Environmental Resource Inventories

What are ERIs?

Significance of information

How to use them

ASSOCIATION OF NEW JERSEY ENVIRONMENTAL COMMISSIONS

Environmental Resource Inventory - ERI

- Compiled by the environmental commission
- Information about the natural resource characteristics and environmental features of your town.
- Objective & factual
- Text, maps, tables, bibliography

Why Do an ERI?

- Gives the Commission knowledge about natural resources protection and constraints
- Qualifies the Environmental Commission to receive development applications
- Provides information for town government, planners and developers
- Educates residents

ERI Is Critical for

- Master Planning (local land use ordinances)
- Natural Resource Protection
- Open Space & Recreation Planning
- Review of Development Applications
- Guiding Redevelopment
- Educating residents

Information to Include

- Introduction & Municipal Profile
- Climate
- Geology
- Geography/Topography
- Soils
- Hydrology
- Vegetation
- Critical Areas –slopes, wetlands, floodplains, depth to bedrock, wildlife habitat
- Existing Land Use

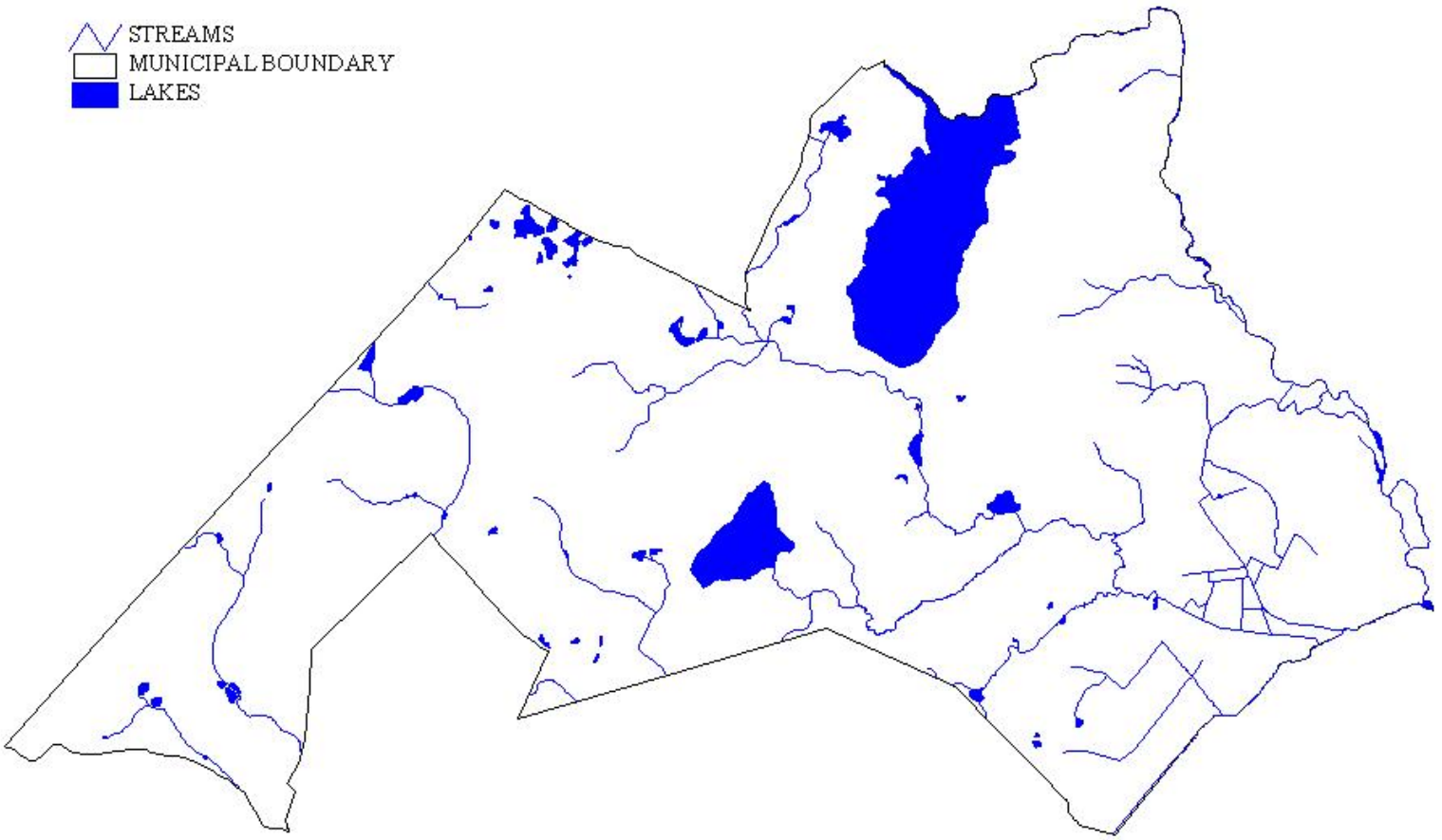
Other Information

- Open Space: undeveloped private/public, recreation, agricultural, industrial
- Habitat
- Contaminated sites
- Existing infrastructure: sewers, roads, public transportation, public open space
- Historic, cultural, scenic, areas
- Air quality
- Noise sources

A Digression about Maps…

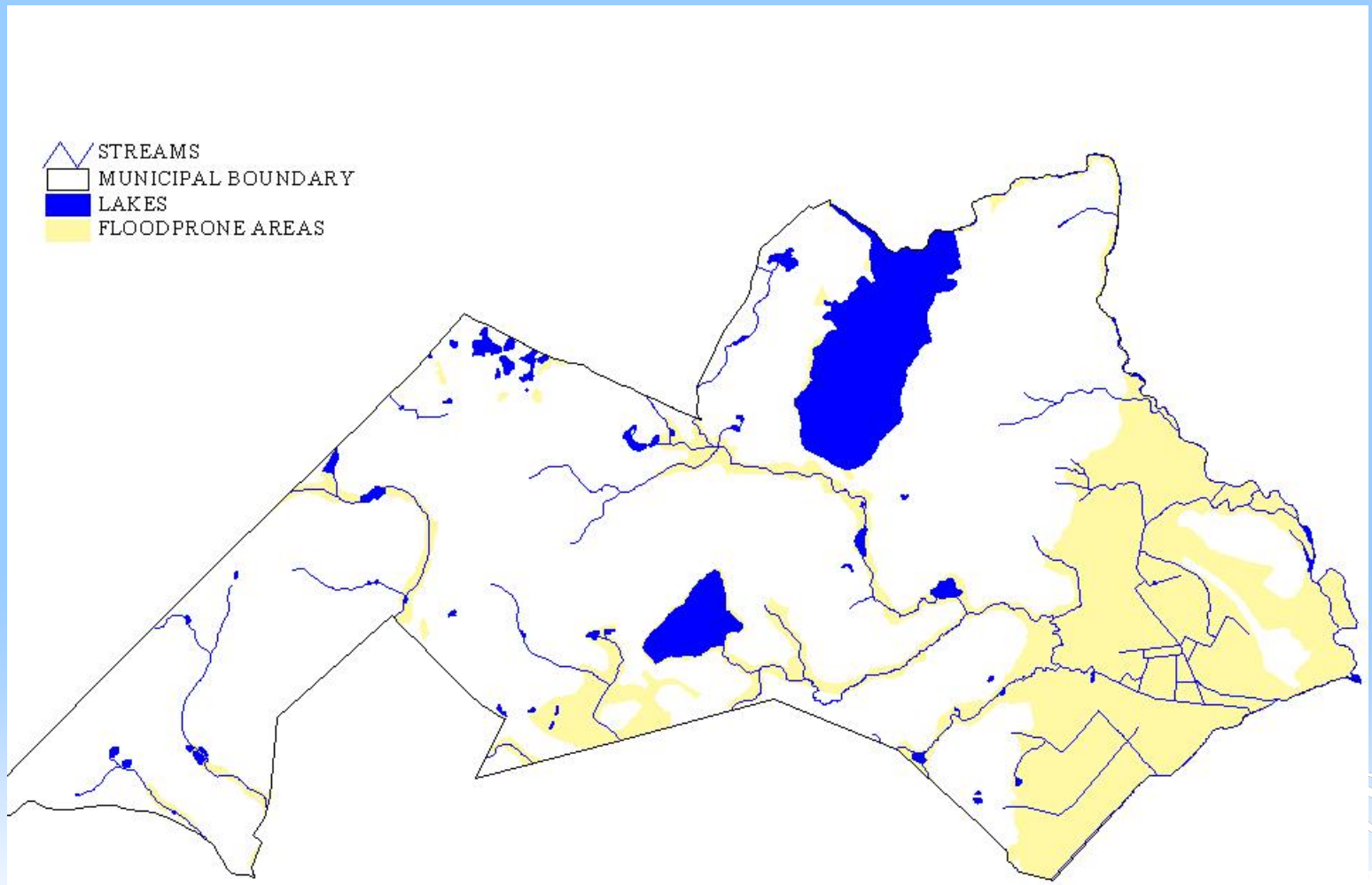
- Base Maps -
  - Town tax map (paper or digital)
  - Aerial map from U.S. Geologic Survey
- All maps at same scale
- Resources - individually or combined, as long as map is not cluttered
- Geographic Information Systems (GIS)

Map Layers - Water



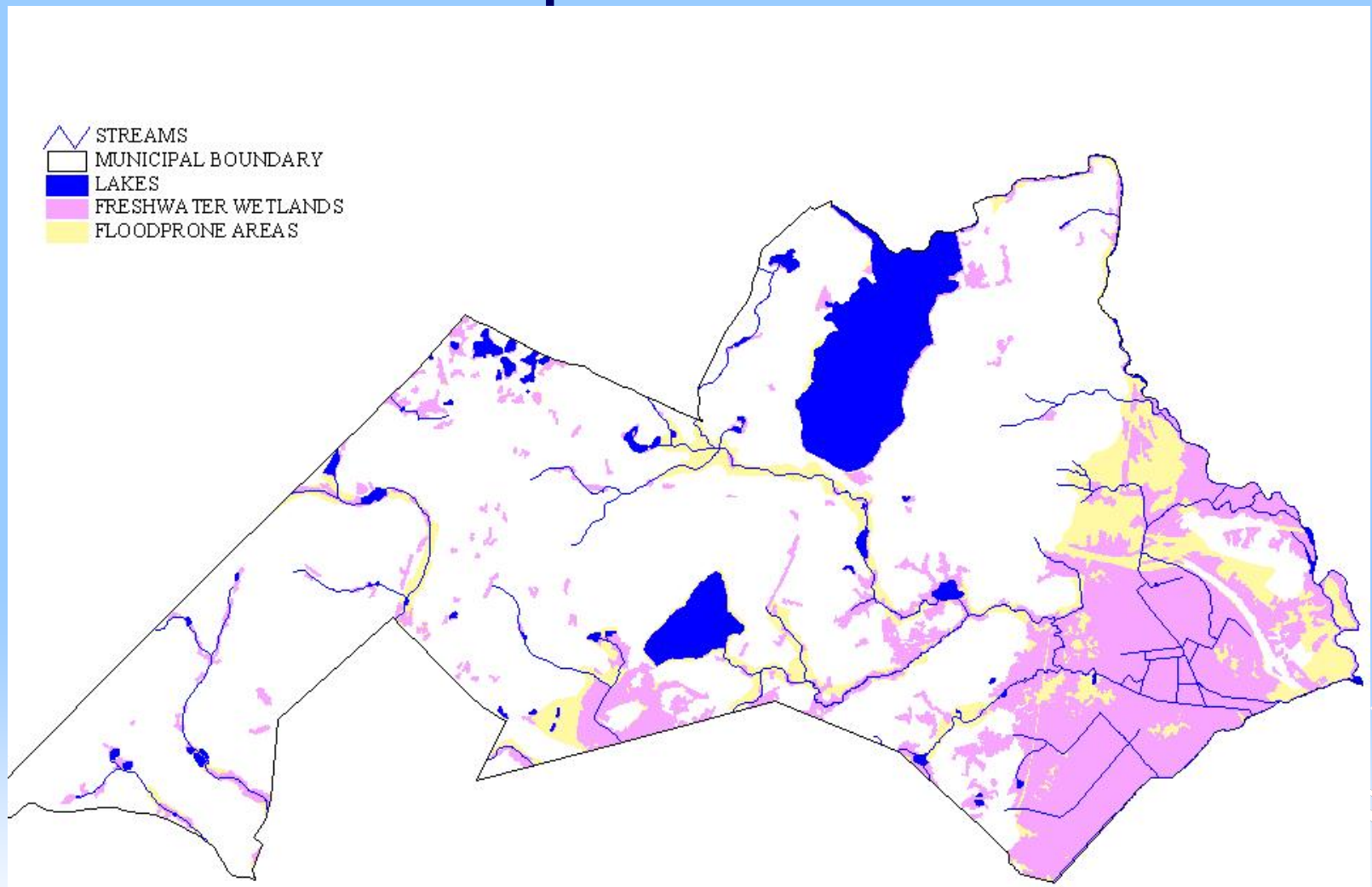
Parsippany-Troy Hills
Water & Wetlands Features

Water and Floodplains



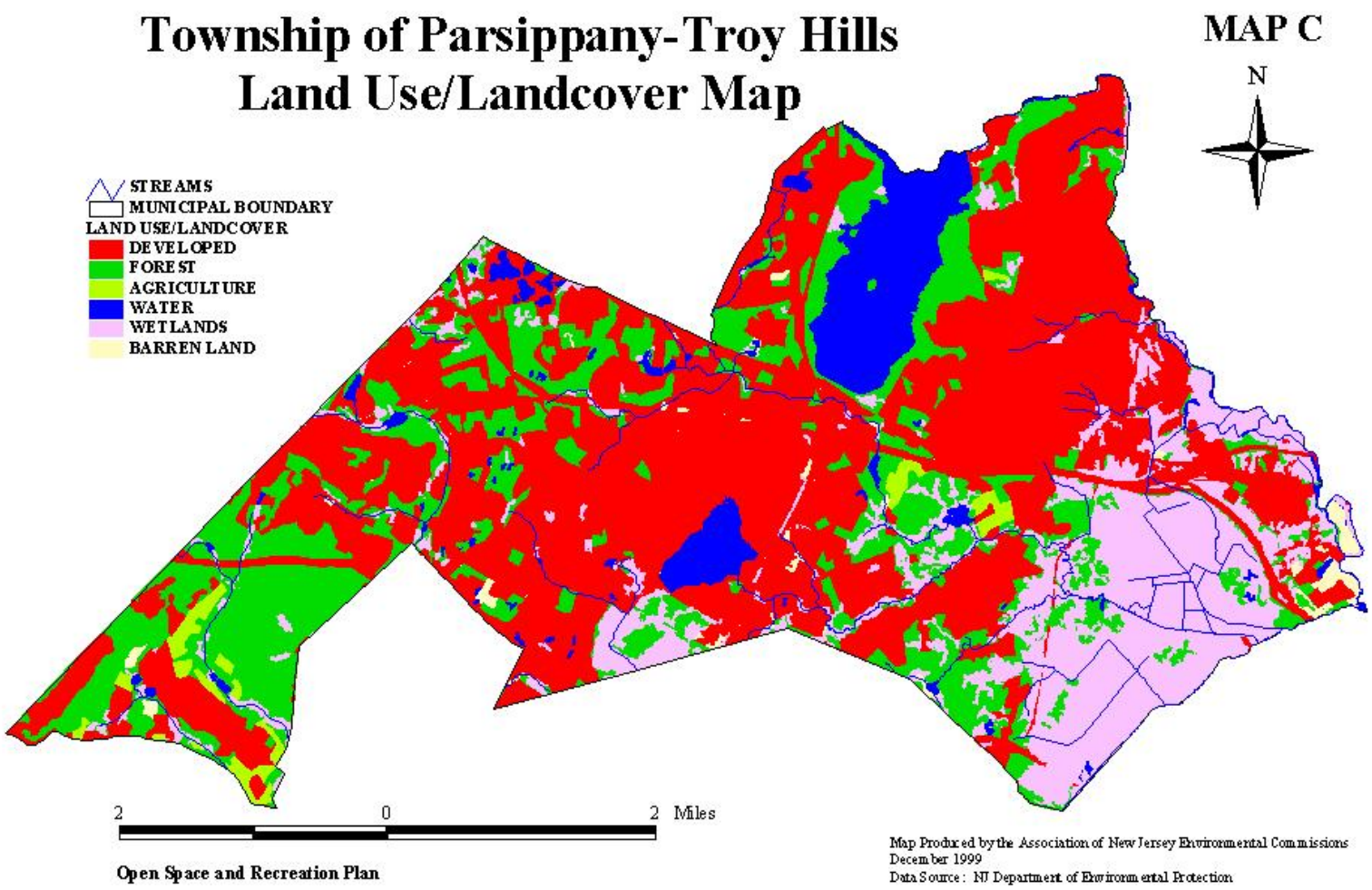
Parsippany-Troy Hills
Water & Wetlands Features

Water, Floodplains and Wetlands



Parsippany-Troy Hills
Water & Wetlands Features

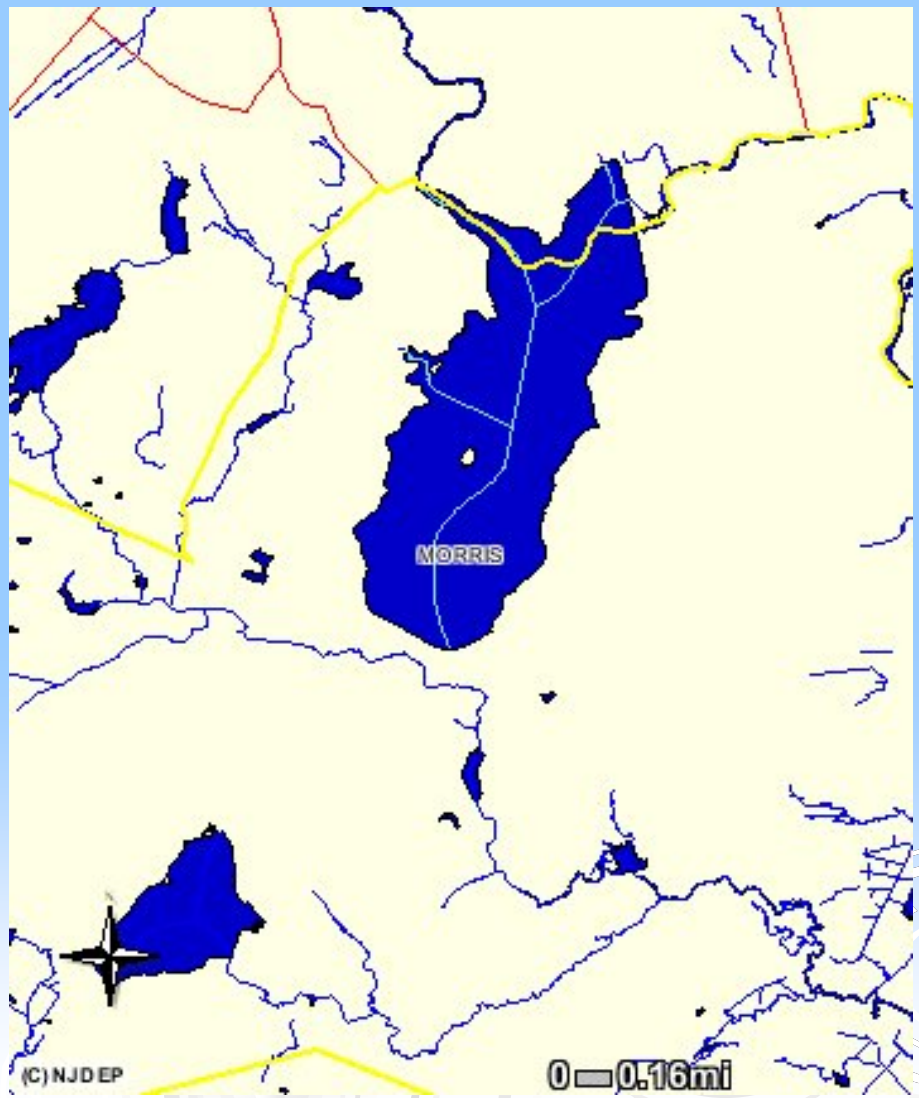
Land Use


Township of Parsippany-Troy Hills
Land Use/Landcover Map
MAP C
N
STREAMS
MUNICIPAL BOUNDARY
LAND USE/LANDCOVER
DEVELOPED
FOREST
AGRICULTURE
WATER
WETLANDS
BARREN LAND
2
0
2 Miles
Open Space and Recreation Plan
Map Produced by the Association of New Jersey Environmental Commissions
December 1999
Data Source: NJ Department of Environmental Protection

DEP Map Info Available

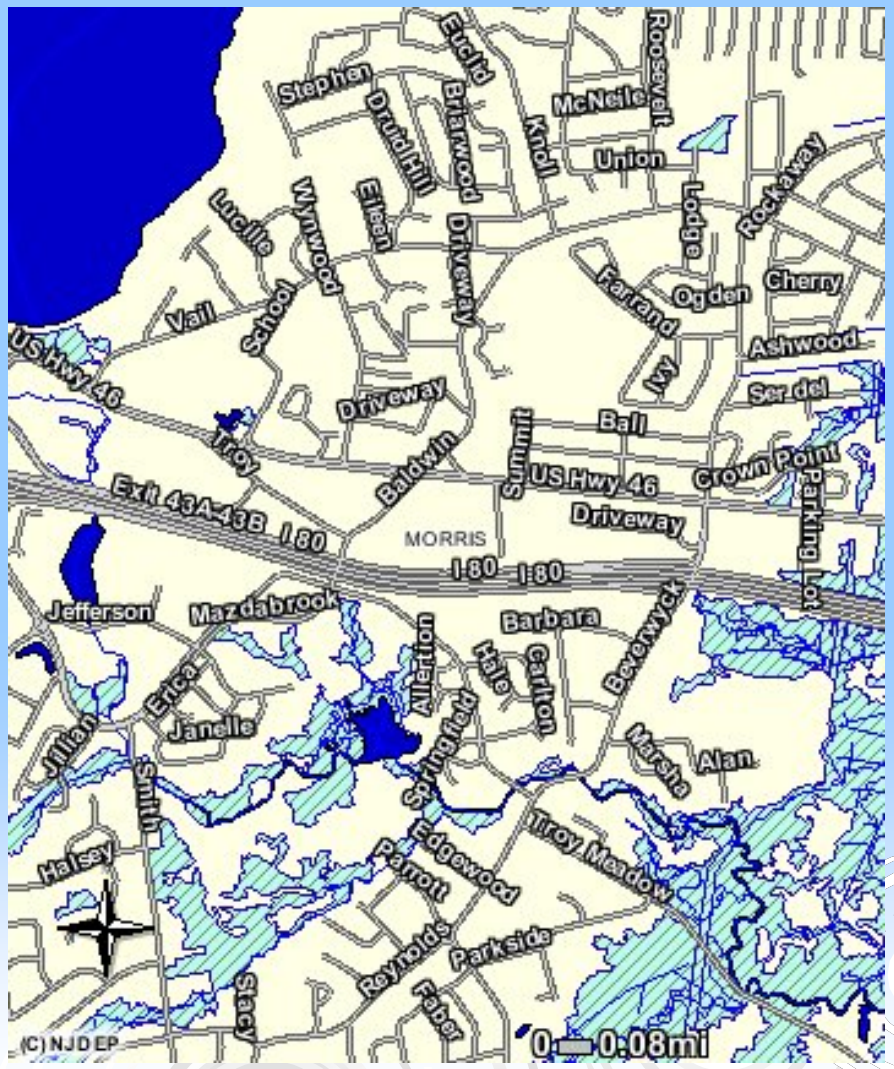
- DEP Geographic Information System (GIS)
- Data accessible on DEP Website without GIS software
  - *www.nj.gov.dep.gis/newmapping.htm* for i-Map NJ
    then, “Launch i-Map”
    “Find Location of Interest” – “Municipality”

Parsippany from i-Map



Parsippany Wetlands

Zoomed in


Euclid
Roosevelt
Stephen
Briarwood
McNeil
Druid Hill
Knoll
Union
Lucille
Wynwood
Eileen
Driveway
Lodge
Rockaway
Farrand
Ogden
Cherry
Vail
School
Ashwood
US Hwy 46
Driveway
Ser del
Ball
Troy
Baldwin
Simms
US Hwy 46
Crown Point
Parking Lot
Exit 43A-43B I 80
Driveway
MORRIS
I 80
I 80
Jefferson
Mazdabrook
Barbara
Beverwyck
Allerton
Hale
Garton
Erica
Janelle
Jillian
Marsha
Alan
Smith
Edgewood
Troy Meadow
Halsey
Parrott
Parkside
Reynolds
Stacy
Faber
(C) NJDEP
0 0.08mi

Planning an ERI

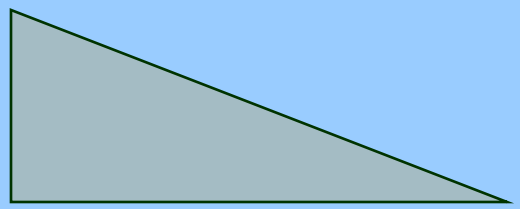
- Decide what to include – look at other ERIs
- Locate and contact information sources
- Decide who will do what
- Develop work plan
- Pursue funding sources
- Inform the public

Geography

- Region, watershed, State Planning Area
- Physical features: slopes, drainage, vistas
- Topographical information

Topography

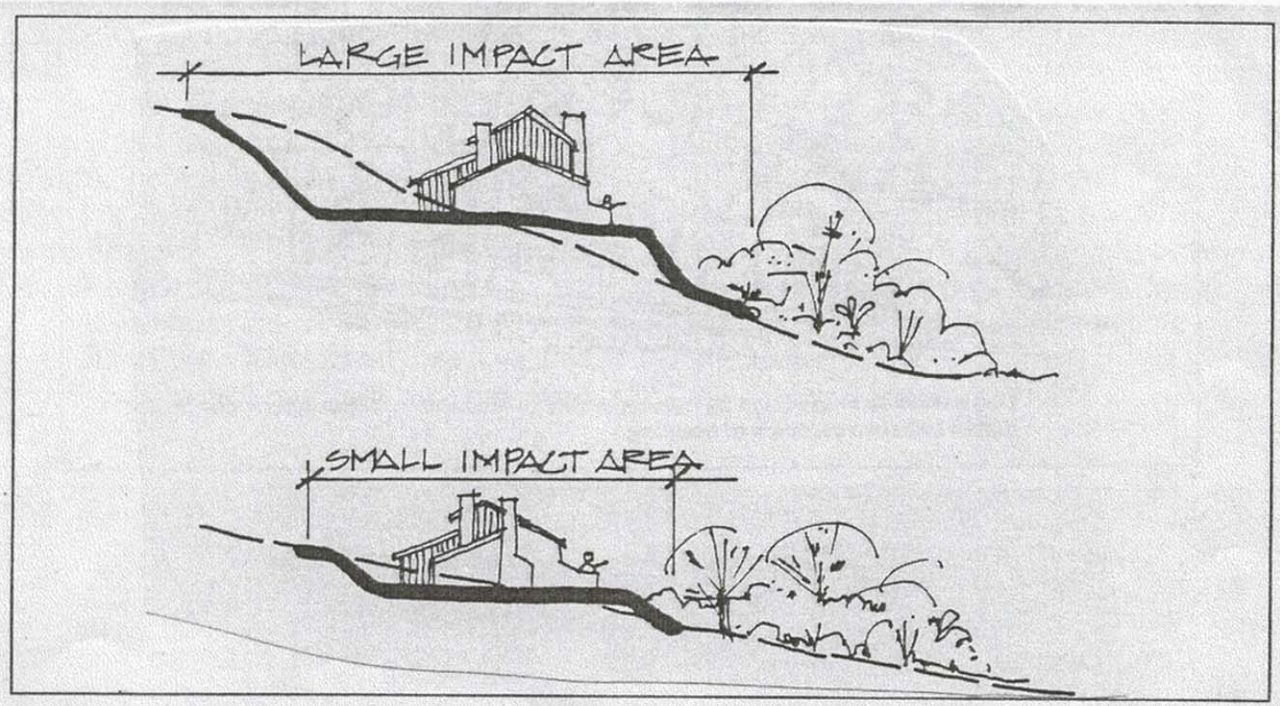
- Slope expressed in percent (%); 25-foot rise over 100 feet = 25%



- Steep slopes increase erosion, stormwater runoff, placement of roads, septic systems
- Slopes create the need for grading
- Slopes over 12% raise concerns

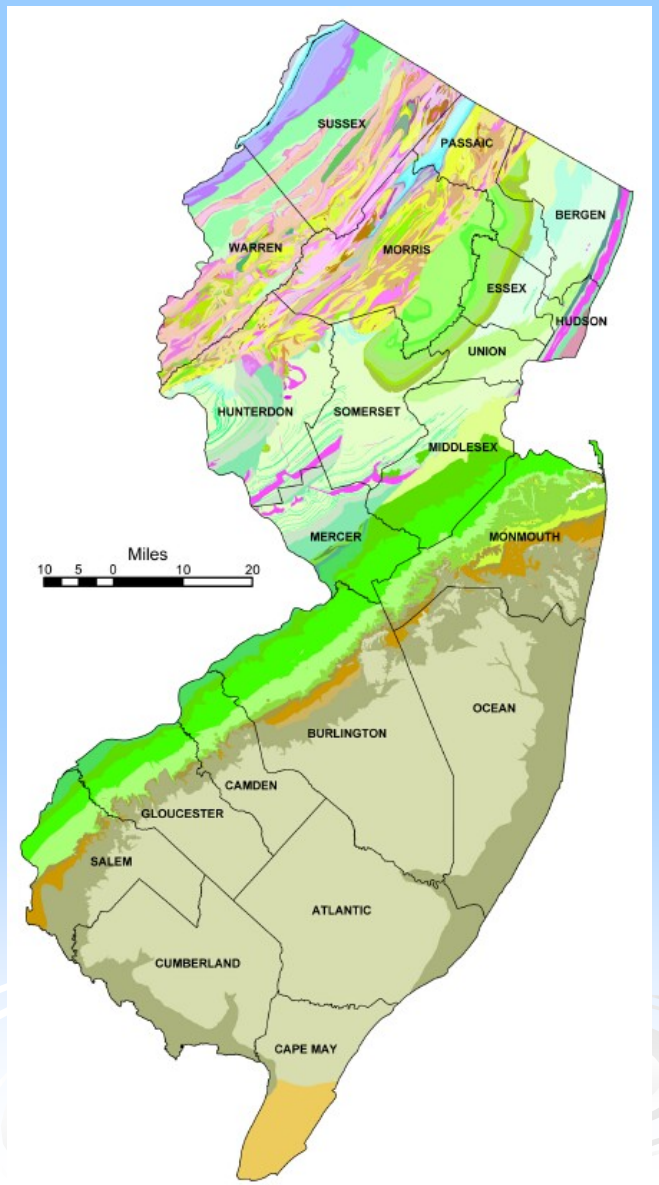
Limitations of Steep Slopes

Figure 3.2 Making Flat Areas for Homesites on Steep Slopes Disturbs More Land Area Than on Flat Slopes

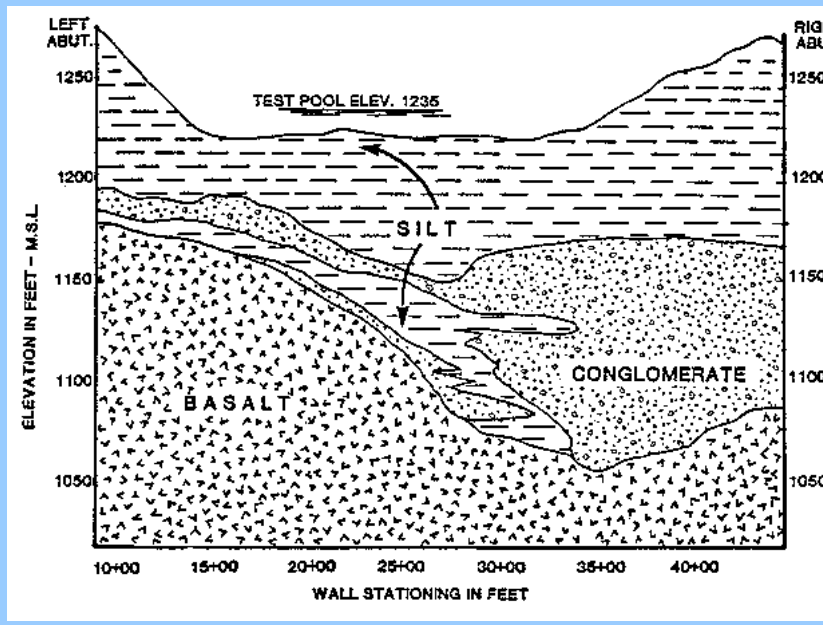


Source: Minnesota Pollution Control Agency, 1989

Geology - NJ Geological Survey



Geology



- Groundwater availability
- Septics suitability
- Porous limestone
- Construction bearing strength
- Surficial deposits above bedrock - hold water, sources of sand and gravel

Soils

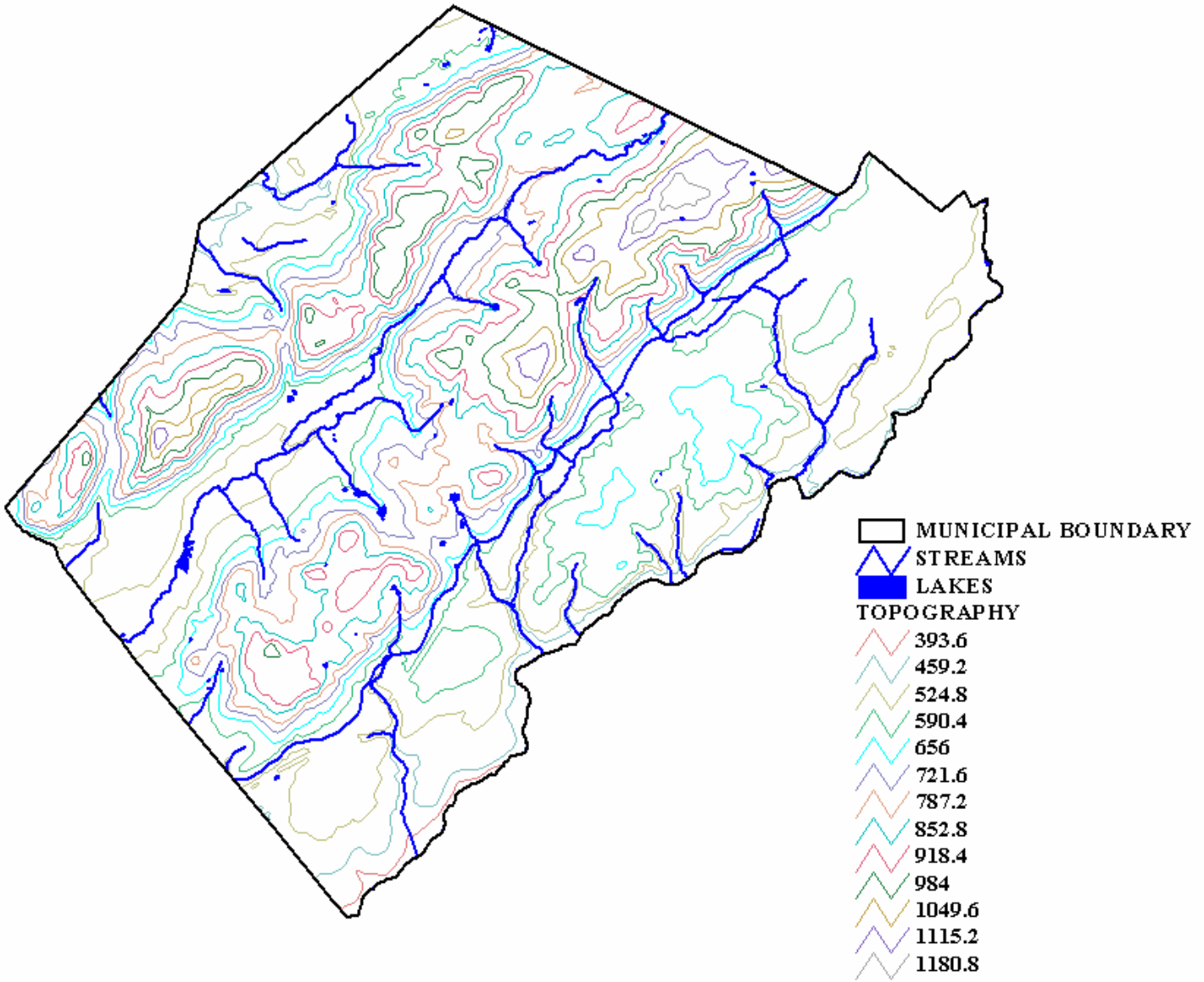
- Source: County Soil Survey
- Constraints
- Depth to bedrock: how shallow or deep; suitability for development, roads, etc.
- Wetlands: soil type, hydrology and vegetation
- Infiltration capacity affects the rate of surface water runoff, erosion and septics

Groundwater Hydrology

- Precipitation stored in rocks and sediments
- Map aquifer recharge areas (not necessarily adjacent to site), well head protection areas
- Water table: level in soil where all voids beneath are filled with water
- High water table limits land use, development and septics

Surface Water Hydrology

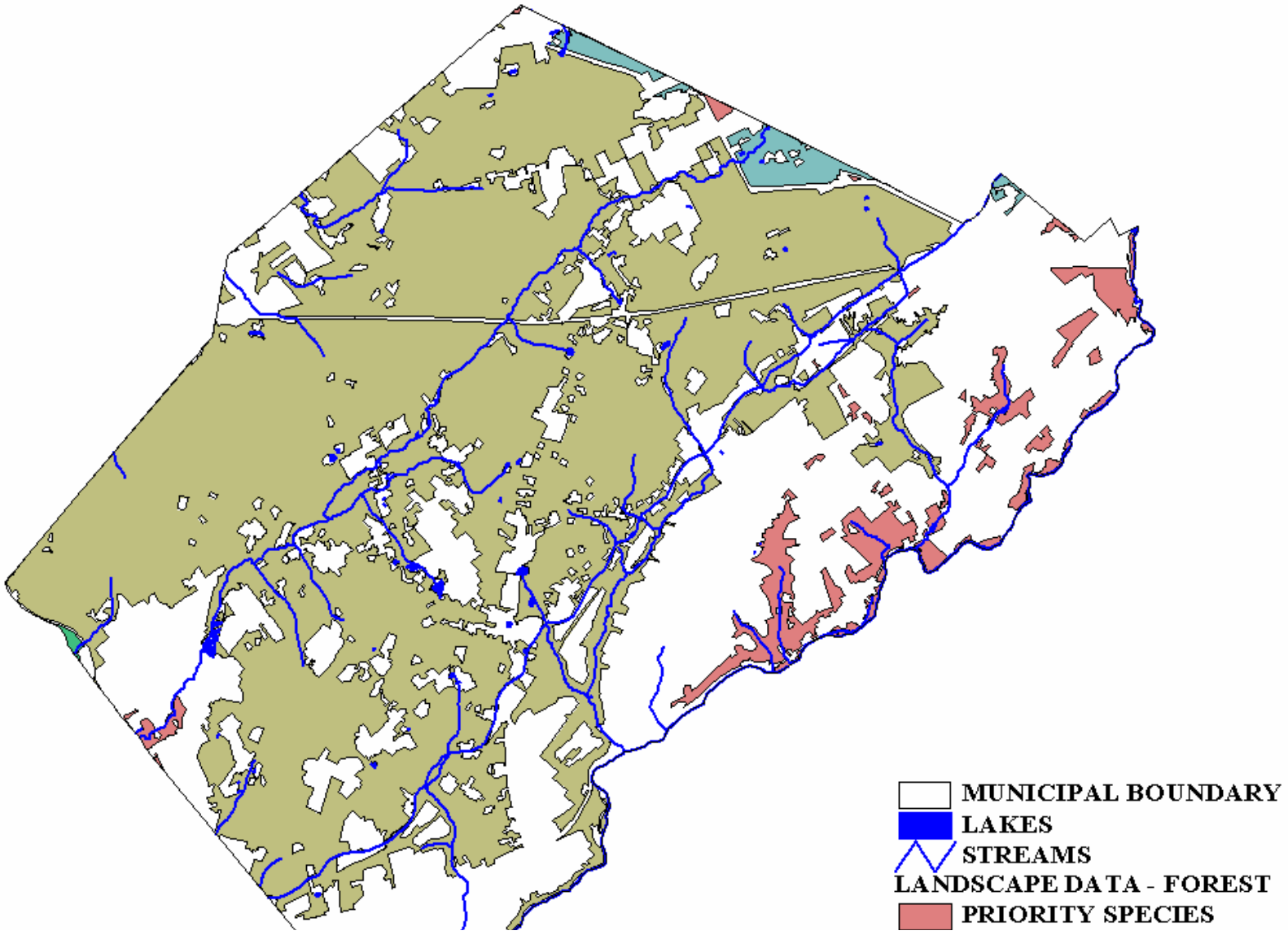
- Ponds, streams, rivers, lakes, reservoirs, wetlands, floodplains
- Quality of water
- Benefits of protecting surface water: scenic, recreational, drinking, wildlife


MUNICIPAL BOUNDARY
STREAMS
LAKES
TOPOGRAPHY
393.6
459.2
524.8
590.4
656
721.6
787.2
852.8
918.4
984
1049.6
1115.2
1180.8

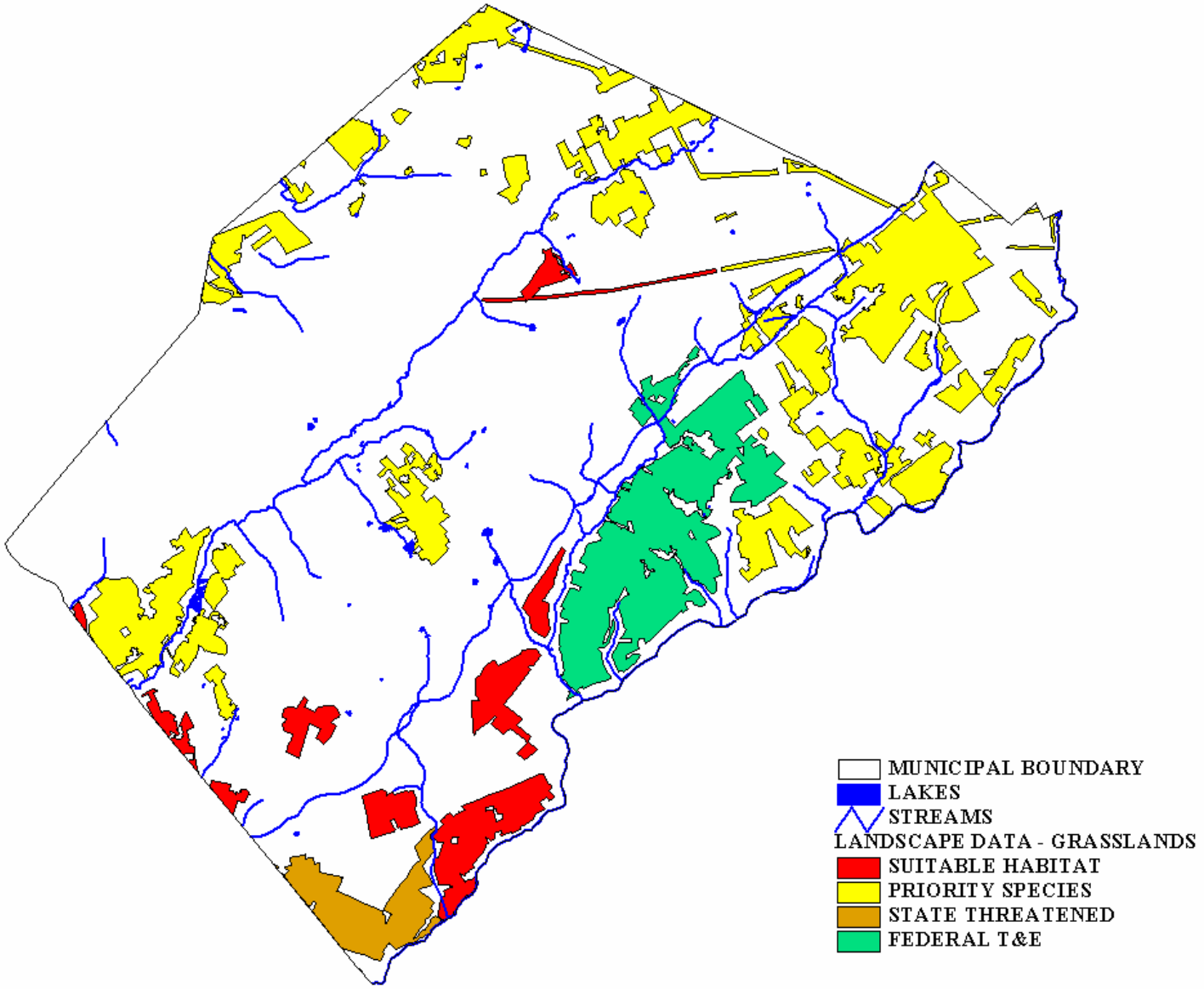
Vegetation

- Helps control soil erosion, floods, absorb air and water pollutants
- Clues to climate, soil, past and current land use
- Wildlife habitat
- Scenic and natural beauty
- Types
  - **Identify endangered/threatened species**
  - **Locate historic trees**

Forest Habitat – DEP Landscape Data



Grassland Habitat



When to Update the ERI

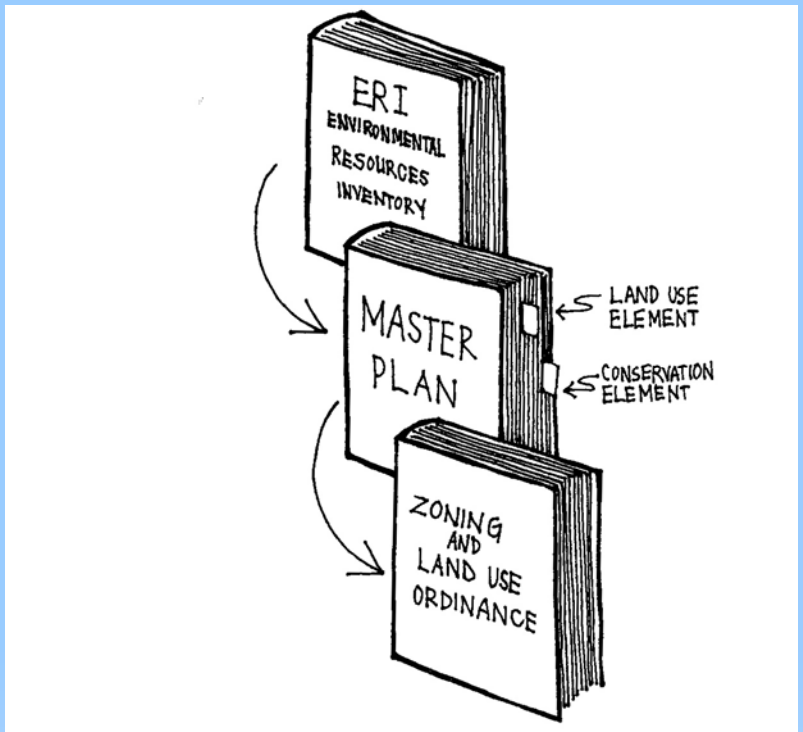
- Physical changes in community - development, demolition
- Changes in natural systems - water table, wetlands boundaries

ERI Update- New Data

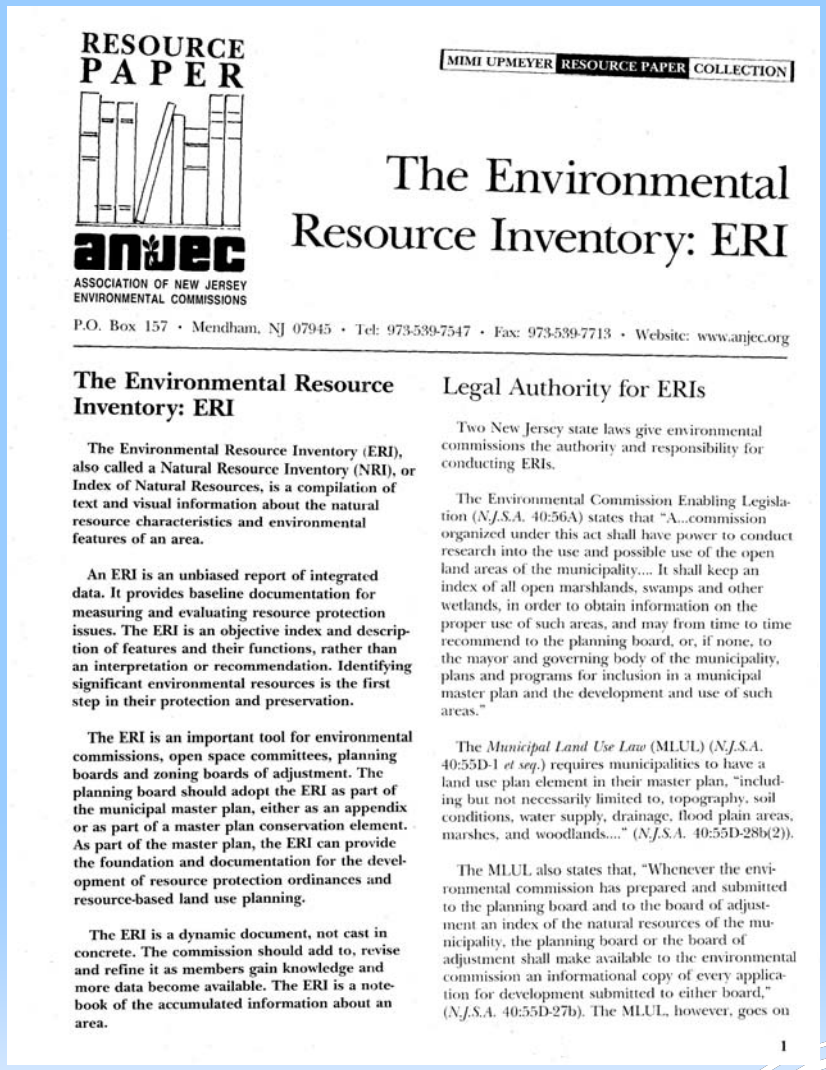
- Wetlands Mapping
- Wellhead areas
- Landscape Project data
- Contaminated sites
- Aquifer
- Surface Water Quality Standards
- Stream classifications

Summary

- ERI the database
- Master Plan the framework for local land use policy
- Ordinances have to agree with master plan



For additional Information



RESOURCE PAPER

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ASSOCIATION OF NEW JERSEY ENVIRONMENTAL COMMISSIONS

MIMI UPMEYER RESOURCE PAPER COLLECTION

The Environmental Resource Inventory: ERI

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The Environmental Resource Inventory: ERI

The Environmental Resource Inventory (ERI), also called a Natural Resource Inventory (NRI), or Index of Natural Resources, is a compilation of text and visual information about the natural resource characteristics and environmental features of an area.

An ERI is an unbiased report of integrated data. It provides baseline documentation for measuring and evaluating resource protection issues. The ERI is an objective index and description of features and their functions, rather than an interpretation or recommendation. Identifying significant environmental resources is the first step in their protection and preservation.

The ERI is an important tool for environmental commissions, open space committees, planning boards and zoning boards of adjustment. The planning board should adopt the ERI as part of the municipal master plan, either as an appendix or as part of a master plan conservation element. As part of the master plan, the ERI can provide the foundation and documentation for the development of resource protection ordinances and resource-based land use planning.

The ERI is a dynamic document, not cast in concrete. The commission should add to, revise and refine it as members gain knowledge and more data become available. The ERI is a notebook of the accumulated information about an area.

Legal Authority for ERIs

Two New Jersey state laws give environmental commissions the authority and responsibility for conducting ERIs.

The Environmental Commission Enabling Legislation (*N.J.S.A.* 40:56A) states that "A...commission organized under this act shall have power to conduct research into the use and possible use of the open land areas of the municipality.... It shall keep an index of all open marshlands, swamps and other wetlands, in order to obtain information on the proper use of such areas, and may from time to time recommend to the planning board, or, if none, to the mayor and governing body of the municipality, plans and programs for inclusion in a municipal master plan and the development and use of such areas."

The *Municipal Land Use Law* (MLUL) (*N.J.S.A.* 40:55D-1 *et seq.*) requires municipalities to have a land use plan element in their master plan, "including but not necessarily limited to, topography, soil conditions, water supply, drainage, flood plain areas, marshes, and woodlands...." (*N.J.S.A.* 40:55D-28b(2)).

The MLUL also states that, "Whenever the environmental commission has prepared and submitted to the planning board and to the board of adjustment an index of the natural resources of the municipality, the planning board or the board of adjustment shall make available to the environmental commission an informational copy of every application for development submitted to either board," (*N.J.S.A.* 40:55D-27b). The MLUL, however, goes on

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