Aims and Scope

- Develop a methodology for valuing the resources protected by the SMI program
- Potential applications of techniques are demonstrated through case studies in each of the countries
- The key is linking actions resulting from the program to value changes in coastal and ecosystem services of interest

Environmental Valuation Concepts

- Stated preference techniques: individuals state willingness-to-pay for a specified ecosystem service (e.g., through a survey)
  - Contingency valuation method (CVM)
  - Choice modeling (CMI)
- Revealed preference techniques: Information is “revealed” through actual actions taken in a market
  - Travel cost method (TCM)
  - Hedonic pricing method (HPM)
  - Ecosystem service approach (ESA)
- Other techniques: values inferred from other studies
  - Benefits transfer method (BTM)
Summary of Case Studies and Benefits

- Key benefits of the SMA program selected by the Office of Planning include
  - Public access
  - Beach and shoreline protection
  - Marine resources
  - Scenic and open space
  - Public participation

- Case studies selected with the intent of providing adequate representation of geographical conditions and benefits

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kailua Bay</td>
<td>Public beach access, marine resources</td>
</tr>
<tr>
<td>Kekaha Kai State Park</td>
<td>Public beach access, scenic amenities, open space, marine resources, cultural value</td>
</tr>
<tr>
<td>North Shore Beaches</td>
<td>Public beach access, scenic amenities, open space</td>
</tr>
<tr>
<td>Malaekahatu</td>
<td>Beach recreation area, ocean resources</td>
</tr>
<tr>
<td>Kaaihue Beach</td>
<td>Beach recreation area</td>
</tr>
<tr>
<td>Waimanalo Beach</td>
<td>Beach recreation area</td>
</tr>
<tr>
<td>Moana Surfrider Hotel</td>
<td>Public beach access, scenic amenities</td>
</tr>
</tbody>
</table>

Charley Young Beach (Maui)

Site description:
- Forestieria lanaii, a native shrub, was encroaching on public land and existing vegetation, impeding view from a nearby beachfront property.

Mitigative actions:
- Removal of encroaching vegetation
- Planting with indigenous vegetation such as pomegranate and wild grass (Sporobolus virginicus)

Before and after photos:
- Before: Native forestieria shrubs, public access
- After: Native vegetation removed, improved public access
Kealia Beach and Donkey Beach (Kaua‘i)

Silos description:
- Development of a 260-acre subdivision
- Portion of the land is within the State Conservation District for public use
- Colorfu l side walk is used for pedestrians and bike access

Mitigation actions:
- Geotechnical review
- Construction of new public parking lots
- Provision of a paved pedestrian pathway
- Maintenance of view corridors using native coastal vegetation
- Creation of 60 acres to the County of Kauai or another government agency for public recreational purposes

<table>
<thead>
<tr>
<th>Environment</th>
<th>Human Health</th>
<th>Recreation/Access</th>
<th>Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beach access</td>
<td>Oahu, Oahu</td>
<td>Oahu, Oahu</td>
<td>Oahu, Oahu</td>
</tr>
<tr>
<td>Highway access and access</td>
<td>Oahu, Oahu</td>
<td>Oahu, Oahu</td>
<td>Oahu, Oahu</td>
</tr>
</tbody>
</table>

Next steps:
- More details on O‘ahu case study (Moana Surfrider Hotel in Waikiki)
- Develop appendix that gives step-by-step instructions on how to employ the suggested valuation methodologies
- Consider how estimated values could be applied in a more comprehensive cost-benefit analysis used for decision-making
CZM and SMA Programs

- Coastal Zone Management (CZM) Act
  - Codified under SRS-216A in 1977
  - Objective is to preserve, protect, develop, and enhance coastal zone resources

- Special Area Management (SMA) Program
  - Established with the enactment of the Siluweleka Protection Act (Act 17) in 1976
  - Administered by each of the county governments, with the State providing oversight and technical support
  - Ensures that developments within the SMA are carried out in compliance with CZM objectives and policies for the following:
    - Recreational resources
    - Historic resources
    - Coastal ecosystems
    - Public participation
    - Access and open access resources
    - Economic uses
    - Coastal hazards
    - Beach protection
    - Marine resources