The Green Visions Plan for 21st Century Southern California

John Wilson
GIS Research Laboratory
Department of Geography
University of Southern California
9 March, 2006

Green Visions / Outline

- Background
- Hydrologic Function
- Habitat Conservation
- Parks / Open Space
- Decision Support Tools
- What Follows …

Green Visions Plan

- Population growth
- Legacy of piecemeal planning
- Regulatory / government context
- Land use / wildlife conflicts
- Public health challenges
- Environmental justice considerations
- Funding opportunities

Project Goals

- Identify and assess opportunities for:
  - Promotion / restoration of watershed function
  - Habitat conservation / restoration
  - Park / open space acquisition
  - Create web-based decision support tools and geospatial data sets

Multiple Use

- The best sites will simultaneously …
  - Treat and infiltrate storm water
  - Restore and conserve ecosystems
  - Provide recreation and open space opportunities

John Wilson
AAG Meeting 2006
Hydrologic Function / NHD

- Duplicate stream segments
- Flow divergences
- Missing stream segments (reaches)
- Missing or erroneous attributes

Mean Annual Daily Discharge

- Calleguas Creek

- Urban Matrix
  - Identify opportunities to create local nature parks
  - Target migratory birds and other mobile organisms
  - Build a series of wildlife corridors and linkages across urban landscape
  - Urban Twist
    - Delineate connectivity for lower trophic levels
    - It’s the little things that count

Habitat Conservation

- Multiple species approach
  - Chose 30-40 focal species
    - Broad taxonomic and life history coverage
    - Includes rare and endangered species
    - Includes indicators of sensitive habitats
  - Developed natural history profile and geographic incidence information
  - Will prioritize restoration and conservation areas based focal species
**Missing Linkages**

- Suitable habitat (reserves)
- Connectivity (corridors)

**Umbrella Species - Coyote**

**Loggerhead Shrike**

**MCE Analysis**

**Parks / Open Space**

- Compiled polygon layer containing 1,797 parks
  - LA – 1,364 parks
  - Ventura – 231 parks
  - Orange – 202 parks
- Conducted 1,797 web audits (attributes)
- Conducted 250 field audits – sampled 15% of parks using stratified random design

**Park Planning Sub-Regions**
Map Equity Analysis

- Characterize mismatch between park supply and park need (demand)
  - Park congestion – demand for parks assuming everyone uses nearest park at some uniform rate
  - Park service areas – network variant of map equity approach adopted by Wolch et al. (2005)

Decision Support Tools

Park / Open Space Tools

City Terrace County Park
**ArcIMS / Google Earth**

**Collaborative Research**

- Joseph Devinny, Travis Longcore, Jennifer Swift, and Jennifer Wolch
- Jason Byrne, Christine Lam, Alison Linder, Diego Martino, Thao Nguyen, Jaime Slaye, Mona Seymour, Jingfen Sheng, and Chona Sister