Pacific Islands Environmental Conference
Saipan, CNMI

Shared Environmental Challenges of Island Communities

Mayor Jeremy Harris
City & County of Honolulu
June 23, 2004

Island Communities share similar challenges

It's just a matter of size and degree

Characteristics of Island Communities

- Remoteness and insularity
- Fragile ecosystems
- Lack of natural resources
- Dependency on imports
- Small physical and economic size

Challenge

Economic Development

Waikiki as it was

Develop economic base that doesn't destroy the fragile environment or diminish the native culture

Solution

Economic Development

- Develop industries that don’t damage the environment

Solution

Economic Development

- Size industries to meet the needs of the local population without importing immigrant labor

Solution

Economic Development

Sustainable Tourism – enhances local culture and history and respects the natural environment

Solution

Sustainable Economic Development

- Good environmental policy is good economic policy
- Diversify economy and encourage growth in ways that local residents will support

Challenge

Land Use

Strip malls in
coastal communities

Poor or inadequate land-use controls result in inappropriate development in inappropriate places with inappropriate design

Solution

Land Use

- Strict land-use controls
- Open space and agricultural land preservation plans

Solution

Land Use

- Zoning regulations

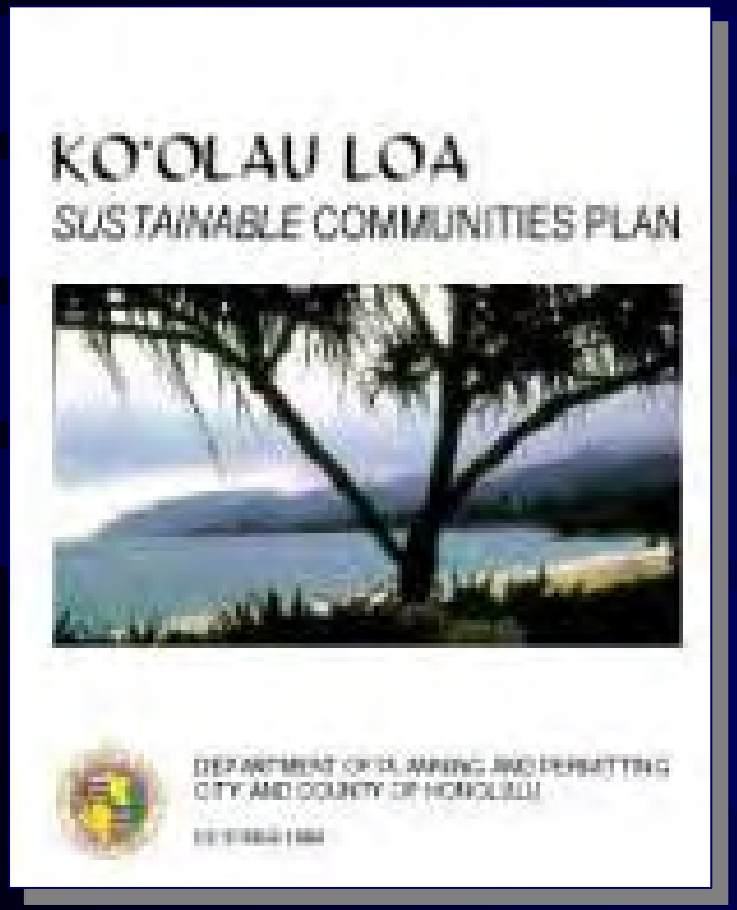
Solution

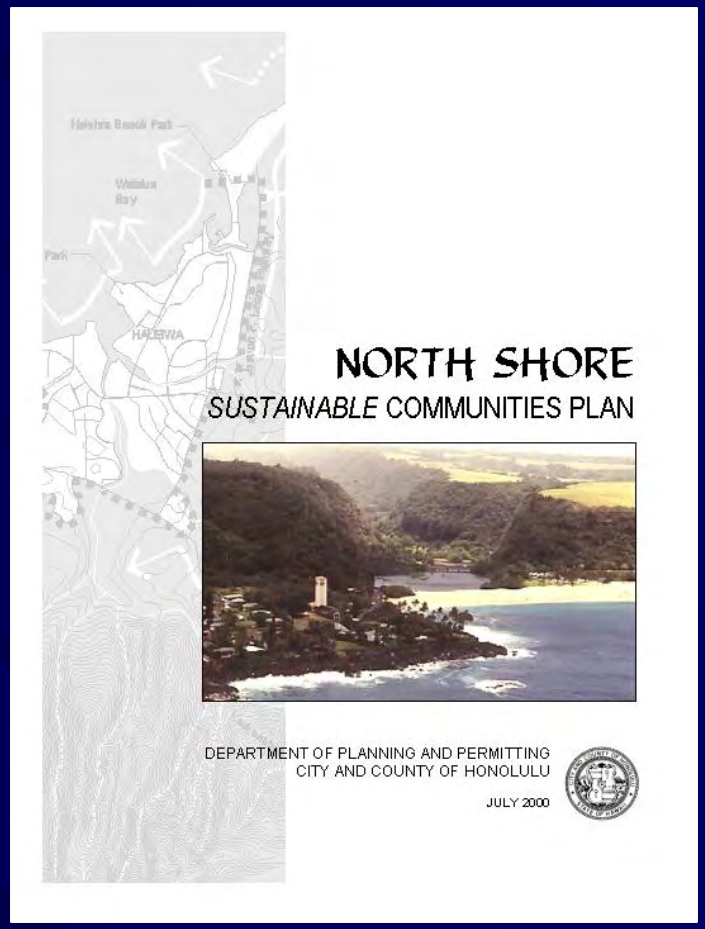
Land Use

- Urban design guidelines

Solution

Land Use

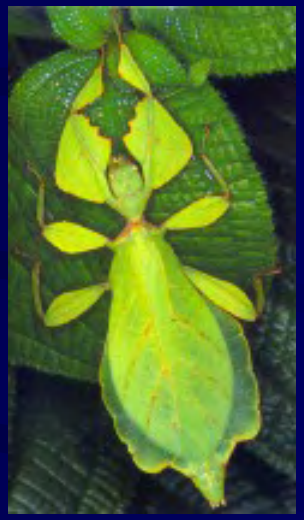




- Community sustainability plans

Challenge

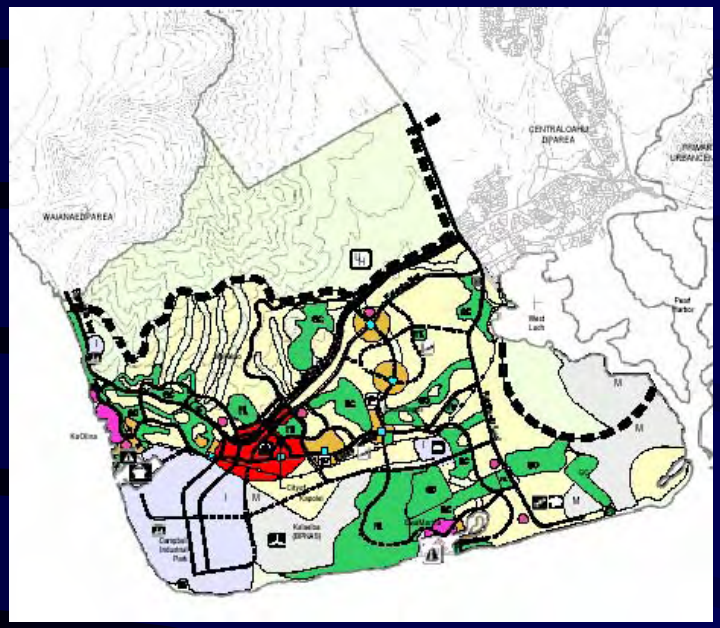
Habitat Destruction



- Loss of mangroves
- Loss of estuaries
- Invasive species
- Coastal zone destruction

Solution

Habitat Destruction



- Zoning laws that protect critical habitat
- EIS disclosure requirements
- Strict regulation on importation of exotic species
- Strict inspection and enforcement

Solution

Protecting Wildlife Habitats

Waimea Valley – Partnership with Audubon Society

Challenge

Transportation

- Many island communities are modeling their transportation systems after mainland models
- Most are developing their communities around the automobile and imported fossil fuels

Solution

Transportation

Island communities, more than any other, have the ability to break the automobile mold and plan their communities around alternative transportation

Solution

Transportation

- Hybrid electric buses
- Fuel cell vehicles
- Small passenger vehicles

Solution

Transportation

- Bicycles and smart growth planning that co-locates residents, jobs, shops and schools so no car is needed

Challenge

Energy

Most island communities are modeling their primary energy generation—electricity—after mainland models fueled by imported fossil fuels

Solution

Energy

Islands should become independent of imported energy by developing renewable sources:

- Wind
- Solar
- Biomass
- Wave
- Current
- District cooling

Solution

Energy

Develop co-generation facilities so buildings supply their own power

Solution

Energy

Energy Efficiency – Building codes that provide natural lighting and cooling

Challenge

Solid Waste

Poor solid waste handling resulting in polluted waterways, litter, landfills, leachate polluting groundwater

Solution

Solid Waste

- Waste reduction: outlawing plastic bags
- Waste recycling: green waste, bottles, aluminum cans

Challenge

Wastewater

- Inadequate wastewater treatment
- Sewage spills from old transmission systems
- Inflow and Infiltration

Challenge

Wastewater

- Polluted streams and beaches
- Public health problems
- Polluted ground water

Solution

Wastewater

- Improved sewage treatment facilities
- Wastewater reuse: Membrane technology

Solution

Wastewater

- Low-tech treatment processes:
  - Waterless and no-flush urinals
  - Wetland habitat treatment

Challenge

Water

Many island nations have inadequate potable water to meet growing urban demands and demands of agriculture

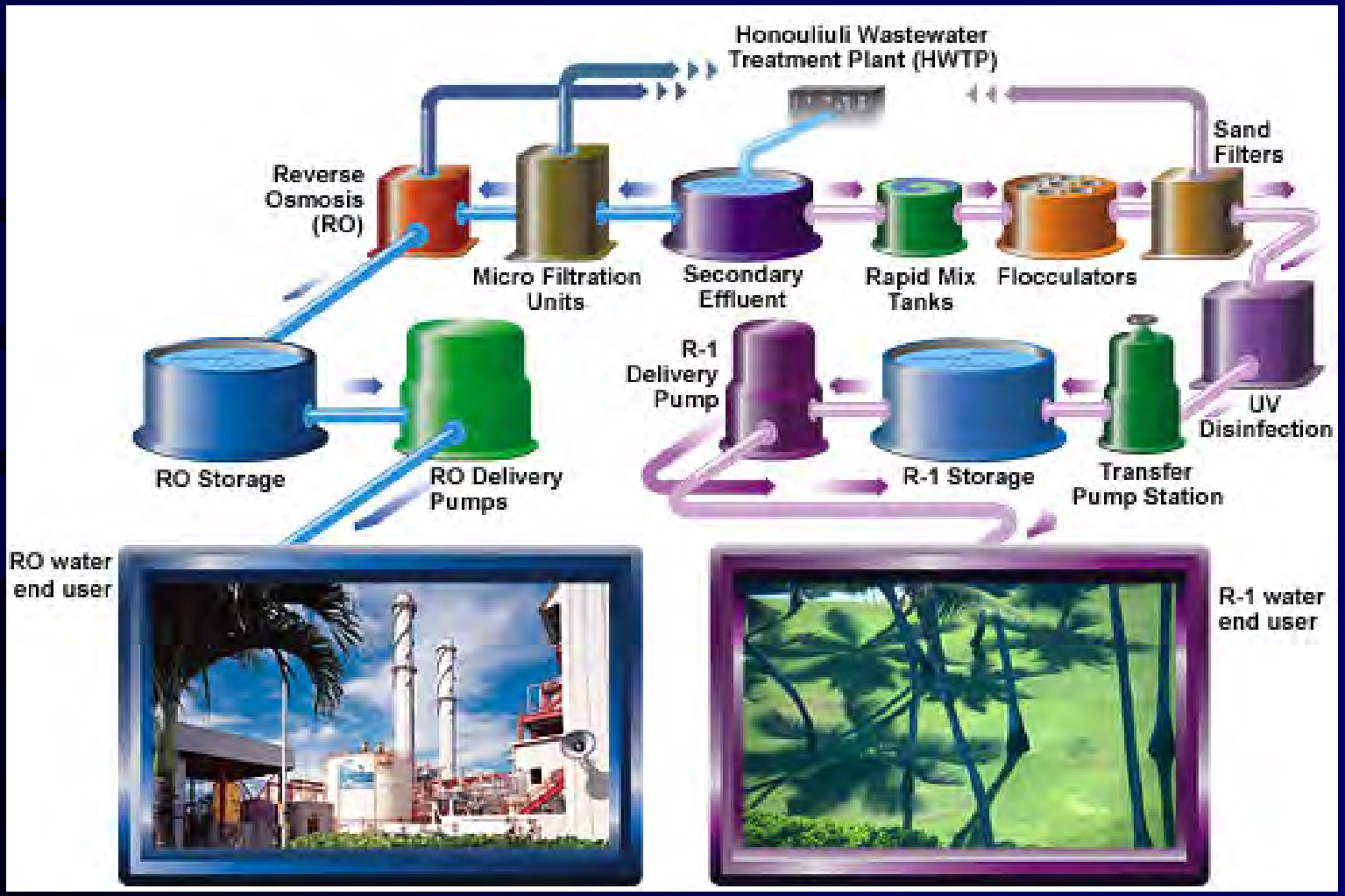
Solution

Water

The Natural Energy Laboratory of Hawaii Authority taps the potential of deep ocean cold water for energy, water and agricultural applications

Solution

Water



- Wastewater recycling for agriculture and industry

Solution

Water

- Water conservation: low-flush toilets, shower heads, leak prevention programs

Challenge

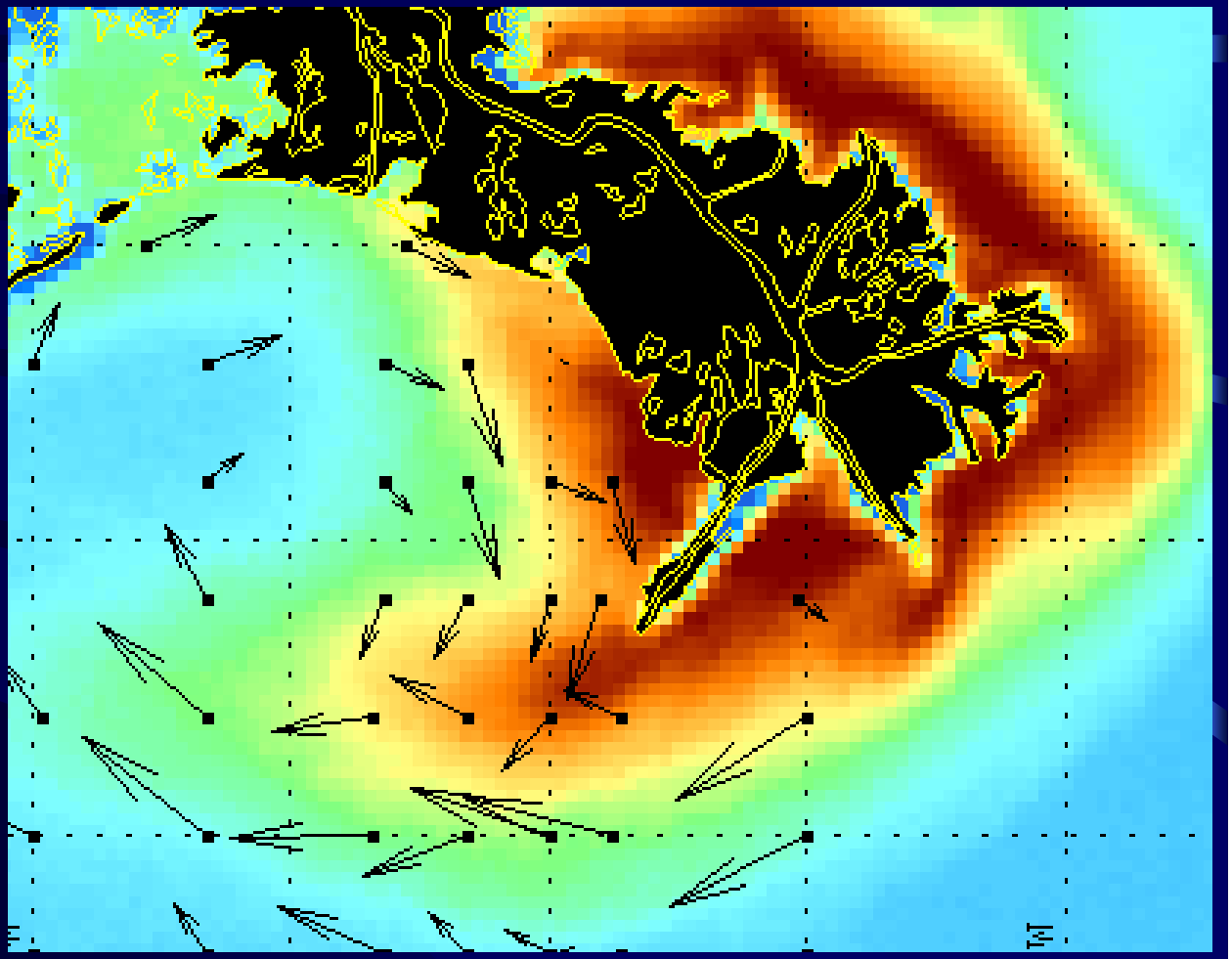
Coral Reef Destruction

- Overfishing and illegal fishing techniques
- Runoff: Poor grading practices, sediment, ag chemicals
- Urban non-point source pollution
- Global warming – coral bleaching

Challenge

Coral Reef Destruction

Satellite imagery shows suspended sediments in the Gulf of Mexico



Solution

Coral Reef Destruction

- Scientifically based fish and game laws and enforcement
- Strict grading regulations
- Storm drain pollution control programs

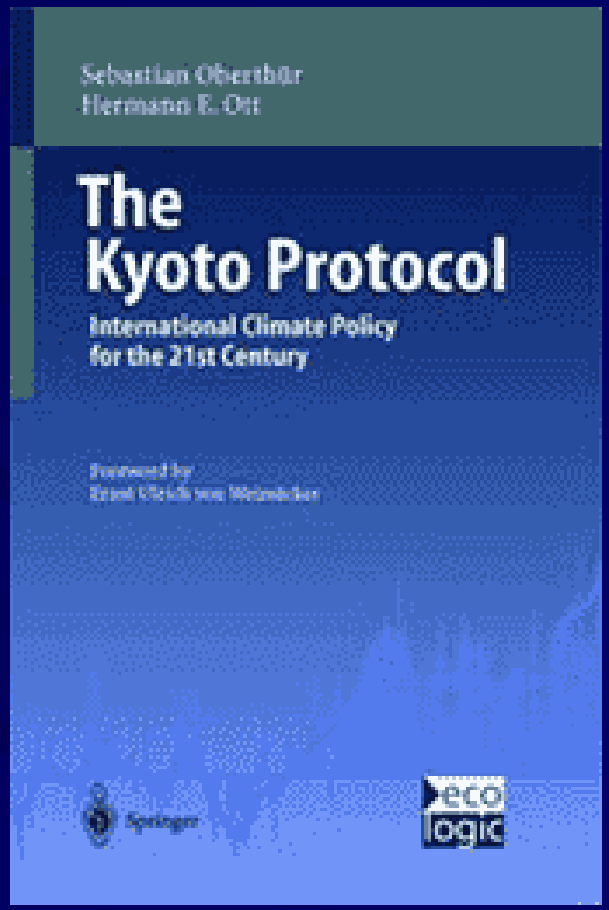
Challenge

Global Warming

- Disrupts weather patterns
- Impacts coastal inundation
- Spreads infectious disease
- Affects agricultural production

Solution

Global Warming



International lobbying for reduction of greenhouse gas emission reductions

Solution

Financing

- Tourist taxes for environmental protection
- Impact fees paid by developers
- Environmental technology purchasing consortium

Island Communities

- Shared problems
- Shared solutions
- Working together

Mahalo