

The Environmental Resource Inventory: ERI

P.O. Box 157 • Mendham, NJ 07945 • Tel:973-539-7547 • Fax: 973-539-7713 • E.mail: anjec@aol.com

The Environmental Resource Inventory (ERI), also called 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 listing, 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, planning boards and zoning boards of adjustment. Ideally, the planning board should adopt the ERI as part of the master plan. It can be integrated into the plan as a conservation element, providing the documented basis for the development of resource protection ordinances, or it can be included in an appendix to the master plan.

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 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 to say, "Failure of the planning board or board of adjustment to make such

informational copy available to the environmental commission shall not invalidate any hearing or proceeding.”

What Does an ERI Include?

An ERI has texts, maps, pictures, photographs, tables, figures, and graphs that describe and compare information on the natural and environmental characteristics and features of an area. The types of information that are covered in a basic ERI are climate, geology, geography/topography, soils, hydrology, vegetation, wildlife habitat, critical areas and land use. It is important to include a characterization of local relationships to regional resources such as watersheds, streams and wetlands. A more comprehensive ERI might include information on historic and cultural factors, scenic areas, air quality, transportation, noise and contaminated sites. In addition to text and maps, the ERI should include a bibliography of source materials.

Environmental commissions will find that most of the basic information needed for an ERI has already been collected by some local, county, state or federal agency, or by a private group or individual. The challenge is to find out which information is where. Often, the information is readily available, but must be updated and translated into a usable format.

The municipal engineer, the town planner and the county Soil Conservation District are particularly good sources of local data and information. The NJDEP and USEPA have comprehensive websites that post some data and also list telephone numbers for departments you may wish to contact.

- NJDEP website: www.state.nj.us/dep
- EPA website: www.epa.gov.

Maps

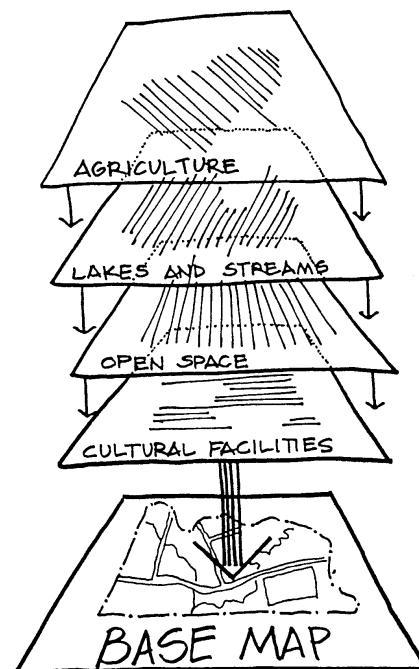
An ERI should include a series of maps, ideally all at the same scale, showing relevant characteristics and features. Scale compatibility with regional and state maps is an important consideration.

Mapping usually starts with a base map, such as a municipal tax map. Another standard type of base map is the U.S. Geological Survey (USGS) 7.5 minute quadrangle. However, the scale of

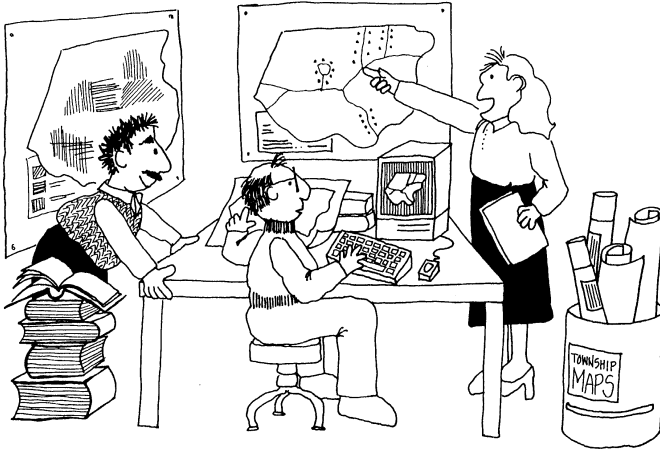
these maps (one inch on the map equals 2000 feet on the ground, or 1:24,000) may not be large enough to show the desired detail. Photoquad maps prepared by the NJ Department of Environmental Protection (NJDEP) make excellent base maps. Available on reproducible mylar, at 1:2000 and 1:1000 scales, they can be easily interpreted without special training. Contact NJDEP's Maps and Publications Office at (609) 777-1038, or go to the NJ Geological Survey website, at www.state.nj.us/dep/njgs/ for more information.

In an ERI, resources may be mapped individually (i.e.; separate maps for wetlands, historic properties, soils, etc.); grouped by related characteristics, such as “critical areas” (steep slopes, wetlands and flood plains) or “water resources” (surface waters, wells and aquifers); or summarized on a single map. A series of maps reproduced on mylar or transparency film can be used as overlays. The transparent map layers can be placed on top of one another so that a feature may be viewed alone or in combination with other features.

Municipalities and commissions have recently begun to utilize computer-based geographic and mapping information systems (called Geographic Information Systems, or GIS) to create local databases and make ERI maps. GIS programs can display or print layers of information as separate maps or on top of one another.



B. PRETZ



B. PRETZ

The NJDEP has developed an extensive GIS database of basic geographic information for New Jersey. Municipalities can obtain GIS Arcview software and the data pertaining to their locality from NJDEP. They can expand the data into a comprehensive municipal database by adding more specific information about local natural resources and geographic (and other) characteristics. Although improvements in technology and software have made GIS easier and less costly to use, it still requires a significant investment of time to master. Commissions might need to work with a consultant, or someone else with GIS expertise, until they develop the skills to handle such projects “in house.”

For more information:

The New Jersey GIS Resource Guide, a GIS primer, is available from the DEP’s GIS Program. It can be viewed or downloaded from the DEP website, at www.state.nj.us/dep. The guide contains information on how to build and maintain a successful GIS database; provides a status report of state, county and local agencies using GIS; and lists available GIS data layers. Also, your county planning office, a local watershed association or a regional land preservation organization may be able to assist you with GIS, or produce maps for your ERI.

The Report

The text of an ERI starts with a general description of the region and the municipality’s place in it. It discusses the characteristics and features shown on the maps and how the features relate to each other and the local environment. The report should be factual and objective. Any recommendations arising from the ERI should be published in a separate report.

The ERI should include a bibliography of the books, maps, pamphlets and other materials used as sources of information, and a description of the processes used to collect information or develop the maps.

Open Space Index

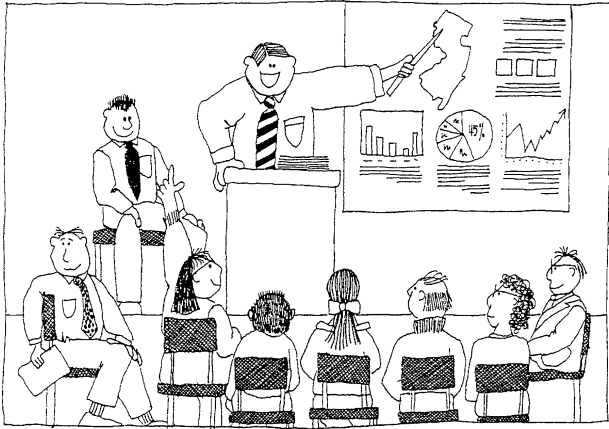
An inventory of undeveloped public and private open space can be part of an ERI, or a separate document. Parks, natural areas, school complexes, golf courses, easements and abandoned railroad rights-of-way are some areas that can be listed and mapped.

Often, the information is readily available, but must be updated and translated into a usable format.



What Are the Uses of an ERI?

- As a factual basis for municipal land use planning;
- as a resource in the preparation of the land use element of the municipal master plan;
- as a comprehensive guide in the site plan review process;
- as a basic tool in determining zoning regulations, municipal ordinances or other land use management techniques;
- as a basis for a land capability analysis and for determining the intensity and location of development;
- as an indicator of sensitive areas and areas suitable to certain kinds of development;
- as a tool to increase understanding of natural systems, and their limitations and opportunities for use;
- as a long-term planning tool to identify potential land use and natural resource problems;
- as an educational tool for residents to learn more about their community and its environment;
- as a way to save dollars by avoiding future problems and mitigation costs.



B. PRETZ

Who Uses an ERI?

- environmental commissions
- planning boards
- boards of adjustment
- developers
- planners
- engineers
- environmental consultants

Note: The *Environmental Commissioners' Handbook* (ANJEC, 1998), Chapter 3, discusses the significance of ERI data.

How Do You Conduct an ERI?

Preparing an ERI involves planning, establishing goals, setting priorities, organizing people to do the work, getting assistance, developing a feasible workplan and following through.

1. Determine what is to be accomplished.

If you do not have an ERI, you probably will want to conduct a complete inventory. If you are updating an ERI, you may need to inventory only specific resources. Depending on your objectives, you may want to emphasize certain characteristics. For example, if your concern is to provide data for a greenways project, you would review and emphasize features along the proposed greenway. Or if your concern is about water supply, you would emphasize the inventory of surface and groundwater.

2. Decide what is to be included.

Look at other ERIs for ideas. You may borrow samples from neighboring towns, the county or planning board. Remember, ERIs are not static

documents. You can assemble important baseline data, then add to the ERI over time. There are many ways to organize an ERI; see page 10 for sample tables of contents.

3. Locate and contact sources of information.

Before collecting new data, find out what already exists. Ask your municipal engineer, planner and tax assessor, your county planning board staff, and the County Soil Conservation District for information. See pages 5-9 for a list of ERI subjects and sources of information.

4. Decide who will do what.

If the environmental commission is collecting the ERI data, assign a topic or topics to each member.

Let the community know what you are doing. Request help from local volunteers who have special technical knowledge. Ask your county college or a nearby university for a student intern to take this on as an independent study project, class project, or work-study program. Ask community groups for their help.

It is always a good idea to have outside experts review the finished draft. Members of the academic community, government officials and environmental experts may serve in this capacity. Don't overlook the wealth of knowledge of long-time residents.

5. Develop a work plan.

Develop a schedule for completing each element of the inventory. Do the most important things first, and don't try to tackle too much at once. Set up a sensible work plan and schedule that doesn't overtax and discourage participants. Spread out the work among a reasonable number of volunteers and set target dates for completion.

6. Plan for funding the project.

Even if volunteers do most of the work, some costs will arise for data gathering, supplies and printing. The Environmental Services Program (ESP) of the NJ Department of Environmental Protection has an environmental commission matching grant program for environmental resource protection projects. Many commissions use these grants to help cover the costs of compiling an ERI. The ESP staff can also help with questions about where to call within the DEP for specific types of information. Contact the Environmental Services Program at 609-984-0828.

7. Inform the public.

It is important to educate and inform the community about what you are trying to do and why. Local publicity will serve to educate residents about environmental issues, and also may turn up some local experts who can help you locate important data and help the commission with other activities. Increased knowledge and understanding of your community's natural resources should promote more responsible use of those resources.

Types of Information to Include in an ERI

Most ERIs contain, at minimum, these categories of information: *Geology, Geography/ Topography, Climate, Hydrology, Soils, and Vegetation*. Additional sections to include, as time and budget allow, are: *Wildlife, Land Use, Air, Historic/Cultural, Infrastructure, Noise, and Regional Relationships*. An ERI is dynamic. You can phase in new material over time.

Because natural resources are interrelated, many categories overlap: vegetation depends on soil type, and soil type depends on geology. When you research the hydrology of the soils in your town, for example, you also will be finding out about wetlands and groundwater.

An ERI is dynamic. You can phase in new material over time.



Don't overlook Environmental Impact Statements (EIS) as sources of information. Federal and state agencies usually prepare these studies for major projects like roads, and municipalities often require an EIS from applicants for major subdivisions and site plans. An EIS includes inventory information and shows how a particular proposal will impact a parcel of land. Ask your planning board or municipal clerk for copies of these reports.

A. GEOLOGY

1. Bedrock type and characteristics (structure, type, age)
2. Depth to bedrock
3. Unconsolidated materials (loose rocks, sands) and thickness
4. Mineral resources (sand and gravel)
5. Geologic cross sections

Data Sources:

For information on the status of geological mapping in your area, call the NJ Geological Survey (NJGS) and ask to speak to a staff geologist (609-292-1185). *The Geology and Geography of New Jersey* by Kemble Widmer (1964) should be available at county or college libraries.

B. GEOGRAPHY/TOPOGRAPHY

1. Slope, relief, elevation
2. NJ physiographic region and subregions

Data Sources:

For US Geological Survey (USGS) 7.5 minute quadrangle maps, contact NJ Geological Survey, Maps and Publications Sales Office, Box 417, Trenton, NJ 08625 (609-777-1038). Call to find out which maps you'll need for your municipality.

C. CLIMATE

1. Prevailing air currents
2. Maximum/minimum fluctuations in temperature
3. Seasonal precipitation
4. Topographic protection (wind)
5. Fog-bound areas
6. Air quality: For rural areas where air pollution is not a big issue, information about stationary or vehicular sources of air pollution can be included in this section. For urban areas, air quality issues may require a separate section in the ERI (see section *D. Air*, below).

Data Sources:

For climatological data, contact your local or county library or airport weather services. The NOAA National Climatic Data Center (NCDC) in Ashville, NC (828-271-4800) has data that can be ordered directly through the NCDC website at: www.ncdc.noaa.gov. The Office of the NJ State Climatologist is located at Cook College, Rutgers University (732-445-4741).

D. AIR

1. Air quality: national "Clean Air" standards
2. State, county, local air monitoring sites and statistics
3. Static sources of air pollution
4. Major vehicular air pollution areas

Data Sources:

For air quality information and major licensed air emission sources, contact NJDEP's Office of Air Quality Management (609-292-6710), or Bureau of Air Monitoring (609-633-7648).

E. HYDROLOGY

1. Groundwater
 - a. aquifer outcrop; location, extent, thickness
 - b. direction and rate of groundwater movement
 - c. groundwater recharge and discharge areas (possibly outside municipality)
 - d. depth to groundwater
 - e. well locations and gallons per minute
 - f. quality of groundwater, pollutant sources
2. Surface Water
 - a. types, location, names, direction of flow
 - b. watershed and subwatersheds
 - c. designation/classification of surface water bodies and tributaries (trout production trout maintenance, etc.)
 - d. low flow of streams – mean 7 day/10 year recurrence interval
 - e. floodplains, wetlands, marshes, bogs
 - f. quality, limnology, dissolved and suspended solids
 - g. liquid waste and disposal systems
 - h. intakes, outfalls, dams

Data Sources:

For local surface and groundwater data, use USGS maps from NJGS (see Section B, *Topography*, for NJGS address and phone.) Other sources are the municipal engineer, county planning board and local watershed associations.

For information on flood-prone areas, contact the Federal Emergency Management Agency (FEMA), Flood Map Distribution Ctr., 6930 (A-F) San Tomas Rd., Baltimore, MD 21227-6227 (800-358-9616).

For information on facilities having a permit to discharge into local surface or ground water, contact the NJDEP's Bureau of Permit Management (609-984-4428).

For information on the location of wells, see your local and county health departments.

For information on wellhead protection, contact the NJDEP's Division of Watershed Management (609-292-2113).

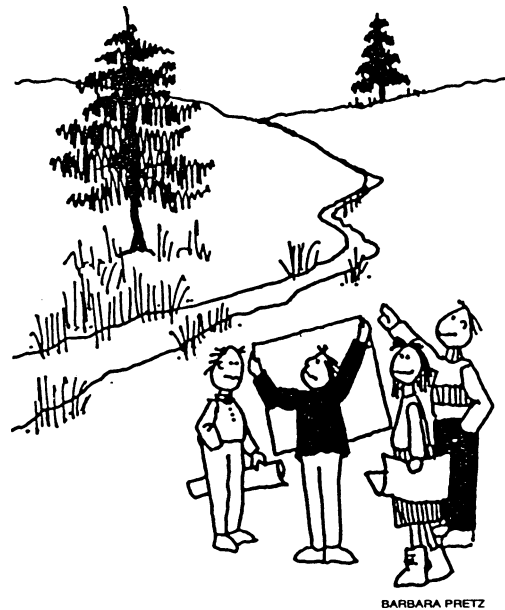
To determine if your aquifer recharge areas have been mapped, call NJGS Bureau of Groundwater Resource Information (609-984-6587).

Water supply companies and municipal water departments are also sources of information.

For surface water classifications, see *Surface Water Quality Standards, N.J.A.C. 7:9-4.1*, available from the DEP's Division of Watershed Management (609-633-7020).

F. SOILS

1. Soil types, texture, stoniness, depth, hydrological types
2. Shrink-swell potential
3. Frost heave potential
4. Erodibility, potential soil loss in cubic feet per year
5. Percolation rates
6. Depth to groundwater
7. Surface runoff, permeability, perviousness
8. Fertility (vegetative capability)
9. pH
10. Nutrient absorption



BARBARA PRETZ

Data Sources:

County soil surveys and soil erosion and sedimentation control information are available from your county Soil Conservation District or county planning board.

G. VEGETATION

1. Types of vegetation
2. Fire hazard, history of wildfire
3. Pollution affected types
4. Historic, recreational value
5. Economic value
6. Known/possible habitat for endangered/threatened plant species
7. Forest cover
8. Agricultural area

Data Sources:

For information on significant habitats, contact the NJDEP's Natural Heritage Program (609-984-1339).

For information on agricultural areas, contact your county Agricultural Development Board. See "WETLANDS" section, below, for information on wetlands vegetation.

H. WILDLIFE

1. Beneficial species habitats
2. Rare, threatened and endangered species habitats
3. Nuisance and hazardous species habitats
4. Abundance and distribution within habitat and season
5. Economically valuable species

Data Sources:

For information on significant wildlife habitats, contact the DEP's Natural Heritage Program (609-984-1339).

For information on animal species and locations, contact the DEP's Endangered & Nongame Species Program (609-292-9400).

For information on birds and bird habitat, contact the NJ Audubon Society, Cape May (609-861-1651).

I. WETLANDS

1. Identifying factors
 - a. Wetlands vegetation (hydrophytes)
 - b. Wetlands soils (hydric soils)
 - c. Hydrology (presence of water sufficient to support wetlands vegetation)
2. Types of wetlands
 - a. Marine (open ocean and associated coastline)
 - b. Estuarine (salt and brackish marshes, coastal rivers and bays)
 - c. Riverine (freshwater rivers and streams)
 - d. Palustrine (freshwater marshes, bogs or swamps)
 - e. Lacustrine (freshwater lakes, reservoirs or large ponds)
3. Wetlands classifications
 - a. Exceptional resource value wetlands (discharge into trout production waters or their tributaries, or provide habitat for threatened or endangered species)
 - b. Ordinary resource value wetlands (isolated wetlands or those more than 50% surrounded by development, less than 5,000 sq. ft., or drainage ditches, swales and detention facilities)
 - c. Intermediate resource value wetlands (neither exceptional nor ordinary)

Data Sources:

For NJ Freshwater Wetlands Quarter Quadrangle maps, scale 1:12,000, contact NJDEP's Maps & Publications Sales Office, PO Box 417, Trenton, NJ 08625 (609-777-1038). These maps are a good indicator of wetlands, but field-check the information for exact boundaries. Also, remember to include verified wetlands data from development applications. Contact county planning boards and municipal clerks for wetland permit reports and watershed associations for wetland species information. Cross-check information from the *Hydrology* and *Wildlife* sections, above, to link wetlands data to the protection of surface waters and species habitat.



J. LAND USE

1. Existing
 - a. Open space, public and private (including easements)
 - b. Roads, railroads, pipelines, reservoirs
 - c. Recreation areas, public and private
 - d. Agricultural areas
 - e. Industrial areas
 - f. Waste treatment and disposal facilities (sewage and solid)
2. Proposed
 - a. Zoning
 - b. Master plan

Data sources:

Local tax and zoning maps (available from your municipal clerk), municipal and county master plans, municipal engineers and planners.

K. HISTORIC AND CULTURAL FACTORS

1. Historic sites, districts, areas
2. Historic roads, bridges and trees
3. Existing or possible archaeological sites
4. Scenic qualities, viewsheds

Data sources:

Local and county historic commissions and historical societies, municipal and county master plans and the NJDEP's Historic Preservation Office, PO Box 404, Trenton, NJ 08625 (609-984-0176).

L. EXISTING AND PLANNED INFRASTRUCTURE

1. Transportation
2. Water
3. Sewage
4. Waste treatment, disposal, recycling facilities
5. Energy utilities
6. Educational facilities

Data sources:

Municipal and county health and planning departments, municipal engineers, municipal and county master plans, the local board of education, utility companies and authorities, transit organizations.

M. NOISE FACTORS

1. Noise sensitive areas in community
2. Significant sources of noise
3. Day/night permitted sound levels
4. Decibel equivalents of typical sounds

Data sources:

Local board of health, county board of health.

N. REGIONAL RELATIONSHIPS

1. State Development and Redevelopment Plan
2. County master plan
3. Regional plans (e.g. Pinelands, Hackensack Meadowlands, D&R Canal)
4. Problem areas (e.g. flooding, air pollution)
5. Watersheds (see E. *Hydrology* above)

Data sources:

For information on the **State Development & Redevelopment Plan**, contact the NJ Office of State Planning (609-292-9120). For the county master plan, contact your county planning board. For **individual special protection areas: Pinelands Commission (609-894-7300), Hackensack Meadowlands Development Commission (201-460-1700), Delaware & Raritan Canal Commission (609-397-2000)**. For information on **Watershed Management Plans**, contact the NJDEP's Division of Watershed Management, PO Box 418, Trenton, NJ 08625 (609-984-0058).

O. OTHER

1. Superfund or other contaminated sites
2. ISRA sites (Industrial Site Recovery Act)
3. Incinerators – resource recovery facilities
4. Hazardous substances storage and use
5. Underground storage tanks (USTs)

Data sources:

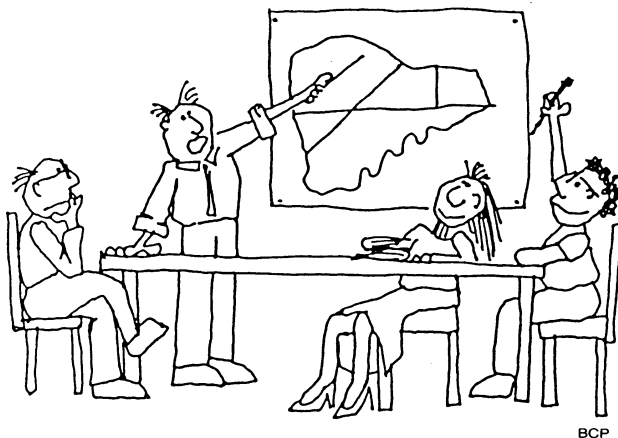
For known **contaminated sites** in your area, call NJDEP's Contaminated Site Information Program, PO Box 028, Trenton, NJ 08625 (800-253-5647, or 609-633-2325). For **ISRA sites**, call NJDEP's Office of Industrial Site Evaluation (609-984-1351). For existing and proposed **resource recovery facilities (incinerators)**, call NJDEP's Division of Solid & Hazardous Waste (609-984-6900). For a listing of certain **hazardous substances** used or stored in your town, call the NJDEP's Bureau of Chemical Release Information

& Prevention (Right-to-Know) (609-984-3219). Local Emergency Planning Committees in every county and municipality may also be helpful.

Critical Environmental Areas

A separate critical environmental areas map, showing environmental features that merit special consideration or protection, can be compiled to help with your town's resource planning. Features that can be displayed on the map include:

- Wetlands (see "I")
- Steep slopes (see "B")
- Floodplains, floodways (see "E")
- Aquifer recharge areas (see "E")
- Prime agricultural soil areas (see "F" and "G")
- Soils limitation areas (see "A" and "F")
- Endangered/threatened species habitat (see "G" and "H")
- Trout associated waters (see "E")
- Water supply – surface and groundwater (see "E")



BCP



Helpful Publications from ANJEC

Environmental Commissioners' Handbook. ANJEC. Fourth Edition. 88 pages. \$10.00 plus postage & handling. Based on knowledge gained over 25 years, gives detailed discussion on Environmental Resource Inventories and environmental commission procedures and activities.

The Environmental Manual for Municipal Officials. ANJEC. 176 pages. \$12.00 plus shipping and handling. This handbook of environmental protection in New Jersey gives an overview of major environmental issues (clean air, clean water, waste management, land use, wildlife, etc.) and a description of the state laws, regulations and programs that deal with them. The *Manual* also describes local boards and commissions (planning and zoning boards, boards of health, etc.), the laws and policies that govern their operations, and the things they can do to protect the environment at the local level.

Keeping Our Garden State Green: A Local Government Guide for Greenway and Open Space Planning. ANJEC. 57 pages. \$8.00 plus shipping and handling. This guide contains extensive information on how to gather and map open space data. It explains the economic benefits of open space preservation, and examines the issue of public access.

Getting It All Together. ANJEC. Although out of print, this exhaustive volume on the application of environmental information to land use planning is available on loan from, or for use in, the ANJEC Resource Center in Mendham or ANJEC's office at Washington Crossing State Park in Titusville.

Sample ERIs and other publications on how to create an ERI are available in ANJEC's Resource Center in Mendham.

ANJEC members receive a 20% discount on all publications.



TABLES of CONTENTS

from SELECTED ERIs

The selections below will give you an idea of the variety of ways in which towns have organized their ERIs. Due to space limitations, we have not included all lists of tables, figures, plates, etc.



RED BANK (Monmouth County)

Preface, Introduction, Setting

GEOLOGY

Physiography, Geologic Column,
Surface Formations of the Coastal Plain,
Impact on Development

SOILS

Freehold Series, Tinton Series, Holmdel
Series, Humaquepts Series, Sulfaquents
Series, Urban Land Series, Slope, Elevation,
Building Site Development Limitations

HYDROLOGY

Groundwater, Surface Water, Hydrologic
Group, Impacts of Development

METEOROLOGY

Climate, Air Quality

VEGETATION

Threatened/Endangered Plant Species
Potential Vegetation & Wildlife Habitat

WILDLIFE

Fish, Invertebrates, Reptiles and Amphib-
ians,
Birds, Mammals, Threatened or Endangered
Species

DEVELOPMENT IMPACTS

LAND USE

Existing Land Use, Proposed Land Use,
Professional Office, Neighborhood Mixed-
Use, Highway Business, Industrial and
Light Industrial, Major Employers

COMMUNITY RESOURCES

HISTORIC SITES AND DISTRICTS

(Section broken down by architectural styles.)

AREAS OF SCENIC AND RECREATIONAL IMPORTANCE

TRANSPORTATION

Jurisdiction of Roadways, Principal Arterial
Streets, Minor Streets, Collector Streets,
Local Streets, Public Transportation, Train,
Bus, Air Travel, Other, Traffic Patterns,
Traffic Management Proposals, Overnight
Parking, Pedestrian Right-of-Way Enforce-
ment...

INFRASTRUCTURE

Electric, Gas, Municipal Fuel for Borough
Vehicles, Drinking Water, Sewerage,
Stormwater

EDUCATIONAL FACILITIES

RECYCLING

NOISE FACTORS

Definition, Noise-Sensitive Areas,
Fire Horns & Sirens

DEMOGRAPHICS

REGIONAL RELATIONSHIPS

Monmouth Co. Growth Management Guide
State Development & Redevelopment Plan
Coastal Area Facility Review Act (CAFRA)

CONCLUSION



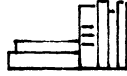
BASS RIVER TOWNSHIP (Burlington County)

- | | |
|--|--|
| <p>Chapter 1 Location and Geographic Description</p> <p>Chapter 2 History of the Township</p> <p>Chapter 3 Climate, Geology and Soils</p> <p>Chapter 4 Rivers, Water Supplies and Aquifers</p> <p>Chapter 5 Vegetation and Wildlife
Forest Fires and Woodland Environs</p> <p>Chapter 6 Present Land Use</p> <p>Chapter 7 Population Studies</p> | <p>Chapter 8 Availability of Personal Services</p> <p>Chapter 9 Highways and Transportation
Bass River Township and Route 9</p> <p>Chapter 10 Limitations for Development
State Regulations
Topography
Publicly Owned Lands
Environmental Requirements
and Impact of Present Industries
in Bass River
Local Attitudes Toward Development</p> |
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MILLBURN TOWNSHIP (Essex County)

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| <p>Introduction</p> <p>Acknowledgements</p> <p>Maps</p> <p>I. Background</p> <ul style="list-style-type: none">A. Geography and DemographyB. Land UseC. HistoryD. Physiography
(Each district of the Township is described separately.) <p>II. Natural Resources</p> <ul style="list-style-type: none">A. ClimateB. Air QualityC. GeologyD. AquifersE. Soils<ul style="list-style-type: none">1. Slope2. Soil Erosion Potential3. Seasonal High Water Table4. Water Runoff Potential5. Depth to BedrockF. HydrologyG. Water Quality<ul style="list-style-type: none">1. Upper Passaic River2. Rahway RiverH. VegetationI. Wetlands<ul style="list-style-type: none">1. Wetland Values | <ul style="list-style-type: none">2. Federal Authority3. State Authority <p>J. Wildlife</p> <p>III. Regional Factors</p> <ul style="list-style-type: none">A. Water SupplyB. WatershedsC. Population Density and Open SpaceD. SewerageE. Transportation<ul style="list-style-type: none">1. Automobile2. Bus3. Rail <p>IV. Findings and Recommendations</p> <p>V. Bibliography</p> <p>VI. Appendices</p> <ul style="list-style-type: none">A. Seven "Critical Area" MapsB. Open Space in Millburn Township<ul style="list-style-type: none">1. Tabular Listing2. Fox Hill ReserveC. Bicentennial TreesD. Historic Districts and SitesE. Chart of SoilsF. List of Birds at Hartshorn ArboretumG. Population and Housing InformationH. Examples of Wetland TypesI. Definitions of WetlandsJ. Criteria for WetlandsK. Water Supply Facts |
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**FAR HILLS
(Somerset County)**

*Resource Inventory of the
Natural and Man-Made Environment*

Description of the Existing Natural Environment

- Geology
- Groundwater Resources
- Surface Water
- Soils
- Slopes
- Ecology

Description of the Man-Made Environment

- Demographics
- Employment

Local/Regional Development Pressures

- Results of Business Survey
- Housing
- Sewers
- Water
- Solid Waste
- Schools
- Open Space & Recreation Areas
- Fire
- Police
- Transportation

Existing Land Use

References

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- More than 1,200 individual current material files covering topics from acid rain to zoning;
- Extensive material and files on state and federal laws including current legislation and regulations;
- Extensive file of municipal ordinances covering topics such as tree protection, noise pollution, critical areas protection and hazardous materials;
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ANJEC

300 Mendham Road, PO Box 157, Mendham, NJ 07945

Phone: 973-539-7547 Fax: 973-539-7713 Email: anjec@aol.com

or

496-A Washington Crossing-Pennington Road, PO Box 61, Titusville, NJ 08560

Phone: 609-737-7263 Fax: 609-737-7264 Email: anjecwx@aol.com

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