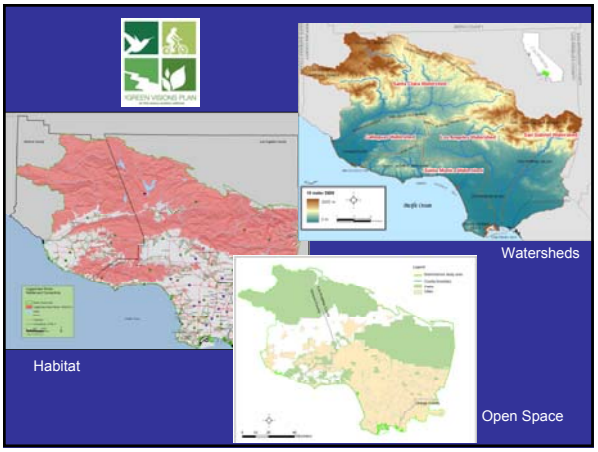
Key Green Visions Planning Tools

IRWMP Leadership Committee Meeting

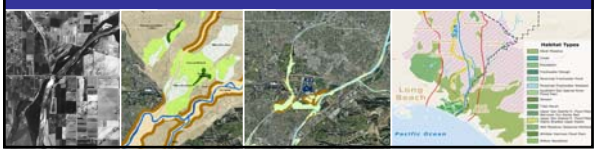
28 May, 2008

Decision Support Tools for Policymakers



Park Supply and Quality Assessment Tools

Ecological Assessment and Target Species Tools



Watershed Analysis and Assets Assessment

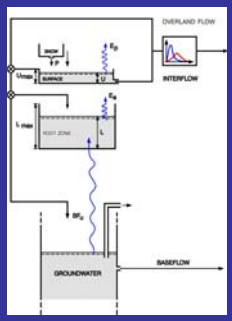
MIKE BASIN

- Determine quantities of contaminants entering stream network
- Simulate transport of contaminants in reservoirs, rivers, and groundwater
- Predict water quality by stream catchment

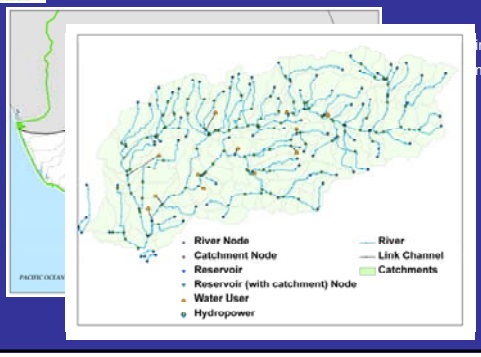
From LASGRWC

Model Implementation

- Prepare model & data
- Calibrate rainfall-runoff relationships
- Calibrate delivery & transport of contaminants
  - NO_3-N, NH_3-N
  - Total P
  - Fecal Coliform, BOD
- Validate rainfall-runoff & water quality predictions
- Generate final results



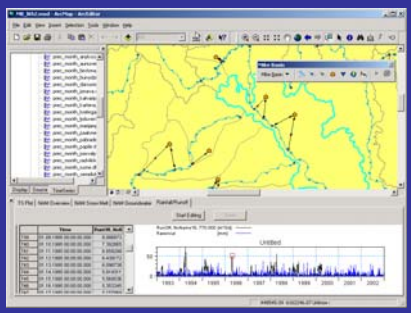
Subwatershed Delineation



Rainfall-Runoff Analysis

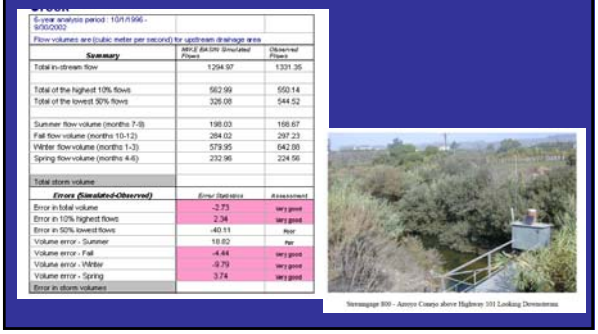
Basic Inputs

- Initial conditions
- Rainfall potential evaporation, & temperature time series
- Stream flow data for model calibration & validation



Monitoring Data

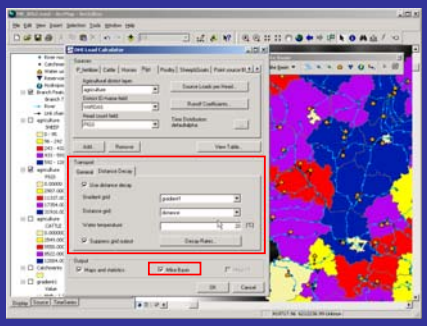
Validation Results – Streamgage 800 at Arroyo Conejo



Summary	MIKE BASIN Simulated Flows	Observed Flows
Total in-stream flow	1294.97	1331.35
Total of the highest 10% flows	562.99	550.14
Total of the lowest 50% flows	326.08	544.52
Summer flow volume (months 7-9)	198.03	168.67
Fall flow volume (months 10-12)	284.02	297.23
Winter flow volume (months 1-3)	579.95	642.80
Spring flow volume (months 4-6)	232.96	224.56
Total storm volume		

Errors (Simulated-Observed)	Error Statistics	Assessment
Error in total volume	-2.73	very good
Error in 10% highest flows	2.34	very good
Error in 50% lowest flows	-40.11	Poor
Volume error - Summer	18.02	Fair
Volume error - Fall	-4.44	very good
Volume error - Winter	-9.79	very good
Volume error - Spring	3.74	very good
Error in storm volumes		

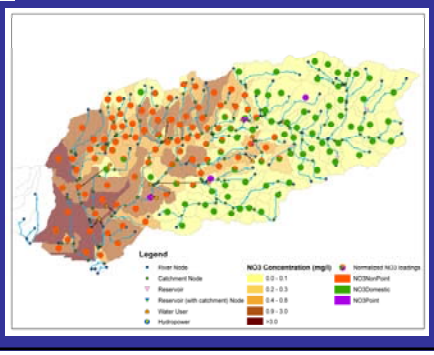
Water Quality Module



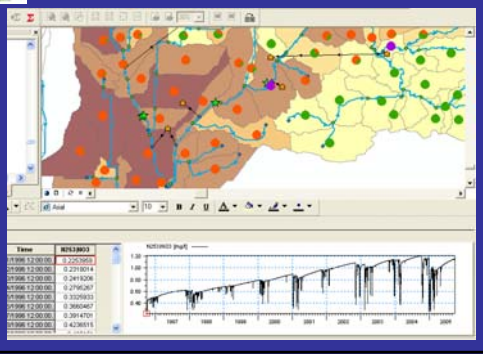
Contaminant Sources

- Fertilizer Sources
  - Crop data from Ventura County Agricultural Commissioner's Office
  - Fertilizer application rates from literature
  - Distance decay (reduction) factor from calibration results
- Livestock Sources
  - Very few
- Domestic Sources
  - Revised Landscan population estimates
  - Sewage data from Ventura County Resource Management Agency
  - Distance decay (reduction) factor from calibration results
- Point Sources
  - Five major NPDES

NO_3-N Predictions



Water Quality Validation



Inequity in Access to Parks has Health Consequences


Green Visions Plan Spatial
Decision Support Tools
Parcels / Analysis / Action
http://
EL Encanto
RESTAURANT