Staged direct and indirect opportunities for community input and feedback; Designed and implemented batch production of unique individualized maps for each community member that participation in data collection, confirmation and understanding of contract stages.
International experience: Successful investigation and description of onsite conditions and information resources to prepare proposal on water resources management in Asuncion Paraguay for the World Bank; Interviewed field technicians on their practices and needs for GIS support; Prepared technical learning objectives in response to training requirements to improve facility with maps, geographic information and GIS; Initiated and led meetings among government agency and ministry leaders for their cooperation and participation in the initiative; Communicated extent of local deforestation damage to poorly educated indigenous farmers in the highlands of Ecuador using thirty years of time lapse stereo air photography and simple maps.

Communication media: Contracted services regularly result in deliverables with technical and graphic design excellence in multiple formats such as print cartography of all sizes, digital internet map images, interactive map web pages with location specific detail, map series atlas compilations and final written reports; Clients received map and media products tailored to their specific target audience and content detail.

Satisfaction guarantee:

Debrief with client on contract success, failure and effectiveness; Offer opportunity for minor changes and corrections to products within agreed upon duration of time, workload and expense when applicable.

Gene Martin has numerous publicly available publications in electronic, print and peer-reviewed journals, including the following examples:

- Landscape visualizations for Sightline (http://www.sightline.org/maps/animated_maps/Wildlife-CS06maps-all) and Cascade Agenda (http://www.cascadeagenda.com/theILLUSTRATIONS.php)

- Sightline. 2002**.** This Place on Earth 2002 : Measuring What Matters**.** Northwest Environment Watch (now Sightline). Seattle. (URL: http://www.sightline.org/publications/books/this-place-on-earth/tpoe02). Martin provided the information analyses that support chapters on sprawl and population growth.

- Weeks, R., S. Monroe and E.W. Martin. 2002. Images to Information: Remotely Sensed Data for GIS Applications. University of Washington Extension. Seattle WA

- Martin, E. W. 2002. Monitoring Sprawl. Session at the Washington Urban and Regional Information Systems Association Conference, Bellevue Washington, February 2002. (URL: http://www.eugenemartin.net/papers/URISA/ feb_7_02.ppt)

- Martin, E. W. 2002. Urban Growth: Population Density and Built Surfaces in Three Cities: Vancouver BC, Seattle WA and Portland OR. (Voted 'Best Map' at the Washington Urban and Regional Information Systems Association Conference, Bellevue Washington, February 2002)

- Martin, E. W. and CommEn Space. 2001. Strategies to Support GIS Implementation and Use for Land Trusts in the Northwest. Land Trust Alliance. (URL: http://www.eugenemartin.net/papers/ LT_GIS_2001.doc)

- Martin, E. W. 2001. Geographic Information from Images. Session at the Washington chapter of Urban and Regional Information Systems Association (URISA) conference, Bellevue Washington, September 2001. (URL: http://www.eugenemartin.net/papers/URISA/ Sept_17_01.ppt)

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