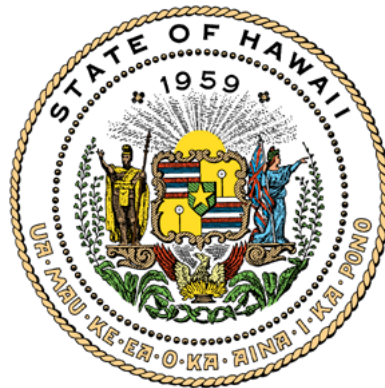


Report to the 2003 Legislature



Progress on the Study

Planning for Sustainable Tourism in Hawaii:
A Study on the Carrying Capacity for Tourism



Department of Business, Economic Development & Tourism

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CHAPTER I: PROJECT OVERVIEW

Introduction & Background

This is the second of two annual progress reports to the Hawaii State Legislature on the study, *Planning for Sustainable Tourism In Hawaii: A Study on the Carrying Capacity for Tourism* (Sustainable Tourism Study). The final report is scheduled for submittal to the 2004 Legislature. Many of the specific documents referred to in this update report may be found on the project's website at <http://www.hawaiitourismstudy.com> .

The primary goals of the study are to:

- Examine the impact of visitors on the economy, the State's physical infrastructure, the natural environment, and on socio-cultural aspects of the community; and
- Provide an information base, an analysis of potential consequences and an analytical tool (specifically a computer model) on the impacts of tourism, in order to assist in proactive policy responses to the long-run growth of tourism.

As discussed in the January 2002 Report to the Legislature, the impetus for the study comes from many decades of public concern over the impacts (both positive and negative) of rapid growth in Hawaii's visitor industry. While that growth leveled off after around 1991, a surge in visitors during the year 2000 renewed discussion on the issue. Since the 9/11 tragedy, tourism has struggled to regain the level of activity achieved in 2000. Understandably, the current emphasis in tourism policy is recovering this loss of market demand. However, tourism is expected to recover and, even at modest growth rates, record levels of visitors present in the islands will again be reached.

Act 259 (2001 SLH) allocated \$1.2 million to the Department of Business, Economic Development & Tourism (DBEDT) to conduct a study on Hawaii's carrying capacity for tourism. To address this goal the project is focusing on the capacity of the various infrastructure elements and environmental features around the state to handle more visitors. The study will identify when bottlenecks or pressure points are likely to be reached for these elements and suggest mitigating measures to the degree possible. Moreover, the analysis will look at how changes to investment, technology and visitor mix, as well as natural ecological resilience, affect the nature and extent of the impacts. Thus, instead of a single number that that would represent a capacity limit on the number of visitors to the state, this model will show many different region- and infrastructure-specific impacts and how different growth scenarios affect the capacity to accommodate tourism around the state.

The project is composed of three primary studies:

- (1) Infrastructure & Environmental Overview Study: The purpose of the Overview study is to assess the status of public and private infrastructure, as well as environmental features, and to identify current capacity, usage, problems and future plans and needs throughout the State. The study will provide an understanding of the current condition and issues related to the infrastructure and environment around the state, as well as generate information for the modeling phase discussed below.

The final Overview Study report, encompassing about 1,000 pages of information, was received from the consultant at the end of December and is currently under acceptance review. Upon acceptance, the report will be made available on the project's website.

- (2) Economic and Environmental Modeling Study: This study entails development of a computer model of tourism's impact on the environment, economy, infrastructure and selected social indicators statewide and in various regions. The model will combine economic and scientific modeling techniques to explore the impacts of various tourism growth scenarios over the next 20 to 30 years. Policy recommendations will be developed based on different assumptions about growth in both the visitor and resident populations. The modeling study will provide a framework for State and county policy and planning.
- (3) Public Input and Socio-Cultural Study: The Public Input and Socio-Cultural Impact Study will gather information from the public, government agencies, interest groups and the business community regarding actual and perceived impacts of tourism on the State's public and private infrastructure systems, environmental resources and cultures. It will also provide some objective data, to the extent possible, about historical relationships between Hawai'i tourism and social indicators such as crime rates.

More information about the nature and status of each component of the overall study is presented in subsequent pages (Chapters III – V) of this report.

Specific Project Objectives

- (1) Examine sustainable tourism development in Hawaii based on various scenarios that consider the quality of life of residents and the quality of the visitor experience.
- (2) Effectively include input from residents through a public involvement and peer-review study component.
- (3) Define requirements, responses and limiting factors for key natural resources and physical infrastructure.
- (4) Identify mitigating measures or technological changes that can be taken to avoid or negate the limiting factors.
- (5) Identify relationships that link the impact of visitors and residents on infrastructure, the environment and the economy, as well as inter-linkages between the infrastructure, the environment and the economy.

- (6) Develop an analytical tool for objective assessment and projection of the outcomes of different scenarios, including different levels of visitor growth and uses of alternative mitigating measures.
- (7) Develop a tool to conduct policy analysis and planning for sustainable tourism with particular emphasis on the role of economic planning.

More information on the background and study approach Last year's report is available on the project website and in the 2002 report to the Legislature (also available on the website).

Project Organization and Supervision

The project is under the authority of the DBEDT Director. During 2002, the director was assisted by an executive committee consisting of the DBEDT Director, Director of the Office of Planning (OP) and the Executive Director of the Hawaii Tourism Authority (HTA).

A project committee under the direction of Dr. Pearl Imada Iboshi, Head of the DBEDT Research and Economic Analysis Division (READ), is in charge of the project. A smaller Working Group, also headed by Dr. Iboshi, supervises the project on a day-to-day basis. The Working Group also includes: Ms. Mary Lou Kobayashi and Ms. Lorene Maki of OP; Ms. Caroline Anderson (HTA); Mr. Robert Shore and Ms. Diane Dunphy (DBEDT, READ).

In a competitive "Request for Proposals" process, DBEDT selected contractors to conduct each of the individual studies. These were:

- (1) Infrastructure and Environmental Overview Study: Carter & Burgess, Inc., Pericles Manthos, Principal Investigator.
- (2) Economic and Environmental Modeling: The R. M. Towill Corporation serves as prime contractor, James Yamamoto, Principal Investigator. For the modeling component, R.M. Towill is supported by a team of University of Hawaii experts in the fields of economics, planning and various natural sciences, headed by Drs. Karl Kim and Denise Konan.
- (3) Public Input and Socio-Cultural Study: John M. Knox & Associates, Inc. serves as prime contractor, Dr. John Knox, Principal Investigator. This effort is supported by Market Trends Pacific Inc. (survey research and organizational databases), Dr. Peter Adler (group facilitation), Dr. Kem Lowry (policy advisor) and Mr. Harvey Shapiro (website).

The project also benefits from input from several advisory groups: These are the:

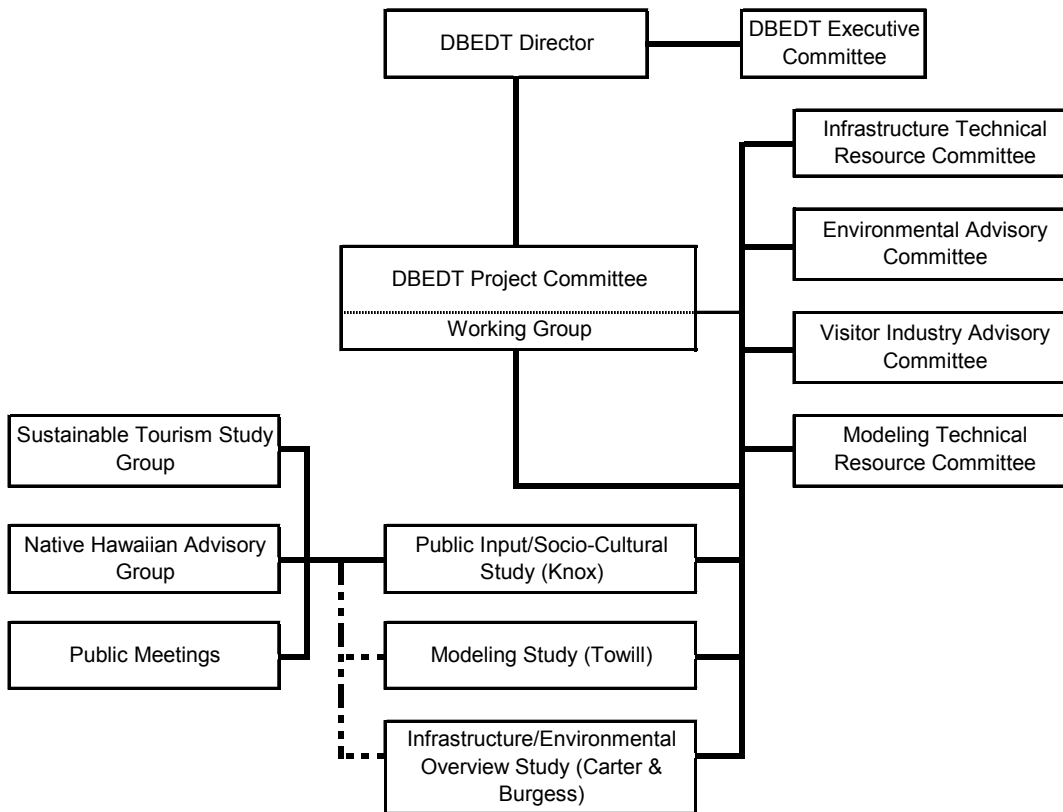
- Infrastructure Technical Resource Committee;
- Environmental Advisory Committee;
- Visitor Industry Advisory Committee;

- Modeling Technical Resource Committee;
- Sustainable Tourism Study Group (part of the Public Input component);
- Native Hawaiian Advisory Group (part of the Socio-Cultural Study);
- Public workshops held throughout the islands in the fall of 2002, with additional statewide workshops scheduled for the summer of 2003 (also part of the Public Input effort and further described later).

Except for the Modeling Technical Resource Committee, which will be formed in the near future, all of the advisory groups are operational, and members are named in Appendix A.

Exhibit 1 on the following page illustrates the organization of the project and the relationship among the various components.

Exhibit 1: Project Organization



(Input from the Study Group, the Native Hawaiian Advisory Group and public meetings is primarily directed to the Public Input and Socio-Cultural Study, but has also been involved in review and comment on presentations and products from the other two contractors as well.)

CHAPTER II: SUMMARY OF PROJECT ACCOMPLISHMENTS AND REMAINING GOALS

Accomplishments in 2002

Infrastructure and Environmental Overview Study

- State awarded contract for the Overview Study based on a competitive Request for Proposal to Carter & Burgess, Inc. in March 2002, in the amount of \$200,000.
- Contractor researched several hundred State, county and private documents reviewing public and private infrastructure elements and environmental features:
 - o The first round of research was for the most recent (1990 or more recent) county and community or district general plans.
 - o Secondly, governmental master plans and capital improvement project budgets were reviewed.
 - o The third round of research was results from searches of the Internet, agency libraries and state libraries for referenced material from the aforementioned documents.
 - o Additionally, any documents requested by DBEDT were reviewed for information.
 - o Finally, faxes and phone calls were made to various agencies to accumulate any outstanding information.
- Based on the above, contractor prepared detailed draft reports (plus appendices and bibliography) for all four counties, as well as a State Summary – see following Chapter III for major recommendations from State Summary.
- Draft reports were made available on the project website and Contractor made in-person presentations at all seven public workshops in November 2002 – including question-and-answer sessions.
- Final Overview Report in five volumes encompassing about 1,000 pages of information has been submitted and is in the final stage of acceptance review by DBEDT.

Economic and Environmental Modeling Study

- State awarded contract for the Economic and Environmental Modeling Study based on a competitive Request for Proposal to a team headed by R. M. Towill Corporation in June 2002 in the amount of \$664,775.
- Began initial development of a baseline Computable General Equilibrium (CGE) model of the Hawaii economy, with a special focus on transportation.
- Began creation of a Spatial Allocation (Geographical) Model – drawing on sources such as U.S. Census TIGER files, U.S. Geological Survey, county land use files, etc.
- Began establishing environmental baseline model components, with particular emphasis on cause-effect components of Hawaii's nitrogen cycle.
- Contractor attended five of the seven public workshops in November 2002, giving presentations to explain the modeling approach and participating in question-and-answer sessions.

Public Input and Socio-Cultural Study

- State awarded contract for the Public Input and Socio-Cultural Study under competitive Request for Proposal to a team headed by John M. Knox and Associates, Inc. as of June 2002, in the amount of \$252,500.
- Contractor developed a website – www.hawaii-tourismstudy.com – in August to provide information to public and to collect input. Website updated several times since as new information/products available.
- Contractor developed a database of potentially interested organizations (visitor industry, environmental, Native Hawaiian, general community, etc.) and utilized it several times for fax and e-mail notifications about website implementation, public meetings, etc. Input also directly solicited through this communication mechanism.
- With assistance and participation from the State and other contractors, contractor organized an initial round of seven public workshops – in Hilo, Kona, Lanai, Molokai, Maui, Kauai and Honolulu – to inform interested members of the public about the project; allow direct interaction with consultants and the Chief Economist; and input through semi-structured small group workshops on the nature of “sustainable” tourism most appropriate for each area.
- Contractor prepared preliminary summary of initial public input obtained through all of the above mechanisms.
- Contractor formed a “Sustainable Tourism Study Group” to work toward possible consensus principles for sustainable tourism in Hawaii, including specific policy

recommendations. The 24-member group (listed in Appendix A) includes stakeholders drawn from the visitor industry, environmental organizations, Native Hawaiians, labor, general business, nonprofit community groups, county planners and Neighbor Island citizens. It held four meetings in 2002.

- Contractor initiated work on Socio-Cultural Impact Study, including assembling a Native Hawaiian Advisory Group to help draft that portion of the study. (However, no products were completed in 2002.)

Goals for 2003

Infrastructure and Environmental Overview Study

- The final Overview Study Report has been submitted for approval and will soon be made available on the project website. The report will be used by other components of the study to identify details of existing infrastructure elements and environmental features and their current condition. Because the report is a compilation of many studies, it will also serve as a resource for the state as a whole towards understanding the scope, condition and needs regarding the infrastructure and environment.

Economic and Environmental Modeling Study

- The contractor's team will complete all three inter-linking model components – the economic, Computerized General Equilibrium (CGE) model, Spatial Allocation Model (SAM) and Environmental Model – and integrate them into a baseline model that will be tested and calibrated by the summer of 2003.
- They will then use the model to investigate initial “trial” growth scenarios and policy simulations.
- The contractor will participate in the planned second round of public workshops to be held in the summer of 2003, and report on the final preliminary results from initial growth scenarios used to test the model.
- The model will be revised as necessary and appropriate; final scenario and simulation runs will be made; and a report completed by the fall of 2003.
- The contractors will deliver the model to the DBEDT Research and Economic Analysis Division and train staff in its ongoing use.

Public Input and Socio-Cultural Study

- The socio-cultural impact study is scheduled for completion in early 2003. (See Chapter IV for more complete discussion of study contents.)

- The website will continue to be updated, including the posting of study products as they become available and the ongoing solicitation of public input on particular products or study goals in general. (The website will be maintained through April 2004.)
- The contractor will plan and implement the second round of public workshops in the summer of 2003. This series of workshops will focus primarily on initial modeling outcomes, but will also present the final socio-cultural impact study and gather recommendations that can be made part of the projects policy recommendations and recommendations for future research.
- The database of community organizations and resources developed for the public input and out reach effort will continue to be utilized to inform interested groups (and private individuals who have asked that their e-mail or fax information be added) about new products, website changes, public meetings, etc.
- The Sustainable Tourism Study Group will complete its work by approximately October of 2003, including recommendations and potential collaborations.
- The contractor will conduct a statewide telephone survey of 1,000 residents in the fall of 2003 regarding residents' perceptions about the impacts of tourism. A major purpose of the survey is to validate perceptions and proposals gained through the more formal public input processes over the preceding year. The later input tends to reflect motivated stakeholders of various types and the survey will test the extent to which the general public agrees with the formal input.
- The contractor for this study is also responsible for assembling a final written report incorporating the work of different contractors in different volumes, as well as an integrated Summary with specific recommendations for the 2004 Legislature.

CHAPTER III: INFRASTRUCTURE AND ENVIRONMENTAL OVERVIEW STUDY

The final report of the Overview Study, encompassing five volumes and roughly one thousand pages of information, has been received and is under final acceptance review. However, except for format changes and additional clarifications, it is substantially similar to the draft reports currently available on the project's website– www.hawaiitourismstudy.com. The final report will also be placed on the website.

The purpose of the Infrastructure and Environmental Overview Study has been to assemble what is known about the condition of key infrastructure and environmental assets around the state as a basis for investigating the impact tourism on these assets. The results will be available to the modeling study, the Socio-Cultural study and advisory committees as they assess the current and future impacts of tourism. The report will also be a useful tool to many projects, programs, organizations and agencies whose efforts depend on an understanding of the key infrastructure systems and environmental concerns at the state, county and district levels.

The study was not designed to carry out extensive original research, but rather to review and analyze information from the many planning documents, needs assessment studies and other existing documents available on the infrastructure and environment. To the extent possible, the study sought to distinguish between resident and visitor impacts on the infrastructure and environment. However, the success of this objective depended upon how well existing studies made such distinctions.

The specific infrastructure and environmental elements that composed the focus of the Overview Study were:

- Public Infrastructure Elements: Terrestrial water quality and quantity; sewage; solid waste disposal; storm water; roads; airports; harbors; parks; and police, fire and emergency services.
- Private Infrastructure Elements: Visitor accommodations; private transportation; energy systems; and sewer systems.
- Environmental Features: coastal water quality; marine ecosystem health; forestry/green space; air quality; beach erosion; invasive species; and other natural and scenic resources

Summary of Overview Study Recommendations

The study also provides specific recommendations based on the consultant's survey of the information available. Following are a sample of those recommendations based on the draft Overview Study report.

Public Infrastructure Elements

Terrestrial Water Quality and Quantity

Water quantities are approaching sustainable yields in some areas – most notably on Oahu, Molokai and West Hawaii. In these areas, alternative sources of potable water need to be identified. Alternative sources include water conservation measures, reallocation of potable water from communities that have not yet reached their sustainable yield, desalinization and water reclamation. In other areas, permitted use has not reached sustainable yields ...

Sewage

Much of the sewage volume outside of the state's urban areas is handled by cesspool systems, which are in a variety of age, soil condition, proximity to fresh water sources, capacity and effectiveness of treatment. Connection to municipal sewer systems, while preferable, is not always economically feasible, especially in smaller rural communities. It is recommended that a wastewater feasibility study be developed, which would aid in the recognition of deficient areas of treatment and in the placement of further infrastructure.

Solid Waste Disposal

Further study should be conducted toward research about resource recovery and energy generation.

Roads

The time it takes to commute to and from work for most residents has increased over the past decade. However, some places have no plans to alleviate traffic problems until the public demands it. Emphasis on long-range transportation planning and finding alternative funding sources for future maintenance and new projects is recommended.

Airports

There are opportunities to expand cargo facilities in order to facilitate export of agriculture and other products, especially in Hilo.

Harbors

Improvements, as outlined by the Harbors Division, should be implemented. However, reopening of Keehi channel should be further studied to determine the impact of the open shipping channel on Airport operation of the Reef Runway.

Parks

State and county parks are in need of alternative sources of funding to improve, and maintain park facilities.

Police, Fire and Emergency Services

Further long-range planning, cost projections and study of demographics within each district are vital to efficiently and strategically place manpower and emergency response equipment and facilities, especially for the County of Hawaii.

Private Infrastructure Elements

Visitor Accommodations

The key to the future of visitor accommodations is to monitor visitor unit growth to assure that it does not outpace existing infrastructure growth.

Energy Systems

Reduction in solid waste through its use in the generation of energy could help both the solid waste and energy infrastructures.

Environmental Features

Coastal Water Quality

The greatest threat to coastal water quality is non-point source pollution. Non-point source charges have a greater impact on streams and near shore waters than point source discharges. Effective monitoring of storm water discharge and enforcement of health violations is a step toward remedying this threat.

Marine Ecosystem Health

Along with providing educational information and interpretive programs to residents and visitors regarding the importance and uniqueness of Hawaii's natural marine environment, over fishing along the coast needs to be avoided, as it creates localized depletion of various marine biota.

Forestry/Green Space

Better maintenance of state reserves, forests and trails will require more funding.

Air Quality

The biggest threat to air quality, especially in Hawaii County, is volcanic related haze and fog. On other islands, burning of sugarcane and vehicular emissions are of concern. Consideration should be given to diversifying the locations of monitoring stations in high-risk areas.

Beach Erosion

Among quite a number of important recommendations under this topic: Develop a beach/shoreline monitoring program that should include the regular (every 5 years) collection of aerial photos or other means of determining the shoreline position at that time to integrate into a historical shoreline variability assessment model. Consider empowering a single lead state agency and county agencies to manage coastal erosion. Also, enhanced interagency at federal, state and county coordination of research, manpower and funding would be beneficial.

Invasive Species

The silent invasion of Hawaii by insects, disease organisms, snakes, weeds and other pests is a significant threat to Hawaii's economy, natural environment, and resident health and lifestyle. There is a critical need for a coordinated approach among all agencies and for efforts to increase public awareness & support for the programs.

Scenic Resources

Public input needs to be gathered to establish perception of the scenic quality in Hawaii until research of quantitative value can be conducted on this topic.

Native Species and Extinction Issues

Extinction, endangered and threatened status of various species is a threat to Hawaii's environment. Laws and appropriate management policies appear adequate, however funding levels may not be permitting adequate enforcement and public awareness efforts.

CHAPTER IV: ECONOMIC AND ENVIRONMENTAL MODELING STUDY

The modeling component comprises the technical core of the Sustainable Tourism Study and accounts for the majority of budgeted resources.

Tourism is a major pillar of Hawaii's economy. While efforts are underway to make Hawaii less dependent on this industry, the economy will likely need to rely on the economic support provided by tourism for some years into the future. The key is achieving a balance between the economic benefits of tourism on one side and the welfare of residents, their social well-being and environmental preservation on the other.

Achieving that balance means first understanding exactly how tourism growth impacts the state and counties, and subsequently developing policy tools that can encourage the kinds and rates of tourism growth that are likely to minimize negative impacts and costs to society.

To adequately capture and understand the social and environmental tradeoffs involved in sustainable tourism planning, the Economic and Environmental Modeling Study (referred to as simply the Modeling Study) has teamed of group of economists, engineers, urban planners, and environmental scientists to develop a system of linked computer models to simulate the impact of tourism on the economy, infrastructure and key environmental features.

Of course, while a modeling approach will permit a more exacting analysis of the impacts of tourism, modeling is strictly a data-driven process. That is, modeling can only deliver answers when all of the factors can be measured. Relationships that cannot be measured, or for which no measurements have been made, cannot be a part of the model. Thus there are bound to be some factors that will need to be analyzed outside of the scope of the modeling process and integrated separately into the Sustainable Tourism Project. The Modeling Study is currently assessing what data are available for what factors.

The Modeling Study is currently moving from the literature review and planning phase into the construction of the models, the results of which should be ready for public comment by July 2003. Consequently this section focuses on the scope of this project, accomplishments to date and activities anticipated over the next year.

Three classes of models are being developed specifically for Hawaii: Economic, Geographic (Spatial Allocation Model); and Environmental.

Economic Model

The first step in the process is an economic modeling effort involving benefit-cost analysis of tourism development and planning. That is, the objective is to measure both the positive and

negative socio-economic effects involved with changes in the visitor industry, along with related policy and regulatory measures.

Tourism involves many sectors of Hawaii's economy and is a primary source of employment within the State. Each sector impacts Hawaii's economy and environment in unique but interdependent ways. DBEDT and its consultants have selected the *computable general equilibrium* (CGE) modeling technique for this effort. This method provides a more "real world" treatment of the interactions of consumers and firms in an economy than standard modeling techniques such as regression analysis.

For example, an increase in the number of visitors will increase the demand for certain services, such as transient accommodations and transportation. This will tend to drive up costs in key sectors that may affect residents, such as mass transit and residential housing. At the same time, profits and incomes in the visitor industry will rise, including incomes of many service workers. How these price and income changes will impact different household types, industries, government and the environment depends on a complex interplay of supply and demand forces. CGE modeling can handle considerably more of these complexities than standard modeling techniques.

In the Hawaii CGE model that is presently under development, the role of water, energy, utilities and waste treatment will receive careful attention. As data permit, different types of visitors, along with their related expenditures and activities, will also be modeled. The model consultants are also considering the present and future planned stock of visitor accommodations and other important infrastructure capacity elements.

Thus far a social accounting matrix has been constructed based on the 1997 Hawaii input-output (IO) table and related economic, policy and environmental data.¹ Using these same data, a baseline Hawaii Computable General Equilibrium (CGE) model of the economy has been developed, with a special focus on transportation. This models the effects of both an increase and a decrease in visitor expenditures. The study is interested in measuring both the economic importance of transportation in Hawaii and also in estimating probable consequences of potential economic changes. Preliminary results indicate the visitor industry plays a dominant role in Hawaii's economy, with small increases in visitor expenditures contributing significantly to the gross state product. Transportation industries, moreover, account for a disproportionately large share of this growth along with restaurant and accommodation services. Currently, the model is being extended to consider the role of energy, water and accommodations sectors.

Spatial Allocation (Geographical) Modeling

A spatial database is also being developed, consisting of mapping (cartographic) elements, as well as attribute data on economic activity, tourism, population, infrastructure, natural resource constraints and environmental quality. Database elements have been drawn from a number of

¹ For a complete description of the IO table, see The Hawaii Input-Output Study: 1997 Benchmark Report, March 2002, DBEDT, State of Hawaii.

different sources, including the U.S. Bureau of Census TIGER files; the U.S. Geological Survey digital line graph and digital elevation model files, and the land use files from several of the counties.

In addition, the consultants have also secured selected aerial photographs, which have been geo-referenced to map files. They have also begun the process of coding the economic data geographically. For example, for various industrial sectors, both employment and number of establishments have been allocated by zip code using data from the 1997 Economic Census and the DBEDT 1998 Visitor Plant Inventory. A GIS (Geographical Information System) database will allow various spatial analyses to be performed, including measures of distance, spatial concentration, clustering, proximity and contiguity of economic and environmental features. The spatial analysis will be useful in terms of analyzing economic and environmental consequences of tourism development, as well as presenting information to policy makers and the general public.

Environmental Modeling

Translating the growth characteristics of visitor activity into impacts on the environment will involve the synthesis of several rather complex scientific models with the economic and spatial models.

For instance, a comprehensive review is being conducted of the sources of data for the construction and characterization of a biophysical model of the nitrogen cycle for the State of Hawaii. Nitrogen has been a common element in the extensive agricultural activity in the Islands and has implications for the quality of the water supply and coastal water quality and eco-systems. The critical components of the nitrogen cycle have been identified to include the concentration and mass of nitrogen in the various reservoirs in the atmosphere, on land, in soil water and freshwater reservoirs (lakes, rivers and streams) and in the coastal margin. Additionally, the magnitude and direction of the biological, geochemical, and physical processes that transfer nitrogen between the reservoir masses are also identified as important parameters in the modeling of the nitrogen cycle.

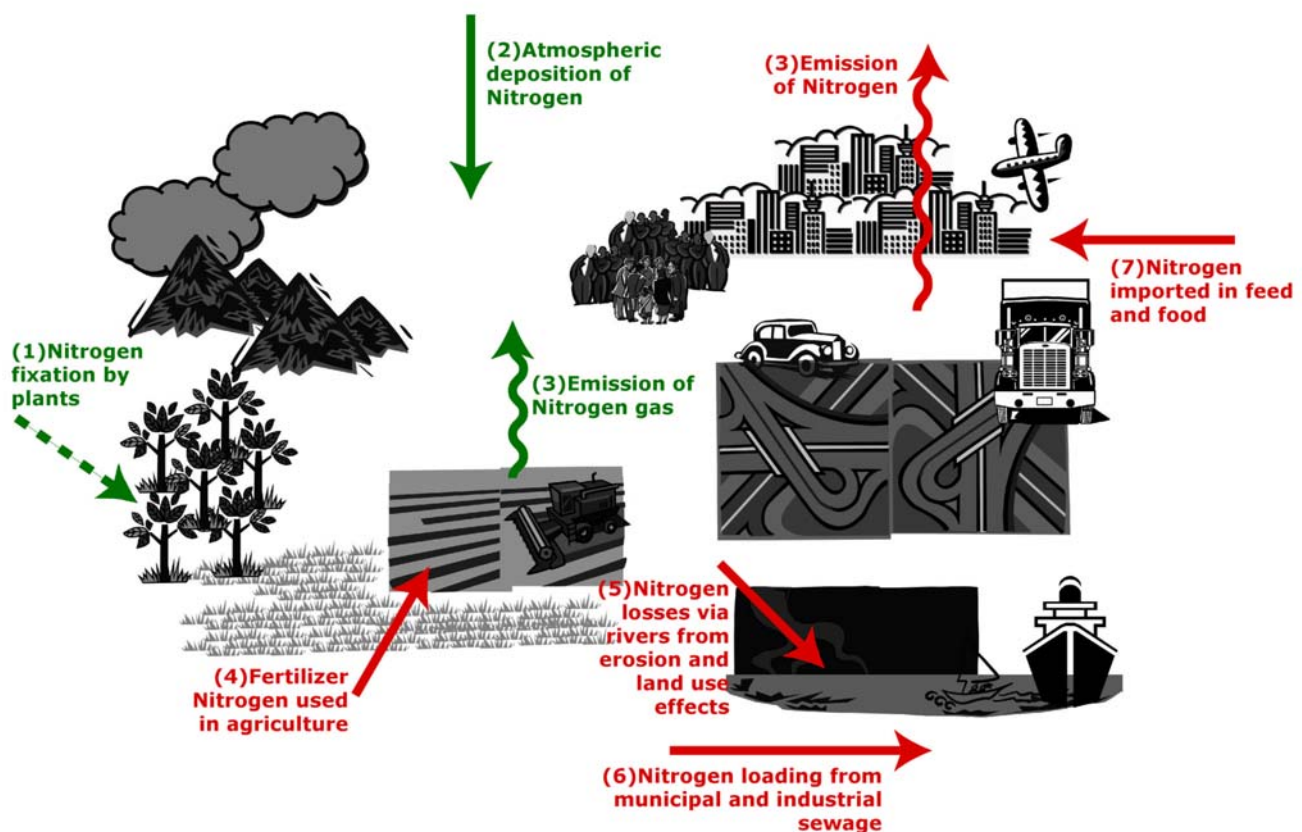
The causal components of the nitrogen cycle have been identified as (1) the cultivation of sugar cane and pineapple, and (2) the development and urbanization of coastal areas induced by the rapidly increasing population and development of the Visitor Industry. Exhibit 2 on the next page is a simplified illustration of the complex way in which nitrogen can enter the environment.

Next Steps: Tourism Scenarios and Policy Simulation

The result of the modeling project will be an integrated economic-spatial-environmental assessment model that will serve as a useful, powerful policy tool with which to evaluate the effects of tourism scenarios and alternative policies on the state's economy, society and environment.

In the coming months, a baseline model will be developed, tested and calibrated. Then the effects of both changes in the tourism industry and the policy responses and choices will be simulated. A range of tourism scenarios will be considered. These include different assumptions regarding growth, as well as the geographical distribution of the industry. Also to be considered are a range of different markets and segments of the visitor industry. In addition to considering alternative forecasts and changes in the tourism industry, the model will also examine the effects of alternative policy choices – including taxes, infrastructure investment, zoning and land use regulations, as well as other factors which can have an impact on the nature and extent of tourism development.

Exhibit 2. Sources of Nitrogen in the Environment



CHAPTER V: PUBLIC INPUT AND SOCIO-CULTURAL IMPACT STUDY

The two purposes of the Public Input and Socio-Cultural Impact Study are to 1) ensure that the knowledge and views of the public and concerned interest groups are incorporated into the study process and, 2) develop a better and understanding of the effects of tourism on social and cultural factors. The consultant for this component is also responsible for preparing a final project report integrating the results of the three studies.

Critical activities include:

- Developing a public information and input effort to deal with all three components of the Sustainable Tourism project. This effort included creation and ongoing maintenance of a website devoted to informing the public about the project and soliciting electronic input (www.hawaiitourismstudy.com), and preparation of a database of interested organizations and individuals for notification purposes via fax and e-mail.
- Conducting the initial series of structured public workshops on all islands in November of 2002, which allowed the public to interact with all three contractors and to provide an opportunity for input on desired or undesired aspects of future tourism.
- Assembling a “Sustainable Tourism Study Group” of stakeholders from different interest groups explore issues of maintaining a good balance of economic, environmental and social outcomes as tourism grows and changes.
- Preparing a Socio-Cultural Impact Report investigating evidence about the likely effects of tourism growth and/or change on social factors known to be of particular concern to residents – e.g., crime, quality of employment, Native Hawaiian issues, etc.
- Holding a second round of public meetings on all islands in the summer of 2003, to share preliminary results of the new economic/environmental modeling effort, as well as other project outcomes (such as detailed results from the Socio-Cultural Report).
- Compiling ideas and recommendations from all the above activities and then conducting a survey of residents of all counties in the fall of 2003.
- Preparing a final report, covering all three components. This will include recommendations for action by public and private organizations, along with ideas for future studies or public activities that could not be done during this initial Sustainable Tourism effort.

Public Information and Input

Public outreach and input is the primary focus of this component. The 2002 public outreach and input effort dealt with answering questions about the project and gathering knowledge, concerns and ideas related to (1) the overall shape and purpose of the study; (2) the initial infrastructure reports; and (3) general concerns about growth and change in the visitor industry.

A detailed inventory and analysis of the public input gathered in 2002 is being conducted and is expected to be available on the project website in early February 2003. It will summarize public comments from:

- Oral comments at public meetings;
- Written comments at public meetings; and
- Written comments submitted via the website.

Subject to more thorough analysis through that report, the following represents some key input gathered through the outreach process.

- (1) *Diversification of the economy and within the industry* – Many people giving comments wanted an emphasis away from tourism, but many also want or welcome new forms of tourism that take visitors out of the traditional “big box” hotels and resorts: e.g., eco-tourism, health and wellness, culture and education.
- (2) *Level and type of future tourism growth* – Quite a few people expressed a desire for limited (or no) future tourism growth, and several visitor industry participants said they felt Hawaii’s industry already has reached the “mature” stage, with little foreseeable net growth in traditional hotel development. Neighbor Island visitor industry participants noted that a number of hotel-zoned sites have recently been used instead for luxury vacation homes. However:
 - The depletion of zoned hotel sites raises the issue of whether there will be an adequate supply of visitor units to meet future demand projected by DBEDT, and some people worried that DBEDT’s official tourism growth “projections” are mandates for growth rather than impartial estimates of demand;
 - At least in the short term, there appears to be growth (or at least change) in non-traditional visitor unit products: Bed and breakfasts (B&B’s), vacation cottage rentals, timeshares, cruise ships, and second homes (both inside master planned resorts and also sometimes in large-lot rural subdivisions). Especially on the Neighbor Islands, and to some extent on Oahu, many people felt that immediate tourism-related growth opportunities – or threats, depending on the perspective – would come more from these sources than from new hotels.
- (3) *Bed and breakfasts* – This particular type of non-traditional visitor unit seemed to generate the most discussion. A significant number of comments at public meetings involved debates about both the benefits (e.g., greater direct community contact and

expenditures) and potential costs (e.g., neighborhood congestion) of this sometimes illegal but apparently rapidly growing form of tourism.

- (4) *Impacts on the environment* – This was one of the strongest general themes in the comments, with substantial concern about invasive plant and animal species; depletion of water supply; pollution of coastal areas and watershed; damage to coral reefs; dependence on oil; etc.
- (5) *Congestion and infrastructure overload* – Both industry proponents and opponents voiced concerns over issues such as highway congestion; unclean restrooms and overall lack of maintenance at State parks; and the future of aging sewer lines and other infrastructure in major resort plants such as Waikiki.
- (6) *Impacts on Native Hawaiian culture* – Most people commenting on this issue saw tourism as having negative effects on the unique cultural identity which is presumably a major part of the industry's appeal. Many believed the State should allocate more resources for preserving and protecting Native Hawaiian culture.
- (7) *Jobs and quality of life issues* – There was both substantial emphasis on the importance of visitor industry jobs and also substantial concern that these may be inadequate in terms of pay, regular hours, or other characteristics needed to assure not only a good standard of living, but also a good quality of life, for visitor industry employees and their dependents.
- (8) *Communication among State agencies* – A number of people believed that tourism sustainability will only be possible if there is improved communication and coordination among the Hawaii Tourism Authority, DBEDT, the Department of Land & Natural Resources, and other State agencies involved in tourism. There was a desire for some sort of ongoing community involvement and input to such agencies about sustainability issues.
- (9) *Adequacy of model design* – While some people who spoke or submitted comments felt the upcoming economic/environmental model cannot possibly substitute for political will, nor capture important qualitative variables, others were clearly interested in its potential. There was, however, a fair amount of uncertainty as to whether any model can include the full array of data that stakeholders would like to see in terms of things affecting either market success (e.g., airline pricing or seat



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availability; level and location of promotional efforts; etc.) or impacts on culture and the environment.

It is cautioned that this represents relatively “*raw*” and *fairly unstructured input*. It also may reflect comments of *motivated individuals*, often representing the views of particular interest groups. The information from the input process needs to be digested by the consultants and possibly the Study Group; supplemented by further input during 2003; and finally tested by a survey of the general public at the end of the project. Thus, it is important to understand that initial report on public input will constitute an interim product, not a final study outcome representing “scientific” cross-sections of the general public’s opinions.

Sustainable Tourism Study Group

The Sustainable Tourism Study Group is intended to bring together a group of people with disparate and often conflicting interests (at least, interests which have been *perceived* to be in conflict) to search for ways that Hawaii’s visitor industry can better balance the economic benefits of tourism with the environmental and socio-cultural impacts.

The Study Group is an experiment to search for some extent of agreement (as well as an understanding of differences among the interest groups) about key principles and broad values that should be kept in mind as tourism grows and changes. Ideally, there may be a general consensus on some very specific policy recommendations. However, the process will be well served even if the representatives simply concur on some broad principles that will help to steer the industry in general directions acceptable to different stakeholders, whether or not there is agreement on specifics.

Some of the *potential* products – not all of which may be achieved – identified for the Study Group include the following:

- Identification of key tourism-related economic, environmental and social “drivers” and a series of alternative scenarios about the future.
- A working definition of “sustainability” as it pertains to Hawaii’s tourism industry.
- Identification of key “threats” that could force dramatic changes in the economic, environmental and social impacts of the industry.
- Identification of key “opportunities” for creating a more economically, environmentally and socially sustainable tourism.
- Proposed “canary in the mine” indicators² to chart economic, environmental and socio-cultural gains and losses.

² That is, early evidence that unacceptable negative consequences are on the horizon ... though it is equally important to generate leading indicators that positive goals are being achieved as well.

- A statement of principles reflecting consensus about underlying values and assets to be preserved no matter how tourism develops.
- Recommendations for policy and management strategies that can help enhance positive economic, environmental and socio-cultural impacts and reduce negative ones.
- Identify specific collaborations that could be undertaken by people whose interests normally oppose each other.

Resident Survey

The sample for the telephone survey will be 1,000 residents statewide – probably 250 per county. This will provide a sampling error of plus or minus 6 percent for each county and less than 5 percent for the state as a whole.

By contract specification, the questions will not reiterate standard questions from past HTA/DBEDT surveys of residents about tourism issues conducted in recent years. However, independently of this Sustainable Tourism Study, DBEDT is sponsoring a 2002 update of past resident surveys conducted in 1988, 1999 and 2001. The results, which will be available in early 2003, may help guide parts of the Sustainable Tourism Study in 2003.

The resident survey by the Sustainable Tourism Project will be conducted in the latter part of 2003, in the last phase of the project. This timing makes it possible to test many of the results and proposals, which have come from stakeholders, consultants and others involved in the project.

Socio-Cultural Impact Study

Socio-cultural issues represent a vast domain of public concern. The socio-cultural study being conducted as part of this project represents an initial effort to identify the key impacts of tourism on social and cultural factors. The effort will not result in a final, comprehensive analysis, but it is intended to:

- define key issues;
- provide additional data on a few of the more pressing issues; and
- generate recommendations both for action and for additional future study.

The Office of Planning (OP) through its members on the Project Working Group provides primary oversight for this activity. OP has requested the contractor to prepare a study – targeted for completion in early 2003 – in two parts: overall social impacts and Native Hawaiian issue impacts.

Overall Social Impacts

In consultation with the Office of Planning and DBEDT, the consultant, John M. Knox and Associates (JMK Associates), will provide a brief overview of social impacts and focus on three areas – Crime, housing and spillover issues. Statewide surveys of Hawaii resident attitudes about tourism have identified crime and the cost of housing as top social impacts of concern to residents. The term “spillover issues” relates to a collection of various visitor impacts extending outside the footprint of visitor destination areas/hotels that have been mentioned as of concern to residents.

Native Hawaiian Issues

This part of the study is being developed through a *Native Hawaiian Advisory Group* (membership listed in Appendix A). The consultant (JMK Associates) is providing this group with logistical support, editing and a limited measure of oversight related to general format, style and consideration of the extent to which data are currently or potentially available to inform discussion of issues. Within those parameters, the final report will be a product of the Native Hawaiian Advisory Group itself and will consist of:

- Analysis of key issues and observed impacts – including some attention to the extent that these relate uniquely to the visitor industry vs. other economic activities, and some attention to the possibility of future research or measurement.
- Listing “best practices” in the visitor industry in regard to appropriate treatment of Hawaiian cultural practices and historical sites, as well as ideas about these could be further disseminated within the tourism industry.
- Recommendations for policy initiatives and/or possible additional future research, based on findings above.

APPENDIX A: MEMBERS OF ADVISORY COMMITTEES

Environmental Advisory Committee

Name	Affiliation	Island
Alenka Remec	The Nature Conservancy of Hawaii	Oahu
Jeff Mikulina	Sierra Club, Hawaii Chapter	Oahu
Jackie Miller	Environmental Center, University of Hawaii	Oahu
Donna Wong	Hawaii's Thousand Friends	Oahu
Henry Curtis	Life of the Land	Oahu
Alton Miyasaka	Department of Land and Natural Resources	Oahu
Jeyan Thirugnanam	Office of Environmental Quality Control	Oahu
Neil Reimer	Department of Agriculture – Plant Quarantine	Oahu
Susan Miller	Office of Planning/CZM	Oahu
Marjorie Ziegler	Earth Justice	Oahu
Betty Wood	Department of Health (Health Hawaii)	Oahu

Infrastructure Technical Resource Committee

Name	Affiliation	Island
Dan Quinn	State Parks Division, DLNR	Oahu
Wayne Souza	Division of State Parks	Kauai
Francis Nakano	Division of State Parks, DLNR	Oahu
Philip Ohta	Division of State Parks, DLNR	Maui
Glenn Taguchi	Division of State Parks, DLNR	Big Island
Mike Buck	Forestry and Wildlife Division, DLNR	Oahu
Edwin Petteys	Forestry and Wildlife Division, DLNR	Kauai
Patrick Costales	Forestry and Wildlife Division, DLNR	Oahu
Robert Hobdy	Forestry and Wildlife Division, DLNR	Maui/Molokai
Patricia Engelhard	Hawaii County Dept. of Parks and Recreation	Big Island
Ian Costa	County of Kauai, Dept. of Public Works	Kauai
Jon Giffin	Forestry and Wildlife Division, DLNR	Big Island
William Balfour Jr.	City and County of Honolulu, Parks and Recreation	Honolulu
Floyd Miyazono	County of Maui, Department of Parks and Recreation	Maui

Visitor Industry Advisory Committee

Name	Affiliation	Island
Stephen Yamashiro	Hawaii Tourism Authority	Big Island
Toni Marie Davis	Activity Owners Association of Hawaii/ Hawaii Attractions Association (merged organizations)	Maui
John Thatcher	Airlines Committee of Hawaii	Oahu
George Applegate	Big Island Visitors Bureau-Hilo	Big Island
Sharon R. Weiner	Business Development, Public Affairs and Consumer Marketing DFS Pacific Group	Oahu
Waynette Ho-Kwon	Destination Lanai	Lanai
Katsumi Tanaka	Hawaii Activities and Tours Associations	Oahu
Annette Kaohelaulii	Hawaii Ecotourism Association	Oahu
Murray Towill	Hawaii Hotel Association	Oahu
Michele Van Hessen	Hawaii Restaurant Association	Oahu
Rex Johnson	Hawaii Tourism Authority	Oahu
Tony Vericella	Hawaii Visitors & Convention Bureau	Oahu
Sue Kanoho	Kauai Visitors Bureau	Kauai
Terryl Venci	Maui Hotel Association	Maui
Marsha Wienert	Maui Visitors Bureau	Maui
Sandy Beddow	Molokai Visitors Association	Molokai
Douglas K. Chang	Native Hawaiian Tourism & Hospitality Association	Oahu
Nadine Nakamura	NKN Project Planning	Kauai
Les Enderton	Oahu Visitors Bureau	Oahu
Carol Pregill	Retail Merchants of Hawaii	Oahu
David H. Gleason	The Dunes at Maui Lani	Maui
Rika Ikeda	Visitor Aloha Society of Hawaii	Oahu
Rick Egged	Waikiki Improvement Association	Oahu

Modeling Technical Resource Committee

(Committee to be formalized in early 2003)

Native Hawaiian Advisory Group

Name	Affiliation	Island
Peter Apo	Director, Hawaii Hospitality Institute	Oahu
Dennis "Bumpy" Kanahele	Director, Kanaka Maoli Research & Development Corp.	Oahu
Cherlyn Logan	Vice President for Human Resources, Hilton Hotels Western Region	Oahu
Dr. Davianna McGregor	Associate Professor, University of Hawaii	Oahu

Sustainable Tourism Study Group

Name	Affiliation	Island
Lynn McCrory	Kauai Land Board Rep. PAHIO Resorts, Inc.	Kauai
Leslie A. Kuloloio	Cultural Native Resource Specialist	Maui
Millie Kim	President, Millicent Kim Inc.	Big Island
Dee Crowell	Director, Kauai County Planning Department	Kauai
Brian Miskae	Planning Program Administrator, Maui County Planning Department	Maui
Norman Hayashi, representing Christopher Yuen	Director, Hawaii County Planning Department	Big Island
Kathy Sokugawa	Planning Division Chief, City and County of Honolulu Planning Department	Oahu
Frank Haas	Director of Tourism Marketing, Hawaii Tourism Authority	Oahu
Bob McNatt	President Hawaii Resort Developers Conference (and VP Land Planning & Development, Maui Land & Pine)	Maui
Murray Towill	President, Hawaii Hotel Assn.	Oahu
Lyn F. Anzai	Vice President, General Counsel & Corporate Secretary, Hawaiian Airlines	Oahu
James W. Stanney	Senior Manager, Real Estate and Hospitality Advisory Services, KPMG LLP	Oahu
Michael Fitzgerald	President and CEO, Enterprise Honolulu	Oahu
Annette Kaohelaulii, Ecotourism Assn.	President, Hawaii Ecotourism Assn.	Oahu
Marjorie Ziegler	Conservation Council for Hawaii	Oahu
Henry Curtis (<i>alt.: Kat Brady</i>)	Executive Director, Life of the Land	Oahu
Jeff Mikulina	Director, Sierra Club	Oahu
Donna Wong	Executive Director, Hawaii's Thousand Friends	Oahu
Peter Apo	Director, Hawaii Hospitality Institute	Oahu
Rev. Kaleo Patterson	Kaumakapili Church	Oahu
Guy Fujimura	Secretary-Treasurer, ILWU Local 142	Oahu
Pauline Sheldon	Dean, UH School of Travel Industry Management	Oahu
Susan Au Doyle	VP- Community Building Aloha United Way	Oahu
Carol Pregill	President, Retail Merchants of Hawaii	Oahu