Commission Meetings and Correrp. Jan 1985 MSA_51832-5

CHESAPEAKE BAY CRITICAL AREA COMMISSION

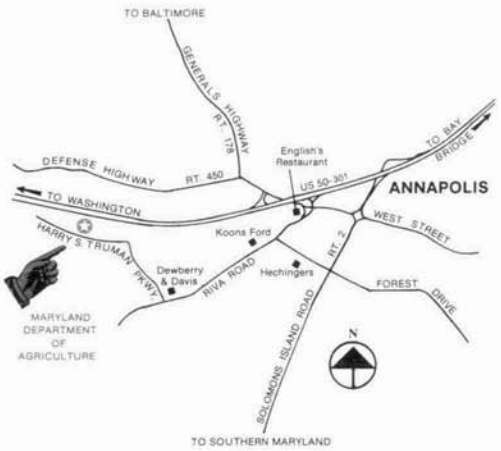
AGENDA

Conference Room
Maryland Department of Agriculture Building
50 Harry S. Truman Parkway
Annapolis, Maryland

January 2, 1985 — 4:00 p.m.

1. Approval of the Minutes of December 5, 1984	Solomon Liss, Chairman
2. Work Plan Discussion and Approval	Sarah Taylor, Ex. Dir.
3. Seminar Arrangements, Presentation, Discussion and Approval	Kevin Sullivan, Scientific Advisor
4. Best Management Practices-Agriculture	Ernie Shea, Director, Division of Agricultural Development & Marketing, Md. Dept. of Agriculture
5. Old Business	Solomon Liss, Chairman
6. New Business	Solomon Liss, Chairman
7. Meeting Date for February	Solomon Liss, Chairman
8. Adjourn	

VICINITY MAP



DIRECTIONS

FROM BALTIMORE

Take Beltway Exit 4 (Route 3 South) 10 miles to Route 32. Turn left to Annapolis. Follow Route 32 for 8½ miles to English's Family Restaurant. Bear right onto Riva Road for 1 mile to Harry S. Truman Parkway. Turn right to MDA Headquarters (½ mile).

FROM WASHINGTON

Take U.S. Route 50 to Annapolis (18 miles). Leave Route 50 at first Annapolis exit (Route 450-Crownsville). Continue straight through exit ramp traffic light onto Riva Road for 1 mile to Harry S. Truman Parkway. Turn right to MDA Headquarters (½ mile).

FROM EASTERN—SHORE

Take U.S. 50 across the Bay Bridge to the exit marked Route 450-Crownsville. Turn right at exit ramp traffic light onto West Street for about 2/10ths of a mile. At English's Family Restaurant, bear right onto Riva Road. continue 1 mile to Harry S. Truman Parkway. Turn right to MDA Headquarters (½ mile).

FROM SOUTHERN MARYLAND

Take Route 2 to Forest Drive. Turn left (stay in left lane) for 1 block to Riva Road. Turn left on Riva Road for ½ mile to Harry S. Truman Parkway. Turn right to MDA Headquarters (½ mile).

MDA 211-84

MESSAGE

MARYLAND DEPARTMENT OF AGRICULTURE
50 Harry S. Truman Parkway
Annapolis, Maryland 21401
Phone: 301-841-5700

CHESAPEAKE BAY CRITICAL AREA COMMISSION

Minutes of Public Meeting Held December 5, 1984

The Chesapeake Bay Critical Area Commission held its third meeting on December 5, 1984 in the Calvert Room, State House, Annapolis, Maryland. The meeting was called to order by Chairman Solomon Liss at 4:05 p.m. The following Commissioners were in attendance: Judge Solomon Liss, Donald Hutchinson, Robert Lynch, Parris Glendening, James E. Gutman, Florence Beck Kurdle, F. Frank Raley, Jr., Albert Zahnizer, Dr. Shepard Krech, Jr., John Logan, Barbara O'Neill, Robert R. Price, Jr., Samuel Turner, Sr., Mary Roe Walkup, William Bostain, Ann Sturgis Coates, John Luthy, Jr., Ardath Cade for Frank DeFrancis, Dr. Hugh Binks for Wayne Cawley, Jr., Torrey C. Brown, M.D., Constance Leider and William Eichbaum.

Chairman Liss said that he had been delighted with attendance of the Commissioners at the first two regional public hearings. He also indicated that the newspaper coverage from the Easton meeting had been favorable.

Names and addresses of Commission members were provided and corrections were requested on phone numbers, addresses, etc.

The minutes of the last meeting were approved as written.

Discussion of the Draft Work Plan for Criteria Development - In order to carry out the work to be completed by June 1, 1985, three subcommittees were proposed. They are as follows: (1) a subcommittee on resource based activities which would include discussions related to agriculture, aquaculture, forest practices and mining; (2) a subcommittee on development activities which would include discussions on boating and boating facilities, piers and docks, recreational development, commercial development, ports and industry, residential development, transportation facilities and utilities; and (3) a subcommittee on resource enhancement and management which will address wetlands (tidal and non-tidal); critical fish, wildlife and plant habitat areas; rare and endangered species; forest lands, areas suited for shorefront access; areas with significant development constraint; and areas for stormwater retrofitting. The composition of each committee was to be based on assignments by the Chairman. A staff member will be assigned to each of the subcommittees and the members of the Critical Area Commission who are cabinet members will be assigned to subcommittees appropriate to their expertise.

Dr. Sarah Taylor reviewed the steps that each subcommittee would follow in order to develop criteria. These include assessment of existing state and local laws and regulations; development of criteria that can enhance existing laws; identification of the gaps which appear as a result of the reviews; review of policies as well as determination of additional ones which need to be prepared; presentation of each of the subcommittees' criteria to the full Commission and finally, review of techniques which will implement the criteria. A timetable was attached indicating length of time for each step to be completed. It was also estimated that weekly meetings would be required in order for the subcommittees to do their work.

Comments on the draft review - There was consensus by the Committee on the Draft Work Plan. Jim Gutman expressed concern about when the appropriate time would be to involve the Legislative Oversight Committee and Chairman Liss responded that the Legislative Committee is receiving all information on the Committee and has asked to meet with the Commission after the first of the year. He said that some of the Legislators have attended the regional hearings. Becky Kurdle expressed concern about the need to review all existing laws and regulations, pointing out that the Commission's role is primarily to set criteria and that it is up to each subdivision to determine whether its existing laws, regulations or techniques are applicable. Chairman Liss responded that each subcommittee can decide how to handle its own work, and that the work plan is basically to provide a guideline for the subcommittees. The extent of involvement by non-Commission members in the subcommittees was raised and Chairman Liss responded that it is up to each subcommittee to determine who it wished to call in on specific issues.

Presentation and Discussion of Seminar for Commission Members - Kevin Sullivan, Technical Advisor, provided an outline for the seminar which will be held on January 24th and 25, 1985 at the Tidewater Inn. Comments to Dr. Sullivan focused on the need to reduce the amount of discussion on the status of the Bay and the Maryland initiatives. He was also asked to make sure that the speakers for the afternoon be available to the Commission the next morning as they held their work groups to discuss how they could apply the work that has been done in other states to the Maryland program. Mr. Glendening stressed that it would be important for Commission members not to simply hear what had been done in other states, but to specifically hear how other states have developed criteria and to have samples of those criteria available. Don Hutchinson suggested that field trips be made available or planned so that Commission members could have first hand observation of best management practices as well as state-of-the-art development techniques which should be considered.

Frank Raley suggested that the staff review the existing subdivision regulations and prepare summaries on the best practices which are being used. Chairman Liss responded that the Counties have already been asked for that information. He said that the experts that come from other states will be asked to address some of the problems which they have had in implementing their programs so that Maryland can learn from them. He also indicated that he would ask the appropriate State agencies to set up any tours which might be applicable, but he was concerned about the time constraints and practicality of undertaking several tours. Jim Gutman suggested that, in the evening of the seminar, exhibits, demonstrations and slide show, etc. be available to increase better use of time. Bob Lynch pointed out that it was important for the Commission members to know the different tools which are used around the Bay for implementation as well as the strengths and weaknesses of those, and Sarah Taylor said that she would follow up and ask the Counties for that information. Becky Kurdle reiterated that the role of the Commission was to develop criteria and not to focus on the tools, and that it was up to the individual Counties to determine which tools were most appropriate for them to carry out the mandates of the criteria. There was consensus that any compilation of material prepared by the staff be in summary form so that the Commission members do not have to read reams of regulations and material.

Review of the Public Hearings in Elkton and Easton - Chairman Liss said that he has never served on a Commission as devoted as this one and that he has been very impressed with the turnout of the Commissioners at the regional hearings. In Easton, there were over 200 citizens present and 40 persons made statements including a 13-year old student. He said that the local citizens came into the meetings concerned about what was going to happen. He had tried to make clear the responsibility of the Commission as well as the fact that the Commission is prepared to listen to the ideas of the citizenry. He also said that regional hearings are providing an excellent opportunity for clarifying misinformation about the role of the Commission. He said a number of good ideas have come from the hearings, and speakers have expressed interests ranging from conservation, development, recreation, watermen, recreational fishing, to preservation of habitat issues. He commended whomever included the requirement for having the public hearings in the law. He pointed out that transcripts from the hearings will be available and that he would attempt to summarize and condense them for the Commission subcommittee members. He indicated that he will ask the Governor to follow up on the comments made by the 13-year old student who expressed concern about adults making criteria for the "world that she would be living in."

The next Commission meeting will be on January 2nd at a new location, at the Department of Agriculture, 50 Harry S. Truman Parkway, Annapolis, Maryland. Maps and agendas will be forwarded to the Commission members.

Old Business - None.

New Business - A citizen provided information on Project Deep Freeze to the Commission Chairman.

There being no further business, the meeting was adjourned.

These minutes were prepared by Helene Tenner.

SJT/ses

CHESAPEAKE BAY CRITICAL AREA COMMISSION DRAFT WORK PLAN

FOR CRITERIA DEVELOPMENT (REVISED)

INTRODUCTION

The Commission is charged with the development of criteria that are to be used by local governments as they design their programs for the critical area. The criteria, under the Act, are to address three specific goals:

1. minimize impact on water quality from land activities;
2. conserve aquatic, wildlife and plant habitat
3. establish land use policies

In addition, these criteria must also be fashioned in such a way that local governments will be able to address the eleven minimum requirements of program development mentioned in the Act (e.g., buffer areas, provisions for access, water based activities, cluster development, etc.).

The following discussion is offered to address criteria development beginning January 28, 1985 - June 1, 1985 which is the allotted time frame to allow for publishing of the criteria in draft form for a second round of six hearings in July and August. December and the beginning of January will be the months for material gathering consisting of comprehensive plans, regulations, and the production of summaries for the Commission relating to what exists at all levels of government associated with criteria development.

The approach reflects a compilation of comments made by the Commission members at their meetings of November 14, 1984 and December 5, 1984, as well as through an overview and assessment of waht other states have done in the development of their shoreline protection programs.

THE SUBCOMMITTEES

Three subcommittees are suggested as the vehicles for carrying out the criteria development process. They are:

1. Subcommittee on Resource Based Activities

   agriculture, aquaculture (recreational fishing), forest practices, mining (sand and gravel)

2. Subcommittee on Development Activities

   boating and boating facilities, piers and docks, recreational development (e.g. public access), commercial development (e.g., urban waterfront redevelopment), ports and industry (e.g., water dependent and non-water dependent uses), residential development, transportation facilities, utilities

   (While these activities are being addressed, the accompanying shoreline modification issues may also be in need of being addressed: breakwaters, jetties, groins, bulkheads, dredging and disposal, landfill, shoreline stabilization and flood protection).

3. Subcommittee on Resource Enhancement and Management

   wetlands (tidal and non-tidal), critical fish, wildlife and plant habitat areas, rare and endangered species, forest lands, areas particularly suitable for shorefront access, areas with significant

development constraints (e.g., flood hazard areas, high shore erosion areas, steep slopes/high bluffs, areas with severe soil limitations), areas for stormwater retrofitting

(This third group is to be focused around areas needing special management attention because of their inherent characteristics).

It is envisioned that the first two subcommittees will be developing criteria that are specifically related to the use. The third subcommittee however, will probably wind up developing broad based criteria that will provide for the identification designation and design of management approaches for the types of resource areas themselves.

The composition of each subcommittee would be as follows:

1) a selected number of Commission members who would be the subcommittee members
2) a staff facilitator, compiler of information, and processor/writer
3) state agency, academic and local government experts who would be invited to attend the subcommittee meetings to present information on the topics being discussed
4) an individual representative from the various interest groups who would be invited in to offer their opinions and expertise on the topic areas being discussed by the subcommittee

THE PROCESS (STEPS)

To begin to work in a cohseive fashion, the Commission members will first need to obtain some basic knowledge about the Bay from an overall perspective. This will be covered at the workshop to be held January 24, and 25, 1985 at the Tidewater Inn. Summaries will also be provided at that time to Commission members covering the existing information on laws and regulations at the State level. The local level information will be provided in summary format during the early stages of criteria development. The steps are as follows:

STEP 1: There will need to be an assessment made of the existing State and local laws and regulations as they relate to the activities of the Subcommittees. The summaries mentioned above will cover this step. They will provide a more solid base upon which to work.

STEP 2: Once the subcommittee knows what exists, it will need to assess what criteria would need to be developed. Existing regulations could be enhanced, or new areas may be addressed as they relate to the Act. If there are gaps or if conflicts become evident between the State and local level, criteria may help to smooth out the differences.

STEP 3: Presentation of subcommittee criteria to the Commission as a whole. It is envisioned that each subcommittee's work product will be presented to the entire Commission membership and be tightened up through presentation, and that differences will become evident that will be in need of addressing by the Commission.

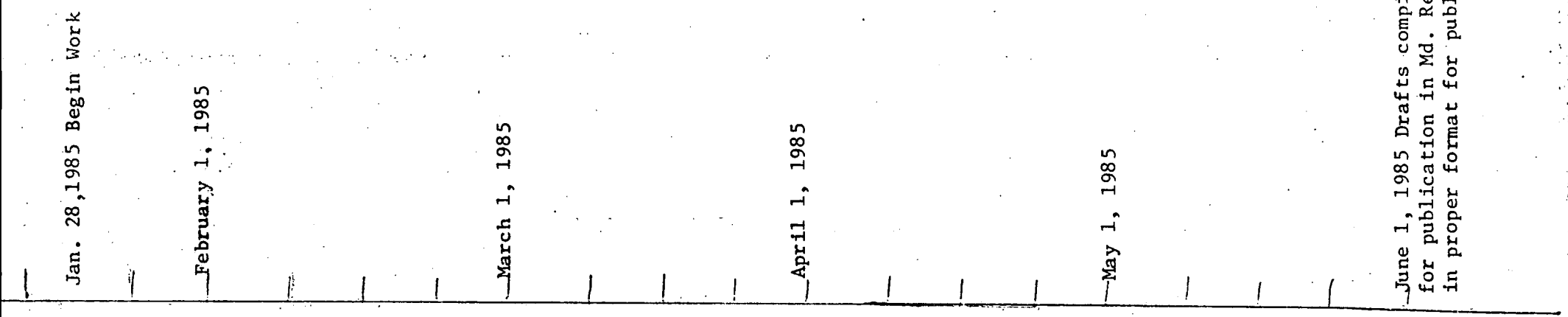
STEP 4: Identification of suggested techniques to implement the criteria to provide extra guidance and consideration by the local governments. (i.e. transfer of development rights, easements, mitigation techniques).

While these steps are somewhat concise, the subcommittee work will be most difficult because it is within subcommittee discussions that issues such as performance threshholds, consistency across the board in application with use, intensity of development, etc., will need to be grappled with. It will be virtually impossible in many cases to do generic criteria that will apply Bay-wide and there will need be diversity in those instances.

The suggested time frame is also one of monumental significance since it is envisioned that Steps 1 through 4 will need to be completed by June 1, 1985.

The attached time table so illustrates the process.

THE TIME FRAME (It is estimated that a meeting a week for a whole day beginning in the afternoon around 4:00 p.m. to 7:00 early evening will be needed at first for each subcommittee. It should also be noted, that interspersed with this time frame will be meetings with the Joint Legislative Oversight Committee).



Subcommittee #1

Commission members, Dept. of Agric., DNR, Health, Agric. Task Force, Sea Grant, Univ. of Md., Forests Parks & Wildlife, WRA as experts
Taylor & Davis staff

- Step 1: Assessment of Existing Regs. completed
- Step 2: Develop criteria completed
- Step 3: Presentation made & techniques developed
- Step 4: Draft ready

Subcommittee #2

Commission members, Natural Resources, Water Resources Admin., Econ and Community Dev., Transportation, Health and Mental Hygiene
State Planning staff as experts to call upon
Davis and Redman staff

- Step 1: Assessment of Existing Regs. completed
- Step 2: Develop criteria completed
- Step 3: Presentation made and techniques developed
- Step 4: Draft ready

Subcommittee #3

Commission members, State Planning, Natural Resources, Health and Mental Hygiene as experts
Sullivan as staff

- Step 1: Assessment of Existing Regs. completed
- Step 2: Develop criteria completed
- Step 3: Presentation made and techniques developed
- Step 4: Draft ready

STEPHEN H. SACHS
ATTORNEY GENERAL

ELEANOR M. CAREY
DEPUTY ATTORNEY GENERAL

PAUL F. STRAIN
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STATE OF MARYLAND
OFFICE OF
THE ATTORNEY GENERAL
DEPARTMENT OF NATURAL RESOURCES
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401
(301) 269-2251

December 11, 1984

MEMO TO: SARAH TAYLOR, EXECUTIVE DIRECTOR
CHESAPEAKE BAY CRITICAL AREA COMMISSION

FROM : LEE EPSTEIN, COMMISSION ATTORNEY

SUBJECT: DEFINITION OF "CRITERIA"; EXAMPLES

The question has arisen among Commission members, staff, and the public concerning just what is meant by the word "criteria" in the Critical Area Act. Section 8-1808(d) requires the Commission to promulgate by regulation "criteria for program development and approval, which are necessary or appropriate to achieve" the water quality, habitat protection, and land use management standards or goals of the Act.

Criteria are, quite simply, measures against which something may be tested. They are evaluative models or standards through the use of which a reviewing authority (here, the Commission) can determine whether its specific objectives may be met. Criteria can be formulated as principles or rules which must be followed, or they may be written more broadly and applied less specifically so as to offer mere "guidance" and flexibility of response. They may be built upon either qualitative or quantitative measures.

Thus, in the order of less to more strict, criteria could consist of:

1) rather broad, policy-type language -- e.g., "The zoning or other ordinance(s) should contain measures to protect against undue stormwater runoff." (The chief difficulty with such broad language, of course, is that the Commission will then have a more difficult time evaluating the local programs for effectiveness);

2) performance-type standards -- e.g., require that a local program provide for the achievement of some runoff target, such as a reduction by 50% of non-point source pollutant runoff -- to be achieved by whatever means the local government sees fit to implement through its legislation; or

3) prescriptive-type standards -- e.g., vegetated buffers of "X" width must be provided around given land uses.

Criteria might be developed that fall in between any of these categories, or they may be more appropriately one type for achieving one goal or dealing with one problem, and another type for dealing with another problem. At a minimum, criteria must cover the eleven program elements set out in the Act, dealing with such matters as coverage by impervious surfaces, the creation of buffer areas, and the establisment of minimum setbacks.

In the end, the criteria are whatever the Commission thinks they will need to be to achieve the goals/standards of the Act effectively and equitably. These criteria do need to be specific enough so that the Commission can have an adequate basis for judging and ultimately approving/disapproving local programs. They should also be specific enough to give local jurisdictions sufficient guidance toward the preparation of those programs.

Please note that this memorandum constitutes advice of counsel to the Commission only, and is not an Opinion of the Attorney General.

LE/elb

COMMISSION SUBCOMMITTEE LIST FOR
CRITERIA DEVELOPMENT

12/24/84

#1 Subcommittee on Resource-Based Activities

Ann Sturgis Coates
Dr. Shepard Krech, Jr.
Florence Beck Kurdle
John Luthy, Jr.
J. Frank Raley, Jr.
Harry T. Stine
Samuel E. Turner, Sr.
Mary Roe Walkup

Ex.-Officio: Torrey C. Brown, Wayne A. Cawley, Jr.

Staff Member(s): Sarah J. Taylor, Charlie Davis

#2 Subcommittee on Development Activities

William Bostian
Clarence "Du" Burns
Parris N. Glendenning
James E. Gutman
Donald P. Hutchinson
Robert R. Price, Jr.
Robert S. Lynch

Ex.-Officio: William Eichbaum, Constance Lieder, Ardath Cade

Staff Member(s): Tony Redman, Charlie Davis

#3 Subcommittee on Resource Enhencement and Management

John W. Logan
Barbara W. O'Neill
Lloyd S. Tyler, III
Albert W. Zahniser

Staff Member: Kevin Sullivan

Judge Liss will circulate among the subcommittees.

As of 12/15/84

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
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JUDGE SOLOMON LISS
CHAIRMAN

MEMBERSHIP

CHAIRMAN

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TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

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SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
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TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 7, 1985

MEMORANDUM

TO: Kevin Sullivan

FROM: Sarah Taylor

SUBJ: Comments on the Seminar for Your Files

1. Should start around 9:15-9:30.

2. What exactly is being covered by Ian? In other words, will it address the comments made at the last several Commission meetings on land-use trends, Water Quality trends sector/ sector on the Bay, etc.?

3. The non-point source is too long. We need a break in-between the State of the Bay and non-point source. Will Maryland's activities in NPS pollution be addressed as well? Will other selected state and regional programs and their strategies be directly applicable to Maryland? What have states done to regulate NPS for Water Quality? What are the dangers? It should be an issue for the Bay as opposed to National.

4. If the NPS is shortened, I think another item could be added - that is presentations by DHMH and DNR on point source and non-point source techniques that are good and those that are not so good (slides could be used). This would follow up on Ag's presentation at the 2nd of January meeting. The forests' role as a buffer could be included in DNR's presentation. This could form the basis from which better exchange could be made with the panel in the afternoon.

5. The panel - we need to get from them what works, what the pit-falls are, etc.

Telephone: 269-3041
TTY for Deaf - Annapolis - 269-2609 D.C. Metro - 565-0450

6. On January 25th, from 8:30 on...the small groups should be the sub-committee arrangement for criteria development. They should look at the criteria in the original Act as well as those in the present Act to see if they should be refined and kept in. I don't know what is meant by defining the state interest in the critical area. It seems to me that the Act does it. I think the general policies vs. detailed standards is important. We need to flesh out process here.

7. Mr. Anton Hoevenaars wants to know if a special room arrangement is needed. We need to decide so I can write back to him in confirmation letter.

SJT/LD
bcc: Judge Liss

[illegible] letters acted upon by

[illegible]

[illegible]
Director, Coastal Development Administra
Office of Planning and Coordi

Issues for the Panel to Address

Process

1. On the 3 levels of Water Quality and plant, fish and wildlife habitat, have policies been established? If so, were they detailed policies or general policies?

2. How did you decide to write your criteria? Were they detailed (threshold) or general?

3. Workability in terms of administration?
   " " " " effectiveness?
   " " " " application?

Organizationally

1. What organizational framework was set up to produce the criteria and implement them? The strengths of that approach and the weaknesses?

2. What were the criteria directed to? How were criteria enforced once the criteria were developed, dealt with?

3. Administrative problems, political advice, support.
   Sample policies, sample criteria.

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 9, 1985

United Press International
P.O. Box 347
Annapolis, Maryland 21404

To Whom It May Concern:

On the 24th of January, 1985 at the Tidewater Inn in Easton, beginning at 9 a.m., there will be a seminar for the Critical Area Commission members, and we would like to invite you to attend. Knowing of your interest in following the work of the Commission through their criteria development, I believe the first day of the two-day seminar would be of particular importance to you as the Commission will be discussing criteria and policy development that other states have adopted. We will also receive information on non-point source pollution control as well as point source and non-point source programs now in existence in the State of Maryland.

We look forward to greeting you at the seminar. Should you have any questions or need copies of information about the workshop, please call Dr. Sarah J. Taylor at (301) 269-2784.

Sincerely,

Solomon Liss

Solomon Liss
Chairman

SL/lgd

Telephone:_____
TTY for Deaf – Annapolis – 269–2609 D.C. Metro – 565–0450

INVITEES FROM MEDIA FOR CRITICAL AREAS COMM. MEETING

Mr. Tom Horton
The Sun
Baltimore, Maryland 21278
332-6126

Hurrt Derringer
Kent County News
Box 30
Chestertown, Md. 21620

Mr. Tom Stuckey
The Associated Press
Box 1471
Annapolis, Maryland 21404
269-0196

Angus Phillips
The Washington Post
1150 15th St. NW
Washington DC 20071

United Press International
Box 347
Annapolis, md. 21404

(I don't know the name of the new person at UPI, but it is good for its radio wire)

Effie Cottman (Ms.)
The Capital
Box 911
Annapolis, Md. 21404
268-5000

Mr. Joseph Norris
The Enterprise
Box 218
Lexington Park, Md. 21653

Mr. Peter Jensen
The Star-Democrat
Box 600
Easton, Md. 21601
822-1500

Mr. Mel Toadvine
The Daily Times
Box 1937
Salisbury, Md. 21801

Mr. Tim Wheeler
The Evening Sun
Box 185
Hillsboro, Md. 21641

Ms. Gail Dean
Daily Banner
Box 580
Cambridge, Md. 21613

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 10, 1985

MEMORANDUM

TO: Jon Kusler
Terry Moore
David Owens
Joe Petrillo

FROM: Kevin Sullivan

SUBJECT: Maryland Critical Area Commission Workshop

Following is some additional information about the subject workshop.

1. Evolution of the Maryland Critical Area Law - The initial drafts of the legislation provided that a critical area be established adjacent to all primary and secondary streams in the Maryland portion of the Chesapeake Bay watershed. This was subsequently reduced to apply only to an area within 1,000 feet of the Bay's shoreline and tributaries up to the head of tide.

   The original bills also provided for the protection of scenic values. This was dropped out altogether and the final legislation contains no direct reference to scenic, cultural or historic values. The program therefore is basically focussed on two goals; water quality (mainly non-point sources of pollution), and the conservation of fish, wildlife and plant habitat, although it also addresses land use policies for the critical area which accomodates growth while minimizing adverse environmental impacts. (See Section 8-1808 (b) attached)

2. The Commission's Task - As I indicated earlier, the workshop is the Commission's first substantive session on developing criteria for achieving the goals indicated above. The criteria must be promulgated by June 1, 1985 with public comment to occur over the summer. They will then be submitted to the Legislature for approval in early 1986. After approval, the local jurisdictions (primarily counties) will develop programs for addressing the criteria. These programs must include 11 items as shown in the attached Section 8-1808 (c).

3. Your Panel Discussion - In this session, I suggest that you each provide a brief description of your own program to cover goals, resources or values protected, the criteria or guidelines used, and state/local roles and responsibilities. The Commissioners will be particularly interested in these criteria that address water quality and habitat. Jon Kusler will present an overview of several other state programs.

In addition to this information, I hope that you could address some specific issues that will affect the Commission's work. These might include:

* What are the implications of specifying generalized or detailed criteria (e.g., threshhold values, performance standards)?

* What was the process for preparing the criteria or guidelines used in your program?

* What elements of your program have worked well or poorly?

* Are criteria promulgation and adoption of local programs adequate to protect the critical area in the absence of a State land use plan?

* How much effort should be spent in articulating the State (vs. local) interest in the critical area?

* How should the Commission address the issue of cumulative impacts?

* Should the criteria require local governments to identify priority areas for acquisition?

* Should the Commission consider the use of land banking, land trusts, TDR's, easement acquisition or other such techniques in developing its program?

These questions are only suggestive, but I do want to emphasize that in addition to seeking your advice, we also want you to raise issues that the Commission needs to be aware of in this early stage of its work.

4. Logistics - I will meet with you around 6:00 p.m. at the Tidewater Inn for dinner and to go over the panel presentations and your role in the working groups on the morning of the 25th. We have made room reservations for you at the Inn for the evenings of the 23rd and 24th. I'll provide you by mail with directions to Easton and your contract so that we can reimburse you for expenses. The workshop agenda is attached.

Thanks very much to each of you for assisting us in this endeavor.

JKS/ses
cc: Judge Liss
✔Sarah Taylor
Lee Epstein

To SVT

Date 1/28 Time 10:10

WHILE YOU WERE OUT

M Wayne Shaff

of County Ext. Agent - Salis

Phone 749-6141

AREA CODE NUMBER EXTENSION

- [x] Telephoned
- [x] Please call
- [ ] Called to see you
- [ ] Will call again
- [ ] Wants to see you
- [ ] Urgent
- [ ] Returned your call

Message: E. 11 A.M.

3-16-85 ~~May 25~~

March 15th.

Call at

8:00 / 8:30

RENCO QUALITY NO. 702-24

OPERATOR

call to assess X

UNIVERSITY OF MARYLAND-COLLEGE PARK — UNIVERSITY OF MARYLAND-EASTERN SHORE
COOPERATIVE EXTENSION SERVICE

WICOMICO COUNTY OFFICE
P.O. Box 1836
Salisbury, MD 21801
Phone: 749-6141

cc Chairman

January 16, 1985

March

Propose March 15th as the date

Judge Solomon Liss, Chairman
Chesapeake Bay Critical Areas Commission
Tawes State Office Building
Annapolis, Maryland 21401

Dear Judge Liss:

The Wicomico County Farm Bureau and The Wicomico Soil Conservation District would like to take this opportunity to invite you and members of the Chesapeake Bay Critical Areas Commission to attend a tour of Wicomico County. Our purpose should you accept, would be to give the commission members an opportunity to visit some critical areas in the county, as well as talk with landowners, etc. at each site and hopefully this input would help the commission members get a better understanding of the situation in order to help them in working up proposed regulations pertaining to the critical areas issues.

I have talked with William Bostian, a member of the commission, about the possibility of such a tour, and he thought it would be an excellent opportunity for the commission to become involved in. He suggested that I contact you to see if something could be arranged.

Wicomico County has approximately 34,000 acres designated in the critical area or about 14% of its total land area. We feel it is representative or typical of the Maryland Eastern Shore.

Therefore, if the commission is receptive to this idea, we would be more than happy to have its members visit our area. Activities would include a luncheon in Salisbury followed by a brief update of the county situation followed by a tour of 3 to 4 stops pertaining to critical areas.

Please let me know at your earliest convenience as to whether or not the commission will accept our offer. Please contact me at the above address or call the Wicomico County Extension Office at 749-6141.

Thank you very much.

Sincerely,

Wayne V. Shaff

Wayne V. Shaff
Extension Agent - Agric. Sc.
Wicomico County

WVS:lem

11:30 lunch
3:30

Arrangements for the 22nd -

1) 22nd
2) 9:30 morning to 3:30
3) meet on W. side of County ½ miles from Vienna - fruit stand + church house.
4) There will be a bus
5) planning on 45 people.
6) about 7 stops. -
lunch will be provided.

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 16, 1985

MEMORANDUM

TO: The Honorable Harry R. Hughes, Governor

VIA: M's. Ellen Fraites, Office of the Governor

VIA: The Honorable Solomon Liss, Chairman
Chesapeake Bay Critical Area Commission

FROM: Dr. Sarah J. Taylor, Executive Director
Chesapeake Bay Critical Area Commission

SUBJECT: Status of Chesapeake Bay Critical Area Commission work

The Chesapeake Bay Critical Area Commission has met on four occasions. These meetings have focused on the establishment of a work plan for criteria development, the design of an educational seminar for the members of the Commission at which they will be advised of the programs already in existence in other jurisdictions for shoreline management, and an up-to-date review of existing laws and regulations at the State and local level on the management of the Chesapeake Bay.

The Commission has completed its first round of six hearings. All hearings had an average attendance of 185 people, and approximately 40 to 45 people testified at each hearing. Comments basically focused on the need for criteria and the need for better land use control policies around the Bay. While some reservations were expressed, there were no negative comments received either verbally at the hearings or in follow-up letters. The agricultural, homebuilders, and realty interests remain somewhat guarded about criteria development, but have expressed their desire to cooperate in formulating acceptable criteria.

Transcripts (an original and two copies) are being prepared of each hearing for review by the public. These transcripts are available at the Commission office for review.

After the seminar for Commission members at the Tidewater Inn on January 24th and 25th, subcommittees to develop criteria will begin working in their various areas in order to meet the June 1, 1985 deadline for the initial publishing of criteria. A second round of hearings will begin in July and August of 1985.

We recognize that the Governor is extremely busy with the Legislature, but if at all possible, we would consider it an honor if he joined us on January 24th at 9:00 a.m. at the Tidewater Inn and made a brief kick-off address at the beginning of the seminar. Please advise whether this is possible.

SJT/lgd

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 17, 1985

Mr. Anthony Redman
12 North Washington Street
Easton, Maryland 21601

Dear Mr. Redman:

This is to invite you to the workshop of the Critical Area Commission at the Tidewater Inn, Easton, Maryland on the 24th and 25th of January, 1985. The session on the 24th will begin at 9:00 a.m. Because you are a potential contractual employee of the Commission, I have arranged for your meals at the Tidewater Inn the 24th through adjournment of the workshop on the 25th. I hope that you can make the meetings on the 24th and 25th, but particularly on the 25th because that is when all of us will begin to work with our respective subcommittees and establish organizational time frames, meeting dates, information requests and things of that nature so that we can begin work on criteria.

I am sending along with this letter all of the minutes of the previous meetings of the Commission so that you can at least be up to date with what has been discussed. Please give me a call at 269-2784 if you have any difficulties in attending the workshop. I would like to meet with you the evening of the 23rd at 6:00 p.m. in the lobby of the Tidewater Inn so that we can go over the whole workshop schedule, and so that we can discuss how we want to process the work of the various sub-committees at their meetings of the 25th.

Sincerely,

Sarah J. Taylor SES

Sarah J. Taylor, PhD
Executive Director

SJT/ses
Enclosures

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 17, 1985

Mr. Charles Davis
1443 East Piney Hill Road
Monkton, Maryland 21111

Dear Mr. Davis:

This is to invite you to the workshop of the Critical Area Commission at the Tidewater Inn, Easton, Maryland on the 24th and 25th of January, 1985. The session on the 24th will begin at 9:00 a.m. Because you are a potential permanent employee of the Commission, I have arranged for your lodging at the Inn the evenings of the 23rd and 24th and your meals at the Inn the 24th through adjournment of the workshop on the 25th. I hope that you can make the meetings on the 24th and 25th, but particularly the 25th because that is when all of us will begin to work with our respective subcommittees and establish organizational time frames, meeting dates, information requests and things of that nature so that we can begin work on criteria.

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Sincerely,

Sarah J. Taylor SES

Sarah J. Taylor, PhD
Executive Director

SJT/dcw

Enclosures

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 17, 1985

M's. Janey Garry
611 Twinbrook Parkway
Rockville, Maryland 20851

Dear M's. Garry:

This is to invite you to the workshop of the Critical Area Commission at the Tidewater Inn, Easton, Maryland on the 24th and 25th of January, 1985. The session on the 24th will begin at 9:00 a.m. Because you are a potential intern of the Commission, I have arranged for your lodging at the Inn the evenings of the 23rd and 24th, and your meals at the Inn the 24th through adjournment of the workshop on the 25th. I hope that you can make the meetings on the 24th and 25th, but particularly the 25th because that is when all of us will begin to work with our respective subcommittees and establish organizational time frames, meeting dates, information requests and things of that nature so that we can begin work on criteria.

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Sincerely,

Sarah J. Taylor SES

Sarah J. Taylor, PhD
Executive Director

SJT/dcw

Enclosures

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 7, 1985

MEMORANDUM

TO: J. Kevin Sullivan
FROM: Sarah Taylor
SUBJECT: The Tidewater Inn Seminar

Have all the panelists received copies of the questions that will be asked of them Thursday afternoon so they can be prepared ahead of time?

Have the panelists sent you copies of policies and criteria that I can send to the Commission members ahead of time?

John Griffin mentioned to me that Secretary Constance Leider might be a good person to address the State of the Bay with Ian Morris. Ian could take the water and resource approach and Connie the land use trend approach. I think it is a good idea and would like to see her included.

What supportive items do you need - a mike, 3 flip charts, 3 flip chart stands, markers, etc.? Let me know.

I have asked Henry to prepare your contract for 5 days a week.

SJT/ses
bcc: Judge Liss

Telephone:_____
TTY for Deaf – Annapolis – 269-2609 D.C. Metro – 565-0450

Existing criteria for Program development. Other criteria scratched from the Act.

PRELIMINARY AGENDA
CRITICAL AREAS COMMISSION
WORKSHOP
January 24-25, Easton, MD

JANUARY 24

9:~~30~~15 - 10:00 AM

[redacted]

The State of the Bay

Dr. Ian Morris, Director, U. of Maryland Center for Environmental and Estuarine Studies

Best tech + WQ good DHMH DNR State Planning

10:15 - 12:15

Non-Point Source Pollution

Ms. Clare Gesselman and Mr. Anthony Neville, The Synectics Group, Washington, D.C.

11:00 break

* Definition of the problem
* The national picture
* Description of selected state and regional NPS programs
* Implementation strategies

Dr. David Correll, Assistant Director, Smithsonian Environmental Research Center

* The role of forests as nutrient buffers

12:15 – 1:15 Lunch

1:30 – 5:00 Panel Discussion: State and Regional Shoreline Protection and Critical Areas Programs

Dr. Jon Kusler (Moderator) – Overview
Mr. David Owens, Director, North Carolina Coastal Management Program
3:00 Break
Mr. Joseph Petrillo – Executive Director, California Coastal Conservancy
Mr. Terrance Moore, Executive Director, New Jersey Pinelands Commission

6:00 – 7:00 Refreshments

7:00 – 8:00 Dinner – followed by a film on Chesapeake Bay produced by the University of Maryland, Sea Grant Program, ~~film on Chesapeake Bay~~

January 25

8:30 – 12:00 Small Group Working Sessions (Subcommittees that Exist.)

Proposed Topics:

* Defining the State interest in the critical area
* Criteria for the critical area – general policies or detailed standards?

* ?

12:00 - 1:00 Lunch

1:15 - 3:00 Group Reports

3:00 - 3:30 Summary and Adjourn
Michael Mantell, The Conservation Foundation

PROPOSED AGENDA
CRITICAL AREAS COMMISSION
WORKSHOP

January 24-25, 1985
Tidewater Inn, Easton, MD

Purpose: To obtain information about local, state and federal programs which address issues relevant to the work of the Critical Areas Commission.

Thursday, January 24, 1985
9:30 a.m. - 12:00 p.m.

1. Role of the Critical Areas Commission in the total Bay clean-up effort.

   Maryland's Bay initiatives
   Programs of Virginia, Pennsylvania and the District of Columbia.

2. Nation-wide efforts in non-point source pollution control.

1:30 p.m. - 5:00 p.m.

3. Review of shoreline and coastal protection programs in the other states and localities.

   Goals of other Programs
   Implementation measures
   Strenghts and weaknesses

Evening

4. Speaker?

Friday, January 25, 1985
8:30 a.m. - 12:00 p.m.

5. Establishing policies for the Critical Areas Commision that will build upon the experience of the other states and guide the process in the future.

1:30 p.m. - 3:00 p.m.

6. Group reports

3:00 p.m. - 3:30 p.m.

7. Summary comments

3:30 p.m.: Adjourn

Commiss
Mtgs.

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

AGENDA

CRITICAL AREA COMMISSION

WORKSHOP

January 24-25, 1985
Tidewater Inn
Easton, Md.

Thursday, January 24th

9:15 - 9:20 a.m.	Greetings and Introductory Remarks, Judge Solomon Liss, Chairman
9:20 - 9:25	Workshop Arrangements - Dr. Kevin Sullivan, Scientific Advisor
9:25 - 9:45	The State of the Bay: A Scientist's Perspective - Dr. Ian Dr. Ian Morris, Director, University of Maryland Center for Environmental and Estuarine Studies
9:45 - 10:15	Land Use Trends in the Chesapeake Region - M's. Constance Lieder, Secretary, Maryland Department of State Planning
10:15 - 11:00	The Experience of Other State Programs with Non-Point Source Pollution Control as it Relates to the Bay - Mr. Anthony Neville and M's. Claire Geasalman, TSG Associates, Washington, D.C.
11:00 - 11:15	Coffee Break
11:15 - 11:40	Techniques for Maryland's Stormwater Management and Sediment Control - Mr. H. Earl Shaver, Water Resources Administration, Maryland Department of Natural Resources
11:40 - 12:00	The Role of Forests in the Critical Areas Program - Mr. James Burtis, Maryland Forest, Park and Wildlife Service, Maryland Department of Natural Resources
12:00 - 12:30	Maryland's Point Source Pollution Control Strategy - Mr. William Eichbaum, Assistant Secretary, Department of Health and Mental Hygiene
12:30 - 1:30	Lunch - Tidewater Inn Dining Room
1:30 - 3:00	Panel Discussion: State and Regional Shoreline Protection and Critical Area Programs
	Dr. Jon Kusler (Moderator) - Overview Mr. David Owens, Director, North Carolina Coastal Management Program Mr. Joseph Petrillo, Executive Director, California Coastal Conservancy Mr. Terrance Moore, Executive Director, New Jersey Pinelands Commission

Thursday, January 24th - Continued

3:00 - 3:15	Break
3:15 - 5:30	Questions and Answers of the Panel
5:30 - 6:30	Refreshments
6:30 - 7:30	Dinner - Tidewater Inn Dining Room
7:30 - 7:35	Charge to the Subcommittees - Dr. Sarah J. Taylor, Executive Director
7:35 - 9:00	Commission Subcommittee Working Sessions -
	Subcommittee work focusing on what Commission must do in order to accomplish the criteria development, and what each Subcommittee must do in order to handle criteria development within its own membership.
	Product - Specific list on what the Commission should do as well as each Subcommittee based on all of the information heard throughout the day.

Friday, January 25th

7:30 - 8:30	Breakfast - Tidewater Inn Dining Room
8:30 - 9:15	Commission Meets to Report Out Subcommittee Work from Night Before
9:15 - 10:15	Presentation on the Evolution of the Maryland Critical Area Program Legislation - Mr. George Liebman, Consultant, Office of the Governor and Mr. Tom Deming, Assistant Attorney General, Maryland Department of Natural Resources
10:15 - 10:30	Discussion of Senate Bill 203, A Bill introduced by Senator Malkus concerning, "Chesapeake Bay Critical Area - Exclusion of Areas" - Assistant Attorney General's Office, Maryland Department of Natural Resources
10:30 - 10:40	Break
10:40 - 10:45	Charge to the Subcommittees - Dr. Sarah J. Taylor, Executive Director
10:45 - 12:00	Subcommittee Work Involving:
	Review of minimum requirements of Act, in each Subcommittee, Looking at uses and expanding upon them or eliminating some of them, Looking at formats for policies and criteria of other states and deciding upon what each Subcommittee wants their criteria and policies to look like.
12:00 - 1:00	Lunch - Tidewater Inn Dining Room

Friday, January 25th - Continued

1:00 - 2:30	Subcommittee Work Involving: Going over information needs, How the Subcommittees wish to operate, Who the Subcommittees want to invite into their criteria deliberations, Timing of meetings, Timing of discussions, What the Commission members in each Subcommittee want the Commission staff to do, What the Commission members need to have the staff do for their first meeting, Setting up their first Subcommittee meeting
2:30 - 3:30	Report - What the Subcommittees Have Agreed Withhand What Their Groups Have Decided To Do To Inform the Rest of the Commission
3:30 - 4:00	Summary Comments - Mr. Mike Mantell, The Conservation Foundation
4:00	Adjournment

SJT/ses

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

January 7, 1985

Mr. Anton Hoevenaars
General Manager
The Tidewater Inn
Easton, Maryland 21601

Dear Mr. Hoevenaars:

Thank you for your kind attention to the workshop arrangements of the Chesapeake Bay Critical Area Commission, scheduled for the 24th and 25th of January, 1985.

The 40 single occupancy rooms will certainly be plenty. I anticipate a need for all 40 rooms. We will also need around 15 rooms for the night of the 23rd as the speakers and several Commission members may want to arrive ahead of time. (See attached list.)

The time of arrival for most of the members will be 8:30 a.m. on the 24th of January. Time of departure will be around 4:00 p.m. on the 25th.

If possible, we will need one general meeting room for 45 people for the 24th. On the 25th, we will need a meeting room for the same number of people from 8:30 a.m. - 10 a.m. We will then need 3 small break out rooms (13 people each) from 10 a.m. - 2:30 p.m. At 2:30 p.m. we will re-convene in the general meeting room again.

Should you have any questions, please call me at 301-269-2784.

Sincerely,

Sarah J. Taylor, PhD
Executive Director

SJT/ses
Enclosure

CHESAPEAKE BAY CRITICAL AREA COMMISSION

List of Attendees

January 23, 1985 -

Kevin Sullivan
Helene Tenner
Sarah Taylor
Charlie Davis
Janet Garry
Jon Kusler
David Owens
Joe Petrillo
Terry Moore
Tony Neville
Clare Gesselman
Lloyd Tyler
Mike Mantel
Lee Epstein
Barbara O'Neill

January 24, 1985 -

Kevin Sullivan
Helene Tenner
Sarah Taylor
Charlie Davis
Janet Garry
Jon Kusler
David Owens
Joe Petrillo
Terry Moore
Tony Neville
Clare Gesselman
Lloyd Tyler
Mike Mantel
Solomon Liss
Clarence Du Burns
Don Hutchinson
Bob Lynch
Parris Glendening
Jim Gutman and Wife
Florence Beck Kurdle
J. Frank Raley, Jr.
Harry T. Stine
Albert W. Zahniser
Barbara O'Neill
Robert Price, Jr.
Samuel Turner, Sr.
Mary Roe Walkup
Bill Bostian
Ann Sturgis Coates
John Luthy
Wayne Cawley
Ardath Cade
Torrey Brown
Constance Leider
Bill Eichbaum
Lee Epstein
Tom Deming
Ellen Fraites
J. Edward Welch

Meals only for the 24th: Earl Bradley, David Burke, Trisha Funk, Elder Ghigiarelli

TORREY C. BROWN, M.D.
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CHESAPEAKE BAY CRITICAL AREAS COMMISSION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

JUDGE SOLOMON LISS
CHAIRMAN

AGENDA

CRITICAL AREA COMMISSION

WORKSHOP

January 24-25, 1985
Tidewater Inn
Easton, Md.

Thursday, January 24th

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Mr. David Owens, Director, North Carolina Coastal Management Program
Mr. Joseph Petrillo, Executive Director, California Coastal Conservancy
Mr. Terrance Moore, Executive Director, New Jersey Pinelands Commission

Telephone:_____
TTY for Deaf - Annapolis - 269-2609 D.C. Metro - 565-0450

Thursday, January 24th - Continued

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10:30 - 10:40	Break
10:40 - 10:45	Charge to the Subcommittees - Dr. Sarah J. Taylor, Executive Director
10:45 - 12:00	Subcommittee Work Involving: Review of minimum requirements of Act in each Subcommittee, Looking at uses and expanding upon them or eliminating some of them, Looking at formats for policies and criteria of other states and deciding upon what each Subcommittee wants their criteria and policies to look like.
12:00 - 1:00	Lunch - Tidewater Inn Dining Room

Friday, January 25th - Continued

1:00 - 2:30	Subcommittee Work Involving: Going over information needs, How the Subcommittees wish to operate, Who the Subcommittees want to invite into their criteria deliberations, Timing of meetings, Timing of discussions, What the Commission members in each Subcommittee want the Commission staff to do, What the Commission members need to have the staff do for their first meeting, Setting up their first Subcommittee meeting
2:30 - 3:30	Report - What the Subcommittees Have Agreed With and What Their Groups Have Decided To Do To Inform the Rest of the Commission
3:30 - 4:00	Summary Comments - Mr. Mike Mantell, The Conservation Foundation
4:00	Adjournment

SJT/ses

from: New Jersey Pinelands Comprehensive Management Plan

CHAPTER SIX

Critical Areas

The Pinelands Commission defines critical areas as: (1) geographic areas which contain one or more significant natural, cultural, or economic resources which could be degraded or lost as a result of unregulated development; and (2) natural hazard areas in which development may result in the loss of life or property. A basis for the definition is provided in the federal and state Pinelands laws. In these laws, Congress and the New Jersey Legislature recognize that the Pinelands contain significant resources which have special values and that these may be lost or degraded by incompatible development. Both acts imply that the Pinelands are environmentally critical throughout. The ubiquitous nature of many of the region's valuable features, including groundwater, plants and wildlife, and scenic, cultural, and recreational resources, also argues for the designation of the entire Pinelands as critical.

Within the Pinelands, however, specific areas can be identified and mapped as being of more critical environmental importance than others. These areas can be distinguished by the presence of significant resources and their susceptability to damage from uncontrolled or incompatible development. The selection of critical areas is the first step towards protection through either regulation or acquisition, two techniques which cannot be applied uniformly across the Pinelands.

The Commission's critical areas study was completed by the firm of Rogers, Golden, & Halpern (1980). The objective was to develop and execute a method for establishing a ranked list of critical areas in the Pinelands. The first step was the definition of significant, natural, and cultural resources. Significant resources are those which are identified as being necessary to maintain the essential character and integrity of the existing Pinelands environment. They are recognized as being valuable to the public in terms of economics, public health, safety, recreation, aesthetics, research, or education. Natural resources are the abiotic element of air, water, and soil and the biotic elements of individuals, species, populations, communities, and ecosystems. Cultural resources consist of archaeological or historic sites of national, state, or local importance, as well as sites which are of value to a local community's way of life. A specific resource may embrace more than one value. Its combined values may also change according to its proposed use.

Standards for Selection of Areas

Specific criteria were used to select critical areas. The criteria were derived from the Commission's consultant reports, from the Pinelands Technical Advisory Committee, from the literature on critical areas, and from the public through public participation workshops. Criteria used to delineate the different classes of critical areas were the presence of the following features:

Ecologically Critical Areas

- Linkage corridors
- Unique or exceptional ecosystems
- Pristine aquatic communities
- Headwaters

- Endangered animal species (national list)
- Diversity of vegetation types within a given area
- Plant or animal species proposed or under review for national threatened or endangered status
- Endangered, threatened, declining, or undetermined animal species (state list)
- Endangered, threatened, or undetermined plant species (Caiazza and Fairbrothers, 1980)
- Representative vegetation types
- Outlier, disjunct, or relict species
- Species at the limits of their geographic range
- Restricted and endemic species
- Breeding areas (nesting and spawning)
- Overwintering concentrations
- Migratory stopover areas
- Areas of scientific interest and research
- Oldest, largest, or exceptional specimen trees

Perceptually and Culturally Critical Areas

- Scenic areas
- Recreation areas
- Archaeological, historic, or architectural areas, including: (1) sites on or potentially eligible for inclusion on the National or State Register of Historic Places; (2) sites containing significant archaeological or historic resources; or (3) buildings on or potentially eligible for the Historic American Building Survey.
- Areas essential to the lifestyle of local residents

Economically Critical Areas

- Agricultural areas, including: (1) prime farmland; (2) unique farmland; or (3) additional farmland of statewide importance
- Timber areas suitable for potential production
- Mineral areas suitable for sand and gravel extraction

Natural Hazard Critical Areas

- Fire hazard areas
- Flood prone areas

Some criteria for the four classes of critical areas conflict when the uses of significant resources are incompatible. For example, the maintenance of habitats for rare or threatened species may conflict with timber harvesting practices. In general, ecologically critical areas are considered the most important.

Ecologically critical areas were emphasized by the Commission because both the federal and state Pinelands acts stress the importance of existing natural resources. The New Jersey Pinelands Protection Act stresses the need to maintain the overall ecological values of the Pinelands. It notes that development poses an immediate threat to the region's ecological resources, especially to the survival of rare, threatened, and endangered plant and animal species and their habitats, and to the maintenance of the existing high quality of surface and ground waters. Both acts require that a map delineating major areas within the Pinelands National Reserve which are of critical ecological importance be included in the Comprehensive Management Plan. The legislative emphasis on the ecological importance provides a basis for establishing a hierarchy of critical area classes. Of the four classes, the ecologically critical areas are paramount.

Criteria for Ecologically Critical Areas

As indicated above, ecologically critical areas are designated on the basis of resource quality, scarcity, or the role their resources play in the ecosystem. Used wisely, these natural resources provide many cost-free amenities and services to the public and to private landowners.

Maintaining the natural system helps to provide flood control, water purification, water supply, pollution abatement, energy conservation, wildlife diversity, and a pleasing and visually diversified landscape. These areas provide sites for outdoor education, scientific study, and production of cranberries and blueberries. They are also of psychological or philosophical value to those who gain comfort from knowing that semi-wilderness areas and rare and endangered species and their habitats still exist. Unnecessary disturbance or pollution can destroy the natural balance, curtailing natural functions or reducing their usefulness. Once lost, these resources and benefits are extremely difficult or impossible to replace.

The following is a description of the features used as criteria to select ecologically critical areas:

Linkage corridors: These corridors connect areas which are preserved in their natural state. They provide continuity for dispersal and genetic exchange among populations of a plant or animal species, ensuring both the recolonization of populations which become locally extinct and the maintenance of genetic variability.

Unique or exceptional ecosystems: These are ecosystem units such as the Plains which have outstanding characteristics. Regenerating cedar swamps are included in this category.

Pristine aquatic communities: These aquatic communities have been exposed to the least amount of disturbance by man, and consequently are truly characteristic of the Pinelands. The data are sufficient to designate four Pinelands streams or portions of them as pristine on the basis of the aquatic communities they contain. Data indicate that 12 other streams or portions of streams are probably pristine on the same basis. Since man's effects on aquatic communities and their habitats are largely derived from activities on adjacent lands, entire watersheds containing streams which are known or believed to harbor aquatic communities characteristic of the pristine Pinelands environment have been mapped.

Headwaters: These are the beginning portions of a river system in which surface waters initially flow. They are more fragile and vulnerable to pollution than the main stem portion of the river. Headwaters are important for the protection of the river system's water quality and for the reproduction of aquatic species. Drainage sub-units containing bogs along with drainage areas in the upper reaches of the stream were mapped.

Nationally endangered animal species: Two species on the national list of endangered and threatened species, the bald eagle and the peregrine falcon, are found in the Pinelands.

Diversity of vegetation types within a given area: There are eight natural vegetation types within the Pinelands. They are pine-oak forests, oak-pine forests, hardwood swamps, cedar swamps, pitch pine lowlands, bogs, inland marshes, and coastal marshes. This criterion is satisfied if at least five of these natural vegetation types are found within a drainage sub-unit.

Plant or animal species proposed or under review for national endangered or threatened status: Before a species is added to the national endangered or threatened list, it must be reviewed by the U.S. Fish and Wildlife Service and then be proposed for inclusion on the national list. Although species being considered for national listing are not officially designated, the Pine Barrens treefrog, which is already listed as endangered in Florida, is known to be under consideration.

Endangered, threatened, or otherwise jeopardized species (state list): Both federally listed species, the bald eagle and the peregrine falcon, are also included on the official state list. The osprey is listed as endangered in New Jersey, although it is not federally listed. Known nest sites were considered in critical area identification. Coastal islands used for breeding by colonial nesting birds such as the least tern, black skimmer, and common tern, were considered, as was a known rookery of the great blue heron. Areas where state endangered and threatened reptiles and amphibians have been sighted since 1970 were considered where information was available. No official state list of threatened and endangered plants exists. The known and probable habitats of plants identified as threatened and endangered by Caiazza and Fairbrothers (1980) were considered.

Representative vegetation types: These are high-quality examples of the eight natural vegetation types (pine-oak, oak-pine, hardwood swamps, cedar swamps, pitch pine lowlands, bogs, inland marshes and coastal marshes).

Outlier, disjunct, or relict species: As described in Chapter Two, some plants and animals may occur as isolated populations separated from the main population distribution of their species. These populations are referred to as disjuncts or outliers. Sometimes these disjunct populations are remnants of a distribution that was more widespread in the past. Such remnant populations are referred to as relicts.

Species at the limits of their geographic range: A plant or animal species can be found distributed over a specific area. This area is the species' range. Populations of species living at the edges of their range are functioning at the limits of their adaptive capacities and are valuable for research. The Pinelands are unusual because many species reach either the northern or southern limits of their range here. These include the corn snake, the Pine Barrens treefrog, and the broom crowberry.

Restricted and endemic species: Endemics are species which are restricted to a small geographical area, such as to a locale within a state, to one state, or to several states. Examples are Pickering's morning glory and sand myrtle.

Breeding areas (nesting and spawning): Many species of animals, especially migratory birds and fish, concentrate in areas to breed. Large concentrations of waterfowl breed in the marshes of the Pinelands region, and large numbers of herons and other colonial nesting birds concentrate in island breeding areas along the coast and in marshes further inland. Other areas which contain a diverse population of breeding bird species were also considered.

There are historical records of four migratory fish, the blueback herring, alewife, Atlantic shad, and striped bass, ascending Pinelands streams in the spring to spawn. The blueback herring and alewife are known to currently spawn here. Recent reports of American shad spawning runs are unconfirmed. Striped bass used to be found in the Lower Mullica, but there are no recently confirmed records. The spawning areas and adjacent nursery areas were considered in identifying critical areas.

Overwintering areas: Large numbers of waterfowl congregate in the marshes of the Pinelands in the winter. Since overwintering species tend to move about, primarily in response to food availability, it is difficult to consistently pinpoint overwintering areas at any given time. Nevertheless, some areas, particularly those managed for waterfowl, tend to have predictably high concentrations from year to year. As described in the wildlife section of this document, deer tend to congregate during winter in sheltered areas that provide food. In the Pinelands, these areas are usually in pitch pine lowlands, cedar stands, and hardwood swamps.

Migratory stopover areas: The Pinelands region is located along the Atlantic flyway, a broadly defined north-south route along which birds migrate in the spring and fall. Certain areas, particularly along the shore, serve as resting and feeding areas for shorebirds, birds of prey, and passerines flying north or south during migration. Where known, such areas were considered in the critical areas evaluation.

Areas of scientific interest and research: Many areas in the Pinelands are important for scientific research. These areas contain examples of different types of biological communities and natural features. Their protection will ensure their availability for research and educational use. Many of these areas were identified by consulting the scientific literature and members of the scientific community. Areas of botanical and herpetological interest, areas of wildlife and forestry research, and water quality and land use study areas were included.

Oldest, largest, or exceptional specimen trees: In the Pinelands, this category refers specifically to champion trees identified by the New Jersey Bureau of Forestry (1977). These are trees which have grown to an exceptionally large size. The Bureau of Forestry keeps a list of the state's largest trees. Thirty-five of these trees grow in the Pinelands including both native species such as a white cedar, with a 9'2" circumference, and exotic species such as a Chinese chestnut, also with a 9'2" circumference.

Area Identification and Ranking

The identification of critical areas involves the choice of criteria, the collection of data, and the identification of specific locations which meet the criteria. Ecologically, watersheds are the most logical geographic units for delineating these areas. Dividing major watersheds into drainage sub-units provides more closely defined boundaries. In the Commission's study, these drainage sub-units were used as the basis for delineating critical area mapping units.

Once critical areas have been identified, it is necessary to determine their relative importance. Ranking land areas according to their levels of criticality is a prerequisite to establishing planning, regulatory, and acquisition priorities. A scaling technique was used to rank the inherent qualities of each critical area. Under this method, individuals assign weighted values, termed importance values, to the criteria. The summation of the importance values of all the criteria associated with a mapping unit yields a numerical value, which is then ranked in comparison to the values of all the critical area mapping units. This method is usually referred to as a weighting summation model. The procedure used by those who ranked ecologically critical areas for the Commission is outlined below:

1. The 17 criteria for determining ecologically critical areas were ranked in order of importance. An importance value of 1 to 10 was then assigned to each criterion.
2. The importance values of all criteria occuring in each critical area were totaled.
3. The critical areas were ranked based on total points. The area with the most total points was ranked highest and the area with the least total points was ranked lowest. An example of the form used to rank critical areas is shown in Figure 6.1

The available data does not permit a determination of the degree to which an area satisfies each criterion. For example, all sightings of threatened and endangered animals were ranked equally because the data is insufficient to determine factors such as population density and habitat quality.

Multiple occurrences for some criteria, such as two endangered species in a mapping unit, were also considered in the final determination.

Information on how people value different criteria for ecologically critical areas was gained from three public workshops conducted during March in Atlantic, Burlington, and Ocean counties and from a survey of the Pinelands Commission staff, natural scientists, and the consultants (Rogers, Golden & Halpern) who compiled the criteria and definitions.

Table 6.1 shows how the different groups ranked the criteria for ecologically critical areas. In all cases, pristine aquatic communities, headwaters, and unique or exceptional ecosystems were ranked in the top three. Linkage corridors, nationally endangered species, breeding areas, state endangered, threatened and declining species, and diversity of vegetation types were also considered to be of relatively high value. Table 6.2 shows the importance values assigned to the criteria for ecologically critical areas. In both cases, the scores and range in values are very similar for the more highly valued criteria and the lower valued criteria.

The average of the values assigned by staff, scientists, and consultants was used to determine the importance value associated with each critical area mapping unit. These relative values are displayed as classes of ranges in Table 6.3 and Plate 27. The classes are 0, 0.1-9.9, 10-14.9, 15-19.9, 20-24.9, 25-29.9, 30-39.9, 40-49.9 and 50. A similar analysis was done for the public values. The relative importance assigned by the public to different mapping units was not substantially different from the values displayed here. This can be attributed to the similarity in ranking of criteria and importance values.

In developing the importance value of each critical area, it was assumed that an area with many different species is more valuable than an area with only one species. The values were increased by a factor of 1.5 for two species associated with a criterion, and by a factor of two for three or more species.

The data indicate that most mapping units have one or more significant resources and qualify

to some degree as critical areas. A low ranking does not imply that an area is not environmentally sensitive. It merely indicates that the area does not contain as many critical factors as an area with a higher score, or that it is not considered as significant by those who placed values on these resources. Many areas have not been extensively studied and data may be sparse or lacking. Further field investigations will add to the data base and may increase the total importance value of some areas. Information of this nature has been provided by the public during the preparation of the critical areas study.

Because of the variation in size among the mapping units, two smaller units which are equal in size to a larger one and which collectively contain the same resources as the larger unit may have lower individual total importance scores. Analysis of clusters of mapping units provides an indication of the overall value of a region such as a watershed.

Basins within the Mullica River system contain mapping units with high importance values. Approximately 68 percent of the mapping units in this basin have importance value totals in the three highest classes. These watersheds include the Wading, Bass, Batsto, Atsion, and Lower Mullica Rivers, and the Sleeper Branch. The significance of this system, which forms the core of the Preservation Area, is evident from a review of Plate 27. Other watersheds within the Preservation Area such as the Cedar Creek and the upper portions of the North Branch Rancocas and Westecunk Creeks exhibit a similar aggregation of highly ranked critical areas.

As shown in Plate 27, critical areas with high total importance values are not restricted to the Preservation Area. For example, the Oyster Creek watershed is composed of two mapping units, both outside the Preservation Area. One of these scored in the highest total importance value class. Furthermore, a number of highly ranked critical areas are clustered in the Dennis Creek watershed in Cape May County.

Nominated Ecologically Critical Areas

At each of the three public critical areas workshops conducted in March, participants were

Figure 6.1—Sample of Form Used to Rank Ecologically Critical Areas

Cedar Creek Watershed Critical Area Mapping Units / Critical Areas Criteria	Linkage corridors	Unique or exceptional ecosystems	Pristine aquatic communities	Headwaters	Nationally endangered animal species	Diversity of vegetation types within a given area	Nationally proposed or under review plant or animal species	State endangered, threatened, declining, or undetermined plant or animal species	Representative vegetation types	Outlier, disjunct, or relict species	Species at the limits of their range	Restricted and endemic species	Breeding areas (nesting and spawning)	Overwintering concentrations	Migratory stopover areas	Areas of scientific interest and research	Oldest, largest or exceptional specimen trees
Cedar Creek (1)													•		•		
Cedar Creek (2)			•	•		•	•	3	•	•	3	•		•			
Factory Branch			•	•		•				•	•						
Newbolds Branch			•	•		•	•	•		•	•						
Daniels Branch		•	•	•		•	•	•	•	•	•			•			
Bamber Lake		•	•	•		•	•	•	•	•	•			•			
Chamberlain Branch			•	•		•		•	•	•	•			•			
Webbs Mill Branch		•	•	•		•	•	3		2	2			•		•	

Legend
- • The criterion applies to the critical area.
- 2 Two species from the criterion are found in the critical area
- 3 Three species from the criterion are found in the critical area

asked to nominate areas which they considered to be critical and in need of protection. Public nominations for critical areas were also received through forms distributed at workshops, letters, and other personal communications. Many of these recommendations were general and included headwaters, floodplains, or certain wetlands. Bodies of water such as Barnegat Bay, the Manumuskin River, Cedar Creek, Wells Mill Reservoir, and the Oswego River were nominated. Natural features included the East and West Plains, the Forked River Mountains, and Apple Pie Hill. Bass River State Forest and Colliers Mills Wildlife Management Area were among public lands identified as critical areas through this process. Specific site recommendations included Martha, Sim Place, Bulltown, Friendship, the Makepeace Lake area, and Atlantic Goose Ponds.

Table 6.1—Ranking Criteria For Ecologically Critical Areas

Critical Areas Criteria	Group and Sample Size (n)				
	Staff, Scientists, and Consultants (n = 17)	Burlington County Public Meeting (n = 31)	Atlantic County Public Meeting (n = 22)	Ocean County Public Meeting (n = 29)	Average (n = 99)
Pristine Aquatic Communities	1	1	1	2	1
Headwaters	2	2	2	1	2
Unique or Exceptional Ecosystems	3	3	3	3	3
Nationally Endangered Species	5	5	5	7-8	6
Linkage Corridors	4	4	7	4	4
State Endangered, Threatened, Declining, or Undetermined Species	7	9	6	5-6	5
Breeding Areas (Nesting and Spawning)	6	6	4	5-6	5
Species Proposed or Under Review for National List	8	12-13	10	10	11
Diversity of Vegetation Types Within a Given Area	9	7	11	9	8
Outlier, Disjunct, or Relict Species	11	16	14	15	15
Migratory Stopover Areas	12	8	8	12	9
Restricted and Endemic Species	10	11	12	14	13
Overwintering Concentrations	14	10	9	11	10
Representative Vegetation Types	13	12-13	13	7-8	12
Species at Limits of Their Geographic Range	15	15	16	16	16
Areas of Scientific Interest and Research	16	14	15	13	14
Oldest, Largest or Exceptional Tree Specimens	17	17	17	17	17

Table 6.2—Importance Values of Criteria For Ecologically Critical Areas

Critical Areas Criteria	Group and Sample Size (n)				
	Staff, Scientists, and Consultants (n = 17)	Burlington County Public Meeting (n = 31)	Atlantic County Public Meeting (n = 22)	Ocean County Public Meeting (n = 29)	Average (n = 99)
Pristine Aquatic Communities	9.8	9.1	9.0	8.8	9.0
Headwaters	9.2	8.6	8.5	9.2	8.8
Unique or Exceptional Ecosystems	8.9	8.3	8.3	8.2	8.3
Nationally Endangered Species	8.0	7.2	7.4	6.9	7.2
Linkage Corridors	8.2	7.4	6.8	7.8	7.4
State Endangered, Threatened, Declining, or Undetermined Species	7.1	6.3	7.0	7.1	6.8
Breeding Areas (Nesting and Spawning)	7.4	7.1	8.0	7.1	6.8
Species Proposed or Under Review for National List	6.8	5.4	5.8	6.7	6.5
Diversity of Vegetation Types Within a Given Area	6.8	6.7	5.8	6.7	7.2
Outlier, Disjunct, or Relict Species	5.4	4.1	4.8	5.6	4.9
Migratory Stopover Areas	5.3	6.3	6.3	6.2	6.2
Restricted and Endemic Species	5.7	5.5	5.5	5.9	5.6
Overwintering Concentrations	4.9	6.1	6.1	5.9	5.9
Representative Vegetation Types	5.3	5.4	5.0	6.9	5.7
Species at Limits of Their Geographic Range	4.4	4.5	4.2	5.2	4.6
Areas of Scientific Interest and Research	3.9	4.9	4.4	6.1	5.0
Oldest, Largest or Exceptional Tree Specimens	2.6	3.8	3.7	4.0	3.8

from: New Jersey Pinelands Comprehensive Management Plan

CHAPTER SEVEN

Protecting the Pinelands

The foregoing chapters have described both the natural and man-induced processes which have affected the Pinelands in the past, are affecting it now, and which may affect it in the future. That information, assembled from detailed studies undertaken over the past months, provides the basis for a strategy which will meet the mandates of the state and federal legislation to protect, preserve, and enhance the significant values of the resources of the Pinelands.

There is no question that the Pinelands' resources would be in a greater jeopardy if these legislative initiatives had not been taken. Even the best efforts of local governments to date have been unable to deal with protection of the area from a regional perspective. Incursions thought to be individually insignificant are, in fact, cumulative. They result in significant deleterious impacts over time. As the New Jersey Legislature declared in the Pinelands Protection Act, the "continued viability" of the area and its resources is "threatened by pressures for residential, commercial, and industrial development."

The protection strategy designed for the Pinelands has evolved in three interrelated steps. The foundation is set forth in the state and federal legislation. From that basis the Commission developed a series of five resource and use goals and 25 policies.

When considered in light of the legislation and the data generated through the Commission's studies, these goals and policies led directly to the second step: a spatial description of the Pinelands and an allocation of appropriate land uses among different areas. The third step involved the selection of programs to ensure that activities allowed within different areas are compatible with the characteristics of particular sites.

RESOURCE GOALS AND POLICIES

The following goals and policies were adopted by the Commission to guide the protection, preservation, and enhancement of the significant values of the Pinelands in a manner which is consistent with the provisions of the National Parks and Recreation Act of 1978 and the New Jersey Pinelands Protection Act.

Natural Resources Goal

PRESERVE, PROTECT, AND ENHANCE THE OVERALL ECOLOGICAL VALUES OF THE PINELANDS, INCLUDING ITS LARGE FORESTED AREAS, ITS ESSENTIAL CHARACTER, AND ITS POTENTIAL TO RECOVER FROM DISTURBANCE.

Policy 1: Preserve, protect, and enhance the quality and quantity of surface and groundwater.

Policy 2: Preserve, protect, and enhance the diversity of plant and animal communities and their habitats.

Policy 3: Preserve, protect, and enhance existing soil conditions.

Policy 4: Preserve, protect, and enhance existing topographic features.

Policy 5: Preserve, protect, and enhance existing air quality.

Policy 6: Protect natural scenic qualities.

Historic and Cultural Goal — MAINTAIN AND ENHANCE THE HISTORIC AND CULTURAL RESOURCES OF THE PINELANDS.

Policy 1: Maintain opportunities for traditional lifestyles that are related to and compatible with the overall ecological values of the Pinelands.

Policy 2: Maintain the social and cultural integrity of traditional Pinelands communities.

Policy 3: Maintain and enhance historic and archeological areas and sites of national, state, and local importance.

Agricultural and Horticultural Goal — PRESERVE AND ENHANCE AGRICULTURAL AND HORTICULTURAL USES THAT ARE COMPATIBLE WITH THE PRESERVATION AND PROTECTION OF THE OVERALL ECOLOGICAL VALUES OF THE PINELANDS.

Policy 1: Reserve for agricultural purposes prime agricultural soils and soils of statewide significance in or adjacent to established agricultural areas.

Policy 2: Reserve unique agricultural soils and protect water quality and quantity necessary for cranberry and blueberry cultivation.

Policy 3: Protect the long-term economic viability of agricultural activities.

Policy 4: Require the use of Recommended Management Practices in areas of substandard water quality.

Policy 5: Protect agricultural operations and other private landowners from trespass and vandalism.

Policy 6: Encourage horticulture of native Pinelands plants.

Development Goal — ACCOMMODATE RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL DEVELOPMENT IN A WAY THAT IS COMPATIBLE WITH THE PRESERVATION AND PROTECTION OF THE OVERALL ECOLOGICAL AND CULTURAL VALUES OF THE PINELANDS.

Policy 1: Permit infill development in existing communities.

Policy 2: Direct new residential, commercial, and industrial development into environmentally suitable areas in orderly patterns which are within or adjacent to existing developed areas.

Policy 3: Assure opportunities for housing for all economic groups.

Policy 4: Allow economic development which supports existing community needs but does not generate new development outside those areas designated for future development by the Comprehensive Management Plan.

Policy 5: Permit growth-generating capital improvements only within those areas designated for future development.

Recreation Goal — PROTECT AND ENHANCE OUTDOOR RECREATIONAL USES AND THE NATURAL RESOURCES ON WHICH THEY DEPEND.

Policy 1: Preserve, protect, and enhance those natural resources, including forests, waters, and wildlife habitats, necessary for compatible recreational uses.

Policy 2: Promote diverse recreational opportunities in a manner that minimizes land use conflicts.

Policy 3: Assure that recreational uses in undeveloped areas be of low intensity and compatible with the protection of the natural resources.

Policy 4: Assure that, insofar as possible, intensive recreational uses be located in or near developed areas.

Policy 5: Protect and enhance opportunities for proprietary recreational facilities in areas that are suitable for such uses.

LAND ALLOCATION AND GROWTH

Both the federal and state Pinelands acts guide the Commission in its protection efforts. They direct that a determination be made of the amount and type of human development and activity that the area can sustain while still maintaining its overall ecological values. The acts further provide that a land use capability map be prepared.

The state Pinelands act divided the region into two areas, a Preservation Area and a Protection Area, and established the boundaries for each. In addition, specific goals were established to direct the Commission in the preparation of a comprehensive management plan. For the Preservation Area, the goals included the preservation of an extensive, contiguous land area in its natural state, the promotion of compatible agricultural, horticultural and recreational uses, the prohibition of any development incompatible with the area's preservation, the provision of a sufficient amount of undeveloped land for specific wilderness management practices, and the preservation of surface and ground water quality and quantity. For the Protection Area these goals included the preservation and maintenance of the essential character of the existing Pinelands environment, the protection and maintenance of surface and ground water quality, the promotion of the continuation and expansion of agricultural and horticultural uses, the discouragement of piecemeal and scattered development, and the encouragement of appropriate patterns of development in or adjacent to areas already utilized for such purposes.

To meet the goals and objectives of the legislation, and the Commission's goals and policies, the resources of the Pinelands have been characterized and then evaluated against various land uses to assess compatibility. The intent was to strike a balance between the region's intrinsic natural values and the need to provide for the housing, employment, and recreation on which the region's people depend. The characterization, which is described in a later section, resulted in the designation of the following land use planning areas. These areas are depicted on the Land Capability Map (Plate 28).

Area Allocation

The **Preservation Area District** represents that area found by the New Jersey Legislature to be "especially vulnerable to the environmental degradation of surface and ground waters which would be occasioned by the improper development or use thereof;" and "which constitutes an extensive and contiguous area of land in its natural state."

The **Agricultural Production Areas,** occurring in both the Preservation and Protection Areas, represent those areas which are primarily devoted to field agricultural uses, and adjoining lands with soil conditions suitable for those farming activities.

The **Special Agricultural Production Areas,** occurring in the Preservation Area, represent those areas devoted to berry agricultural and native horticultural uses, and the adjoining lands utilized for watershed protection, to be designated at the option of the municipality.

The **Military and Federal Installation Area,** occurring in both the Preservation and Protection Areas, represents major federal landholdings with an established land use pattern and providing significant benefits to the people of the Pinelands.

The **Forest Areas** of the Protection Area represent largely undisturbed forest and coastal wetland areas adjoining the Preservation Area and extending into the southern section of the Pinelands. The Commission has determined that these areas possess "the essential character of the existing Pinelands environment," which the Legislature said it was the Commission's responsibility to "preserve and maintain."

The **Rural Development Areas** in the Protection Area represent those transitional areas which generally separate growth areas from the less developed, predominantly forested areas of the Pinelands. These areas are somewhat fragmented by existing development and serve a dual purpose as buffers and reserves for future development.

The **Regional Growth Areas** represent those land areas which are: (1) in or adjacent to existing developed areas; (2) experiencing growth demands and pressure for development; and (3) capable of accommodating development without jeopardizing the most critical elements of the Pinelands environment.

Pinelands Towns and Villages are spatially discrete existing developed areas. Most of these settlements have cultural, historical, and commerical ties to the Pinelands environment, while others represent areas of concentrated residential, commercial, and industrial development.

Each of these land capability areas is quantified by county in Table 7.1. In the discussion that follows, the procedure by which the areas were delineated is explained.

Table 7.1A—Protection Area and National Reserve Land Allocation

	Approximate Acreage					
County	Military and Federal Installation Area	Regional Growth Areas	Rural Development Areas	Agricultural Production Areas	Forest Areas[1]	Pinelands Towns[2]
Atlantic	5,055	28,600	45,550	32,270	158,210	7,720
Burlington	13,300	23,100	33,760	21,220	25,650	—
Camden	—	9,740	9,620	12,540	9,110	—
Cape May	—	7,910	6,480	—	68,525	4,280
Cumberland	—	—	7,420	260	52,090	—
Gloucester	—	4,600	13,540	11,230	4,070	—
Ocean	—	45,100	28,630	—	102,565	3,080
Total	18,355	119,050	145,000	77,520	420,220	15,080

1. The Forest Areas include approximately 105,000 acres of publicly held land.
2. The acreage of Pinelands Villages is included within the Rural Development Area, Agricultural Production Area, and Forest Area totals.

Table 7.1B—Preservation Area Land Allocation

	Approximate Acreage				
County	Total Acres	State Owned Public Land	Military and Federal Installation Area	Agricultural Production Areas	Preservation[1] Area
Atlantic	21,300	12,060	—	—	9,240
Burlington	232,400	108,260	6,273	2,100	115,767
Camden	14,400	14,400	—	—	—
Ocean	100,700	40,900	23,383	—	36,417
Total	368,800	175,620	29,656	2,100	161,424

1. Within the Preservation Area are the Special Agricultural Production Areas. The acreage for Special Agricultural Production Areas is not available as they are to be designated by municipalities during conformance.

Area Delineation Procedure

The delineation of the Protection Area into land use areas required a planning method which was sensitive to the many competing goals outlined in the state and federal Pinelands legislation and the additional goals and policies adopted by the Pinelands Commission. The method developed for use in this analysis involved the successive application of a series of factor maps expressing the multitude of resource and human values identified in the above documents. The baseline data for the delineation consisted of the over 130 individual map separations developed by the Commission.

The planning method outlined here reflects a refinement of the original method utilized for the Draft Comprehensive Management Plan. The refinements were accomplished by testing the initial criteria which had been applied, and by introducing other criteria either developed from review comments on the draft plan or previously omitted due to data deficiencies. The sources for method revision included municipal and county comments based on local perceptions and realities, public meetings, and meetings with various interest groups.

The first step in the Commission's procedure was to define the essential character of the Protection Area. Based on a detailed evaluation of resource values and guidelines for their management found in the legislative mandates and the Commission's goals and policies, the following criteria best express, in a spatially explicit manner, those portions of the Protection Area which possess the essential character of the existing Pinelands environment. In addition, several criteria recognize the high water quality in many areas of the Protection Area and the importance of maintaining that quality. Individually, these criteria summarize the many studies done for the Commission by its consultants.

1. *Ecologically critical areas:* These areas are subwatersheds receiving 40 points or more according to the procedure and public values used in the Critical Areas Study, as outlined in Chapter Six.
2. *Undisturbed subwatersheds:* These are subwatersheds that have very little development in them, particularly that which degrades surface and ground water quality and fragments the Pinelands ecosystem. Subwatersheds, or upstream portions thereof, are classified as undisturbed if they satisfy all of the following criteria:
   - Less than 5 percent in urban or developed use categories
   - Less than 10 percent of area in active agricultural land categories
   - No major solid waste disposal sites
   - No point sources of pollution
3. *Wetlands:* Wetlands include the following vegetation categories:
   - Cedar swamp
   - Hardwood swamp
   - Pitch pine lowland forest
   - Coastal marsh and Wetlands Act area
   - Bog/inland marsh
4. *Cranberry cultivation areas and areas draining into them.*
5. *Areas of deep aquifer recharge:* Areas contributing to deep aquifer recharge are those areas where the depth to the unsaturated zone is 20 feet or greater, not underlain by either of the two extensive clay lenses in the east and southeast of the Pinelands.
6. *Unique resources:* Several unique resources are identified that require high levels of protection. They are:
   - The Pine Plains and a buffer zone around them to protect the elements that are necessary to maintain their unique biological characteristics.

- Subwatersheds in which biological surveys show the presence of aquatic species characteristic of the Pinelands. Survey results from main stem sampling stations are not considered in this designation.
- The corridor connecting environmentally sensitive areas in the southern portion of the Pinelands with the Preservation Area to the north. The corridor, defined as a large, contiguous, relatively underdeveloped land area, is an ecological imperative. Its function is to provide a protected natural passage for the dispersal of native plants and animals in order to maintain genetic diversity and variability. Should species movement and genetic exchange be restricted through the lack of such a corridor, there is an increased likelihood that changes in the natural and man-made environment would, over long periods of time, lead to the extirpation of one or more species in areas they now inhabit, and to the gradual fragmentation and loss of the Pinelands ecosystem.

7. *Public lands managed for resource protection or recreation.*

These seven components, and their mapped expressions, served as the determinants of the essential character of the Pinelands environment within the Protection Area. They were later utilized in the last step of this procedure to provide guidance in the resolution of conflicts. The delineation of areas of essential character provided the basis for the designation of Pinelands Forest Areas.

The Commission's second step was to delineate Agricultural Production Areas. Designation of these areas responds to the legislative goals to protect and enhance agricultural and to the Commission's goals and policies to reserve agricultural lands for agricultural use.

Agricultural Production Areas were delineated on the basis of significant contiguous areas in active agricultural use and soils in or immediately adjacent to these uses that are suitable for the same agricultural activities. In many areas, suitable agricultural soils could extend the size of a delineated area manyfold over that actually in production. Therefore, delineations based on prime agricultural soils, soils of statewide significance, and unique soils adjacent to areas actively farmed were limited by watersheds lines, urban uses, extensive wetlands, or highways.

The third step in the procedure recognized major existing federal land ownership patterns and resulted in the delineation of the Military and Federal Installation Area. This land capability category includes Fort Dix Military Reservation, McGuire Air Force Base, the Naval Air Engineering Center at Lakehurst, and the Federal Aviation Administration Technical Center in Atlantic County (including the Atlantic City Airport). The category includes lands within both the Preservation and Protection Areas.

The fourth step in the procedure was to identify those areas in or adjacent to developed areas that can produce appropriate patterns of further development. This step in the procedure responded directly to the legislative and Commission goals to establish concentrated patterns of development to avoid the cumulative impacts, both economic and environmental, attending to diffuse growth. The state act requires that future growth be directed to areas that are in or adjacent to areas already developed, and where there is capability to accommodate development in order to avoid dispersed and inefficient land use patterns. The following elements contributed to the identification of areas appropriate for development:

- Existing density and pattern of development
- Availability of transportation alternatives
- Proximity to job centers
- Sewerage location and capacity
- Capability to produce phased and flexible growth patterns
- Development of efficient community services
- Land transaction and development approval activity

- Land suitability for development
- Regional growth influences
- Population and housing demand

Having developed the mapped expressions of essential character outlined earlier and the expressions of development opportunity listed above, the next step was to compare the mapped expressions and to identify conflict areas. Those areas exhibiting the essential character of the Pinelands and not conflicting spatially with areas appropriate for development were assigned to the Forest Area. Similarly, those areas most appropriate for development and not demonstrating what was identified as essential character were assigned to development categories. Those areas that both represented the essential character of the Pinelands and were appropriate for development were then identified and described in detail as conflicts to be resolved.

The resoulution of each conflict area involved the application of all available information. Particularly important in this process were all available municipal and county planning efforts and suggestions, public comments, and suggestions from other state agencies and interest groups. All of these factors were incorporated not only into the process of conflict resoultion, but also into the refinement of the planning method and procedures. Other data used in the resolution process included fire hazard and frequency, detailed soils mapping, current aerial photographs, and social and cultural factors.

The mapping process utilized in the identification and resolution of conflicts operated on two levels. Initially, the various expressions relating to essential character and development potential were compared to each other. These expressions were then transferred to the draft Land Capability Map and analyzed relative to the district boundaries presented in the draft plan. The final Land Capability Map reflects the revisions resulting from the resolution of conflicts on these two levels.

To provide direction in the revision and resolution process, several general guidelines were established. The guidelines arose from the bi-level mapping process discussed previously. On the first level, Agricultural Production Areas were examined. Where an area did not have the necessary amount of 1,000 acres of active, contiguous agriculture land, it was reclassified to an adjacent land capability category. On the second level, the mapped expressions of essential character and development potential and their conflicts were compared to the existing Forest Area, Rural Development Area, and Regional Growth Area categories, and guidelines were developed to effect the appropriate revisions.

In the application of the essential character criteria to the district delineation, where an area exhibited such characteristics and had been previously classified as a Forest Area, the area remained in that class. Additionally, when an area exhibited essential character as an undisturbed watershed, or had greater than 75 percent wetlands and/or critical areas, and had been previously classified as a Rural Development Area, it was reclassified as a Forest Area. When areas of less than 1,000 acres did not exhibit essential character, but were entirely surrounded by, and not merely adjacent to, areas of essential character, such areas also became Forest Areas.

Conversely, rules were established to direct the delineation where lands did not contain essential character and displayed some measure of existing or potential development. If these areas had not previously been classified as development areas, they were reclassified as such, so long as they were not wholly surrounded by characteristic Pinelands areas. As a corollary to this rule, portions of a watershed which were indicated as exhibiting some measure of essential character, but were less than 1,000 acres and adjacent to development areas, were either retained in or transferred into development areas, depending on their previous classification.

The application of these rules resulted in certain areas of conflict becoming Forest Areas, with other areas classified as appropriate for development. The appropriate areas for development were separated into Rural Development and Regional Growth Areas depending upon the degree to which they exhibited the elements important to development and their compatibility with surrounding areas. Important elements in the classification included municipal and county

recommendations, existing level of development, existing development activity and approvals, location of lateral sewage collection systems, availability of transportation alternatives, land suitability for development, and the capability to establish coordinated development patterns. Additional categories of development included Pinelands Towns and Villages, which were defined as localized, spatially discrete areas with historical, cultural, and community links to the Pinelands.

To increase municipal planning flexibility and potential, an additional category, the Municipal Reserve Area, was added, to be implemented and activated at the option of the municipality. These are lands in Rural Development Areas adjacent to growth areas that may serve as future growth areas when the supply of land for growth is essentially exhausted, and the demand for additional growth arises within a regional context.

The procedure utilized to resolve conflicts and to establish land capability areas in the Protection Area produced a flexible approach to growth and development potential while protecting larger expanses of the area's critical resources.

The delineation of the Preservation Area into land capability areas proceeded in much the same manner. The Preservation Area is that portion of the Pinelands generally referred to as the "core area," and containing the greatest concentration of critical resource values. The boundary was established by the state legislation, and is drawn to encompass the major, contiguous public landholdings in the Pinelands. The area also includes the largest expanses of undisturbed lands in their natural state, cranberry watersheds, and critical ecological values. It is the region designated by the legislature "wherein more stringent restrictions on the development and use of land should be utilized and public acquisition of land or interests therein should be concentrated."

The Military and Federal Installation Area within the Preservation Area again recognizes major federal land ownership patterns, and includes lands of the Fort Dix Military Reservation, McGuire Air Force Base, and the Naval Air Engineering Center. This classification accommodates the unique characteristics of these installations and facilities, which represent a substantial economic resource to the area, while preserving and protecting the region's unequaled natural resources.

The Agricultural Production Areas established in the Protection Area extend into the Preservation Area where fields of conventional row-crop agriculture are crossed by jurisdictional boundaries. These areas were delineated on the basis of active agricultural lands contiguous to Agricultural Production Areas in the Protection Area. The extent of the boundary is terminated by non-agricultural use.

An additional land class in the Preservation Area relating to agricultural land uses is the Special Agricultural Production Area. These are intended to be well-defined areas utilized for berry agriculture or horticulture of native plants. They represent a unique and integral element of the Pinelands economy and are part of the Pinelands' essential character. The delineation of the areas is not shown on the Land Capability Map, but is instead to be accomplished by municipalities during the period of conformance. The special areas are to encompass active cranberry bogs and their immediate upstream drainage area, along with blueberry fields and native horticultural areas.

The remainder of the Preservation Area was examined using the same procedure to identify the areas of essential character as was outlined under the Protection Area. The criteria for ecologically critical areas, undisturbed watersheds, wetlands, cranberry cultivation areas, areas of deep aquifer recharge, unique resources, and public lands were also applied to the Preservation Area. In addition, the Preservation Area was viewed as a functional unit which, together with the adjacent forested areas, serves to maintain the integrity and viability of the unique characteristics of the Pinelands ecosystem. The sensitivity of the resources to degradation requires a high level of protection throughout the Preservation Area and results in the establishment of a Preservation Area District for management purposes.

DISCUSSION OF CHESAPEAKE BAY CRITICAL AREA
PROGRAM DEVELOPMENT CRITERIA: ELEVEN MINIMUM ELEMENTS

Purpose

As noted in Section 8-1801 of the Chesapeake Bay Critical Area Act, studies have documented that the cumulative effects of human activity have resulted in a deterioration in the qaulity and productivity of the waters of the Chesapeake Bay and its tributaries and a reduction in associated fish and wildlife habitats. This activity has caused increased levels of pollutants, nutrients, and toxics in the Bay system and has resulted in the decline of more protective land uses such as forestland and agricultural land. The Act further finds that restoration of the Chesapeake Bay and its tributaries is dependent, in part, on minimizing further adverse impacts to water quality and natural habitats of the Bay's shoreline areas. To address this finding, the Act requires local governments in the Chesapeake Bay region to develop and implement management programs for their tidal shoreland areas which are to be designated as Chesapeake Bay Critical Areas. As noted in Subsection 8-1808 (b) of the Act, such programs must contain sufficient provisions to (1) minimize adverse impacts on water quality from point and non-point sources; (2) conserve fish, wildlife, and plant habitats, and (3) establish land use policies for development which provide for growth but recognize that development may be accompanied by secondary adverse impacts which must be minimized.

Required Contents of Each Local Program

Section 8-1808 (c) of the Act lists eleven (11) elements that must, at a minimum, be contained in each local critical area management program. The following is a discussion of each of these elements.

1. A map designating the critical area in a local jurisdiction.

SSection 8-1807 of the Act requries that a local jurisdiction's critical area include, at a minimum, all land and water areas within 1000 feet of the landward boundaries of state or private wetlands and the heads of tide as defined in Title 9 of the Natural Resources Article. The Act allows the following types of exclusions:

a. Urban areas which are at least 50% developed and at least 60.6 acres in extent or comprise the entire shoreline area of a municipality; and
b. Shoreline areas at least 1000 feet from open waters and separated from open water by an area of wetland which can be shown to protect water quality and fish, wildlife or plant habitats from adverse impacts of development in the excluded shoreline areas.

The Department of Natural Resources (DNR) is presently delineating a preliminary boundary of the Chesapeake Bay Critical Area, as defined in Section 8-1807 (a)(2), on the State Wetlands Maps which are at a scale of 1:2400 (1"=200'). These maps are being sent to local jurisdictions for their use in developing the required critical area boundary map. It should be noted that the maps provided by DNR may not cover the entire tidal shoreline of a local jurisdiction due to gaps in the photographic coverage from which the maps were produced.

Several options are available to local jurisdictions in fulfilling the boundary map requirements. These include (a) remapping the Critical Area boundary at a scale compatible with their existing regulatory maps; (b) modifying the boundaries to exclude areas in accordance with the provisions of Section 8-1807 as described above; and/or (c) extending the boundaries further inland or upstream to include land containing similar geomorphic characteristics or significant natural resource areas. It should be noted that areas not included in a local jurisdiction's critical area are not eligible to receive funding under the Shoreline Improvement Grants Program (S.B. 656).

2. A comprehensive zoning maps for the critical area.

A local jurisdiction's zoning map depicts various zoning districts in which certain types of land uses are allowed. The types and extent of uses in each district are set forth in the zoning ordinances (text) which accompany the zoning map. In order to comply with the provisions of the Act, it may be necessary for a local jurisdiction to revise its zoning text and/or map. These revisions may reflect factors that were not major considerations when the zoning ordinance was originally adopted. Examples might include (a) geomorphological conditions, eg., steep slopes, soils with development constraints, etc.; (b) hazardous conditions, eg., flooding; and (c) natural features, eg., tidal or non-tidal wetland areas, other areas of significant natural resource value or endangered species habitat, etc.

3. As necessary, new or amended provisions of the jurisdiction's subdivision regulations; comprehensive or master plan; zoning ordinances or regulations; provisions relating to enforcement; and provisions relating to the grandfathering of development at the time of Program approval.

Prior to discussing this element, it should be noted that implementation of the requirements of Section 8-1808 (C)(4)-(9) will require revisions to the land use controls listed above.

Local governments may have to revise their regulatoryyyauthorities to include certain management measures needed to carry out the purposes of the Act. Such revisions might include regulatory provisions that restrict development in areas with development constraints such asdhydric soils, highly erodible soils, and steep slopes; or in areas of significant natural resource value such as tidal and non-tidal wetlands, rare and endangered speciesshabitat, and other areas of significant fish and wildlife habitat value. They may also place special conditions on how development is undertaken. for example, Baltimore County's development regulations prohibit development on hydric soils and tidal and non-tidal wetlands, and require that soil suitability be considered in regulatory decisions on proposed projects.

As noted above, each Program is to contain provisions relating to the grandfathering of development at the time of Program approval. These provisions will address the manner in which projects pending at the time of Program approval are handled by the local jurisdictions. Inasmuch as local jurisdictions generally have grandfathering provisions, it is anticipated that they will comply with these requirements by amending their existing regulatory provisions. It should be noted that projects covered by the grandfathering clause are still subject tothe requirements of Section 8-1813 of the Act.

4. Provisions requiring that project approvals shall be based on findings that projects are consistent with the standards stated in subsection 8-1808 (b) of the Act.

Section 8-1808 (b) emphasizes the conservation of fish, plant, and wildlife habitats, and the establishmentsof land use policies that address the need to accomodate development and to minimize the adverse secondary impacts of such development. The Commission may choose to (a) require that local governments submit a discrete list of such land use policies as part of their Program; or (b) recognize that any changes made under 8-1808 (c)(3) consititute a de facto establishment of such land use policies.

5. Provisions to limit the amount of land covered by buildings, roads, parking lots, or other impervious surfaces, and to require or encourage cluster development, where necessary or appropriate.

The purpose for limiting the amount of impervious surface is to promote on-site infiltration of stormwater, thus minimizing runoff from the site. The Act explicitly requires that local governments themselves either require or

encourage a cluster development provision, which is one method of reducing impervious surface by allowing development to be concentrated in one portion of a site leaving the remainder undeveloped.

Additional measures the Commission may wish to require or encourage within the criteria, to reduce impervious surfaces include:

a. Use of porour pavement and retention of existing vegetative cover;

b. Establishing impervious surfacing threshholds either for an entire site or based upon site-specific conditions and uses.

6. Establishment of buffer areas along shorelines within which agriculture will be permitted only if best management practices are used, provided that structures or any other use of land which is necessary for adjacent agriculture shall also be permitted in any buffer area.

The maintenance of vegetated buffer areas along the shoreline provides several benefits. Buffer areas can reduce sediment generation and transport; reduce stormwater runoff; moderate stream temperatures; and provide important habitat for wildlife.

The Commission may choose several different approaches to institute the buffer area requirements:

a. Require a fixed buffer width within which natural vegetation is to be preserved;

b. Require a variable buffer width depending upon natural conditions, proposed and existing land uses within or adjacent to the sites, and stormwater management techniques, and utilizing, for example, recognized standards for determining appropriate buffers (eg., U.S. Forest Service); or

c. Require a minimum fixed buffer width plus an appropriate expansion depending upon man-made or natural conditions existing within or adjacent to the site.

An example of the third approach is that of the California Coastal Commission. It requires a minimum buffer width of 100 feet plus additional area based upon the following criteria: biological significance of adjacent lands, sensitivity of wildlife species occurring in the buffer area, susceptability of the area to erosion, use of natural topographical features to locate development, use of existing cultural features to locate buffer zones, lot configurations, location of existing development, and type and scale of development proposed.

Regardless of the approach, the Act requires that if agricultural activities are undertaken in a buffer area, best management practices must be incorporated to minimize their impacts.

7. Requirements for minimum setbacks for structures and septic fields along shorelines.

Establishing a minimum setback for structures has the benefits of (a) reducing impacts to adjacent wetlands and waterbodies resulting from the construction and use of the structure; (b) promoting the retention of shoreline buffer areas; and (c) reducing hazards associated with flooding and shore erosion.

Approaches similar to those discussed above for establishing the width of buffer areas can be used to determine an appropriate setback distance for structures and septic fields; namely, a fixed distance, a variable distance depending on site characteristics or a combination of the two.

Cecil County has chosen the first appraoch. It requires all structures except those related to boating activities or water-dependent industrial uses to be set back at least 110 feet and septic fields to be set back 100 feet.

8. Designation of shoreline areas, if any, that are suitable for parks, hiking, biking, wildlife refuges, scenic drives, public access or assembly, and water-related recreation such as boat slips, piers, and beaches.

To meet this requirement, local governments will have to undertake an analysis of their shoreline areas to identify suitable areas. However, the Act does not specify what, if any, follow-up efforts are to be undertaken after these areas are identified or "designated."

The Commission might consider requiring local governments to undertake additional tasks to meet this requirement of the Act. Examples include the following:

a. Designation may be interpreted as a formal process which requires the submission of an official map outlining specific areas to be acquired, zoned, etc., for this purpose;

b. A suitability analysis of a local government's shoreline may be required as part of the Program submittal package; and

c. "Designated" areas may be formally incorporated into open space and recreational plans or programs.

9. Designation of shoreline areas, if any, that are suitable for ports, marinas, and industries that use water for transportation or derive economic benefits from shore access.

This requirement directs local governments to consider water-dependent uses in the development of their Program. As with #8, above, the Act does not define the extent of the term "designation."

As possible follow-up efforts to identifying suitable areas, the Commission might consider the following options:

a. Require the establishment of regulations governing the location of marina facilities emphasizing environmental and safety considerations; and

b. Require that ports and other water-dependent industries be considered in a local government's planning process.

10. Provisions requiring that all harvesting of timber in the Chesapeake Bay Critical Area be in accordance with plans approved by the District Forestry Board.

Local government regulations do not normally contain requirements pertaining to timber harvesting operations. The Act requires that timber harvesting operations are to be in accordance with plans approved by the District Forestry Board.

The Commission may wish to establish specific requirements to ensure that timber harvesting operations are consistent with other provisions of the Act, such as the maintenance of buffer areas along the shoreline and the protection of significant natural areas. Because the Act does not define harvesting, these requirements could also specify whether this includes private cutting and other silvicultural activity in addition to commercial harvesting.

11. Provisions establishing that the controls in a Program which are designed to prevent runoff of pollutants will not be required on sites where the topography prevents runoff from directly or indirectly reaching tidal waters.

An acceptable Program must contain requirements to prevent adverse impacts from stormwater runoff in order to comply with Section 8-1808 (b)(1). This final provision exempts such requirements for sites whose topography inhibits runoff from directly or indirectly reaching tidal waters. However, state and local ordinances relating to stormwater runoff are, of course, still applicable.

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SENATE OF MARYLAND

51r1397 No. 203 30

By: Senator Malkus
Introduced and read first time: January 10, 1985
Assigned to: Economic and Environmental Affairs

A BILL ENTITLED

AN ACT concerning

Chesapeake Bay Critical Area - Exclusion of Areas

FOR the purpose of repealing the authority of a local jurisdiction to exclude certain areas from the Chesapeake Bay Critical Area; repealing certain requirements for local jurisdictions and the Chesapeake Bay Critical Area Commission to perform concerning the exclusion of certain areas from the Chesapeake Bay Critical Area; and generally relating to the exclusion of certain areas from the Chesapeake Bay Critical Area.

BY repealing and reenacting, with amendments,

Article - Natural Resources
Section 8-1807
Annotated Code of Maryland
(1983 Replacement Volume and 1984 Supplement)

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That the Laws of Maryland read as follows:

Article - Natural Resources

8-1807.

(a) The initial planning area for determination of the Chesapeake Bay Critical Area consists of:

(1) All waters of and lands under the Chesapeake Bay and its tributaries to the head of tide as indicated on the State wetlands maps, and all State and private wetlands designated under Title 9 of this article; and

(2) All land and water areas within 1,000 feet beyond the landward boundaries of State or private wetlands and the heads of tides designated under Title 9 of this article.

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
[Brackets] indicate matter deleted from existing law.

[(b) (1) (i) In determining the Chesapeake Bay Critical Area within its boundaries, a local jurisdiction may exclude those portions of the planning area designated in subsection (a) of this section which the local jurisdiction finds to be:

1. Part of a developed, urban area in which, in view of available public facilities and applicable laws and restrictions, the imposition of a program would not substantially improve protection of tidal water quality or conservation of fish, wildlife, or plant habitats; or

2. Located at least 1,000 feet from open water and separated from open water by an area of wetlands which it is found will serve to protect tidal water quality and fish, wildlife, or plant habitats from adverse impacts of development in the excluded area.

(ii) A portion of urban area to be excluded shall be at least 50 percent developed and may not be less than 2,640,000 square feet in contiguous area or the entire initial planning area located within the boundaries of a municipality, whichever is less.

(2) A local jurisdiction shall include in any program submitted to the Commission under § 8-1809 a designation of those portions of the Chesapeake Bay Critical Area proposed for exclusion under paragraph (1) of this subsection, together with all factual information and expert opinion supporting its findings under this subsection.

(3) The Commission shall approve a local jurisdiction's designation of portions to be excluded unless the Commission finds, based on stated reasons, that the decision of the local jurisdiction was:

(i) Not supported by competent and material evidence; or

(ii) Arbitrary or capricious.

(4) If the Commission develops the program to be applied in a local jurisdiction, it shall exclude areas as appropriate to meet the intent of paragraph (1) of this subsection.]

[(c)] (B) The Chesapeake Bay Critical Area shall consist of:

(1) Those areas designated in subsection (a) of this section[, except any areas excluded in accordance with subsection (b) of this section]; and

(2) Additional areas proposed for inclusion by local jurisdictions and approved by the Commission.

SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect July 1, 1985.

from: New Jersey Pinelands Comprehensive Management Plan

CHAPTER SIX

Critical Areas

The Pinelands Commission defines critical areas as: (1) geographic areas which contain one or more significant natural, cultural, or economic resources which could be degraded or lost as a result of unregulated development; and (2) natural hazard areas in which development may result in the loss of life or property. A basis for the definition is provided in the federal and state Pinelands laws. In these laws, Congress and the New Jersey Legislature recognize that the Pinelands contain significant resources which have special values and that these may be lost or degraded by incompatible development. Both acts imply that the Pinelands are environmentally critical throughout. The ubiquitous nature of many of the region's valuable features, including groundwater, plants and wildlife, and scenic, cultural, and recreational resources, also argues for the designation of the entire Pinelands as critical.

Within the Pinelands, however, specific areas can be identified and mapped as being of more critical environmental importance than others. These areas can be distinguished by the presence of significant resources and their susceptability to damage from uncontrolled or incompatible development. The selection of critical areas is the first step towards protection through either regulation or acquisition, two techniques which cannot be applied uniformly across the Pinelands.

The Commission's critical areas study was completed by the firm of Rogers, Golden, & Halpern (1980). The objective was to develop and execute a method for establishing a ranked list of critical areas in the Pinelands. The first step was the definition of significant, natural, and cultural resources. Significant resources are those which are identified as being necessary to maintain the essential character and integrity of the existing Pinelands environment. They are recognized as being valuable to the public in terms of economics, public health, safety, recreation, aesthetics, research, or education. Natural resources are the abiotic element of air, water, and soil and the biotic elements of individuals, species, populations, communities, and ecosystems. Cultural resources consist of archaeological or historic sites of national, state, or local importance, as well as sites which are of value to a local community's way of life. A specific resource may embrace more than one value. Its combined values may also change according to its proposed use.

Standards for Selection of Areas

Specific criteria were used to select critical areas. The criteria were derived from the Commission's consultant reports, from the Pinelands Technical Advisory Committee, from the literature on critical areas, and from the public through public participation workshops. Criteria used to delineate the different classes of critical areas were the presence of the following features:

Ecologically Critical Areas

- Linkage corridors
- Unique or exceptional ecosystems
- Pristine aquatic communities
- Headwaters

- Endangered animal species (national list)
- Diversity of vegetation types within a given area
- Plant or animal species proposed or under review for national threatened or endangered status
- Endangered, threatened, declining, or undetermined animal species (state list)
- Endangered, threatened, or undetermined plant species (Caiazza and Fairbrothers, 1980)
- Representative vegetation types
- Outlier, disjunct, or relict species
- Species at the limits of their geographic range
- Restricted and endemic species
- Breeding areas (nesting and spawning)
- Overwintering concentrations
- Migratory stopover areas
- Areas of scientific interest and research
- Oldest, largest, or exceptional specimen trees

Perceptually and Culturally Critical Areas

- Scenic areas
- Recreation areas
- Archaeological, historic, or architectural areas, including: (1) sites on or potentially eligible for inclusion on the National or State Register of Historic Places; (2) sites containing significant archaeological or historic resources; or (3) buildings on or potentially eligible for the Historic American Building Survey.
- Areas essential to the lifestyle of local residents

Economically Critical Areas

- Agricultural areas, including: (1) prime farmland; (2) unique farmland; or (3) additional farmland of statewide importance
- Timber areas suitable for potential production
- Mineral areas suitable for sand and gravel extraction

Natural Hazard Critical Areas

- Fire hazard areas
- Flood prone areas

Some criteria for the four classes of critical areas conflict when the uses of significant resources are incompatible. For example, the maintenance of habitats for rare or threatened species may conflict with timber harvesting practices. In general, ecologically critical areas are considered the most important.

Ecologically critical areas were emphasized by the Commission because both the federal and state Pinelands acts stress the importance of existing natural resources. The New Jersey Pinelands Protection Act stresses the need to maintain the overall ecological values of the Pinelands. It notes that development poses an immediate threat to the region's ecological resources, especially to the survival of rare, threatened, and endangered plant and animal species and their habitats, and to the maintenance of the existing high quality of surface and ground waters. Both acts require that a map delineating major areas within the Pinelands National Reserve which are of critical ecological importance be included in the Comprehensive Management Plan. The legislative emphasis on the ecological importance provides a basis for establishing a hierarchy of critical area classes. Of the four classes, the ecologically critical areas are paramount.

Criteria for Ecologically Critical Areas

As indicated above, ecologically critical areas are designated on the basis of resource quality, scarcity, or the role their resources play in the ecosystem. Used wisely, these natural resources provide many cost-free amenities and services to the public and to private landowners.

Maintaining the natural system helps to provide flood control, water purification, water supply, pollution abatement, energy conservation, wildlife diversity, and a pleasing and visually diversified landscape. These areas provide sites for outdoor education, scientific study, and production of cranberries and blueberries. They are also of psychological or philosophical value to those who gain comfort from knowing that semi-wilderness areas and rare and endangered species and their habitats still exist. Unnecessary disturbance or pollution can destroy the natural balance, curtailing natural functions or reducing their usefulness. Once lost, these resources and benefits are extremely difficult or impossible to replace.

The following is a description of the features used as criteria to select ecologically critical areas:

Linkage corridors: These corridors connect areas which are preserved in their natural state. They provide continuity for dispersal and genetic exchange among populations of a plant or animal species, ensuring both the recolonization of populations which become locally extinct and the maintenance of genetic variability.

Unique or exceptional ecosystems: These are ecosystem units such as the Plains which have outstanding characteristics. Regenerating cedar swamps are included in this category.

Pristine aquatic communities: These aquatic communities have been exposed to the least amount of disturbance by man, and consequently are truly characteristic of the Pinelands. The data are sufficient to designate four Pinelands streams or portions of them as pristine on the basis of the aquatic communities they contain. Data indicate that 12 other streams or portions of streams are probably pristine on the same basis. Since man's effects on aquatic communities and their habitats are largely derived from activities on adjacent lands, entire watersheds containing streams which are known or believed to harbor aquatic communities characteristic of the pristine Pinelands environment have been mapped.

Headwaters: These are the beginning portions of a river system in which surface waters initially flow. They are more fragile and vulnerable to pollution than the main stem portion of the river. Headwaters are important for the protection of the river system's water quality and for the reproduction of aquatic species. Drainage sub-units containing bogs along with drainage areas in the upper reaches of the stream were mapped.

Nationally endangered animal species: Two species on the national list of endangered and threatened species, the bald eagle and the peregrine falcon, are found in the Pinelands.

Diversity of vegetation types within a given area: There are eight natural vegetation types within the Pinelands. They are pine-oak forests, oak-pine forests, hardwood swamps, cedar swamps, pitch pine lowlands, bogs, inland marshes, and coastal marshes. This criterion is satisfied if at least five of these natural vegetation types are found within a drainage sub-unit.

Plant or animal species proposed or under review for national endangered or threatened status: Before a species is added to the national endangered or threatened list, it must be reviewed by the U.S. Fish and Wildlife Service and then be proposed for inclusion on the national list. Although species being considered for national listing are not officially designated, the Pine Barrens treefrog, which is already listed as endangered in Florida, is known to be under consideration.

Endangered, threatened, or otherwise jeopardized species (state list): Both federally listed species, the bald eagle and the peregrine falcon, are also included on the official state list. The osprey is listed as endangered in New Jersey, although it is not federally listed. Known nest sites were considered in critical area identification. Coastal islands used for breeding by colonial nesting birds such as the least tern, black skimmer, and common tern, were considered, as was a known rookery of the great blue heron. Areas where state endangered and threatened reptiles and amphibians have been sighted since 1970 were considered where information was available. No official state list of threatened and endangered plants exists. The known and probable habitats of plants identified as threatened and endangered by Caiazza and Fairbrothers (1980) were considered.

Representative vegetation types: These are high-quality examples of the eight natural vegetation types (pine-oak, oak-pine, hardwood swamps, cedar swamps, pitch pine lowlands, bogs, inland marshes and coastal marshes).

Outlier, disjunct, or relict species: As described in Chapter Two, some plants and animals may occur as isolated populations separated from the main population distribution of their species. These populations are referred to as disjuncts or outliers. Sometimes these disjunct populations are remnants of a distribution that was more widespread in the past. Such remnant populations are referred to as relicts.

Species at the limits of their geographic range: A plant or animal species can be found distributed over a specific area. This area is the species' range. Populations of species living at the edges of their range are functioning at the limits of their adaptive capacities and are valuable for research. The Pinelands are unusual because many species reach either the northern or southern limits of their range here. These include the corn snake, the Pine Barrens treefrog, and the broom crowberry.

Restricted and endemic species: Endemics are species which are restricted to a small geographical area, such as to a locale within a state, to one state, or to several states. Examples are Pickering's morning glory and sand myrtle.

Breeding areas (nesting and spawning): Many species of animals, especially migratory birds and fish, concentrate in areas to breed. Large concentrations of waterfowl breed in the marshes of the Pinelands region, and large numbers of herons and other colonial nesting birds concentrate in island breeding areas along the coast and in marshes further inland. Other areas which contain a diverse population of breeding bird species were also considered.

There are historical records of four migratory fish, the blueback herring, alewife, Atlantic shad, and striped bass, ascending Pinelands streams in the spring to spawn. The blueback herring and alewife are known to currently spawn here. Recent reports of American shad spawning runs are unconfirmed. Striped bass used to be found in the Lower Mullica, but there are no recently confirmed records. The spawning areas and adjacent nursery areas were considered in identifying critical areas.

Overwintering areas: Large numbers of waterfowl congregate in the marshes of the Pinelands in the winter. Since overwintering species tend to move about, primarily in response to food availability, it is difficult to consistently pinpoint overwintering areas at any given time. Nevertheless, some areas, particularly those managed for waterfowl, tend to have predictably high concentrations from year to year. As described in the wildlife section of this document, deer tend to congregate during winter in sheltered areas that provide food. In the Pinelands, these areas are usually in pitch pine lowlands, cedar stands, and hardwood swamps.

Migratory stopover areas: The Pinelands region is located along the Atlantic flyway, a broadly defined north-south route along which birds migrate in the spring and fall. Certain areas, particularly along the shore, serve as resting and feeding areas for shorebirds, birds of prey, and passerines flying north or south during migration. Where known, such areas were considered in the critical areas evaluation.

Areas of scientific interest and research: Many areas in the Pinelands are important for scientific research. These areas contain examples of different types of biological communities and natural features. Their protection will ensure their availability for research and educational use. Many of these areas were identified by consulting the scientific literature and members of the scientific community. Areas of botanical and herpetological interest, areas of wildlife and forestry research, and water quality and land use study areas were included.

Oldest, largest, or exceptional specimen trees: In the Pinelands, this category refers specifically to champion trees identified by the New Jersey Bureau of Forestry (1977). These are trees which have grown to an exceptionally large size. The Bureau of Forestry keeps a list of the state's largest trees. Thirty-five of these trees grow in the Pinelands including both native species such as a white cedar, with a 9'2" circumference, and exotic species such as a Chinese chestnut, also with a 9'2" circumference.

Area Identification and Ranking

The identification of critical areas involves the choice of criteria, the collection of data, and the identification of specific locations which meet the criteria. Ecologically, watersheds are the most logical geographic units for delineating these areas. Dividing major watersheds into drainage sub-units provides more closely defined boundaries. In the Commission's study, these drainage sub-units were used as the basis for delineating critical area mapping units.

Once critical areas have been identified, it is necessary to determine their relative importance. Ranking land areas according to their levels of criticality is a prerequisite to establishing planning, regulatory, and acquisition priorities. A scaling technique was used to rank the inherent qualities of each critical area. Under this method, individuals assign weighted values, termed importance values, to the criteria. The summation of the importance values of all the criteria associated with a mapping unit yields a numerical value, which is then ranked in comparison to the values of all the critical area mapping units. This method is usually referred to as a weighting summation model. The procedure used by those who ranked ecologically critical areas for the Commission is outlined below:

1. The 17 criteria for determining ecologically critical areas were ranked in order of importance. An importance value of 1 to 10 was then assigned to each criterion.
2. The importance values of all criteria occuring in each critical area were totaled.
3. The critical areas were ranked based on total points. The area with the most total points was ranked highest and the area with the least total points was ranked lowest. An example of the form used to rank critical areas is shown in Figure 6.1

The available data does not permit a determination of the degree to which an area satisfies each criterion. For example, all sightings of threatened and endangered animals were ranked equally because the data is insufficient to determine factors such as population density and habitat quality.

Multiple occurrences for some criteria, such as two endangered species in a mapping unit, were also considered in the final determination.

Information on how people value different criteria for ecologically critical areas was gained from three public workshops conducted during March in Atlantic, Burlington, and Ocean counties and from a survey of the Pinelands Commission staff, natural scientists, and the consultants (Rogers, Golden & Halpern) who compiled the criteria and definitions.

Table 6.1 shows how the different groups ranked the criteria for ecologically critical areas. In all cases, pristine aquatic communities, headwaters, and unique or exceptional ecosystems were ranked in the top three. Linkage corridors, nationally endangered species, breeding areas, state endangered, threatened and declining species, and diversity of vegetation types were also considered to be of relatively high value. Table 6.2 shows the importance values assigned to the criteria for ecologically critical areas. In both cases, the scores and range in values are very similar for the more highly valued criteria and the lower valued criteria.

The average of the values assigned by staff, scientists, and consultants was used to determine the importance value associated with each critical area mapping unit. These relative values are displayed as classes of ranges in Table 6.3 and Plate 27. The classes are 0, 0.1-9.9, 10-14.9, 15-19.9, 20-24.9, 25-29.9, 30-39.9, 40-49.9 and 50. A similar analysis was done for the public values. The relative importance assigned by the public to different mapping units was not substantially different from the values displayed here. This can be attributed to the similarity in ranking of criteria and importance values.

In developing the importance value of each critical area, it was assumed that an area with many different species is more valuable than an area with only one species. The values were increased by a factor of 1.5 for two species associated with a criterion, and by a factor of two for three or more species.

The data indicate that most mapping units have one or more significant resources and qualify

to some degree as critical areas. A low ranking does not imply that an area is not environmentally sensitive. It merely indicates that the area does not contain as many critical factors as an area with a higher score, or that it is not considered as significant by those who placed values on these resources. Many areas have not been extensively studied and data may be sparse or lacking. Further field investigations will add to the data base and may increase the total importance value of some areas. Information of this nature has been provided by the public during the preparation of the critical areas study.

Because of the variation in size among the mapping units, two smaller units which are equal in size to a larger one and which collectively contain the same resources as the larger unit may have lower individual total importance scores. Analysis of clusters of mapping units provides an indication of the overall value of a region such as a watershed.

Basins within the Mullica River system contain mapping units with high importance values. Approximately 68 percent of the mapping units in this basin have importance value totals in the three highest classes. These watersheds include the Wading, Bass, Batsto, Atsion, and Lower Mullica Rivers, and the Sleeper Branch. The significance of this system, which forms the core of the Preservation Area, is evident from a review of Plate 27. Other watersheds within the Preservation Area such as the Cedar Creek and the upper portions of the North Branch Rancocas and Westecunk Creeks exhibit a similar aggregation of highly ranked critical areas.

As shown in Plate 27, critical areas with high total importance values are not restricted to the Preservation Area. For example, the Oyster Creek watershed is composed of two mapping units, both outside the Preservation Area. One of these scored in the highest total importance value class. Furthermore, a number of highly ranked critical areas are clustered in the Dennis Creek watershed in Cape May County.

Nominated Ecologically Critical Areas

At each of the three public critical areas workshops conducted in March, participants were

Figure 6.1—Sample of Form Used to Rank Ecologically Critical Areas

Cedar Creek Watershed Critical Area Mapping Units	Critical Areas Criteria	Linkage corridors	Unique or exceptional ecosystems	Pristine aquatic communities	Headwaters	Nationally endangered animal species	Diversity of vegetation types within a given area	Nationally proposed or under review plant or animal species	State endangered, threatened, declining, or undetermined plant or animal species	Representative vegetation types	Outlier, disjunct, or relict species	Species at the limits of their range	Restricted and endemic species	Breeding areas (nesting and spawning)	Overwintering concentrations	Migratory stopover areas	Areas of scientific interest and research	Oldest, largest or exceptional specimen trees
Cedar Creek (1)														•		•		
Cedar Creek (2)				•	•		•	•	3	•	•	3	•		•			
Factory Branch				•	•		•											
Newbolds Branch				•	•		•	•	•		•	•						
Daniels Branch			•	•	•		•	•	•	•	•	•						
Bamber Lake			•	•	•		•	•	•	•	•	•			•			
Chamberlain Branch				•	•		•		•	•	•	•			•			
Webbs Mill Branch			•	•	•		•	•	3		2	2			•		•	

Legend
- • The criterion applies to the critical area.
- 2 Two species from the criterion are found in the critical area
- 3 Three species from the criterion are found in the critical area

asked to nominate areas which they considered to be critical and in need of protection. Public nominations for critical areas were also received through forms distributed at workshops, letters, and other personal communications. Many of these recommendations were general and included headwaters, floodplains, or certain wetlands. Bodies of water such as Barnegat Bay, the Manumuskin River, Cedar Creek, Wells Mill Reservoir, and the Oswego River were nominated. Natural features included the East and West Plains, the Forked River Mountains, and Apple Pie Hill. Bass River State Forest and Colliers Mills Wildlife Management Area were among public lands identified as critical areas through this process. Specific site recommendations included Martha, Sim Place, Bulltown, Friendship, the Makepeace Lake area, and Atlantic Goose Ponds.

Table 6.1—Ranking Criteria For Ecologically Critical Areas

Critical Areas Criteria	Group and Sample Size (n)				
	Staff, Scientists, and Consultants (n = 17)	Burlington County Public Meeting (n = 31)	Atlantic County Public Meeting (n = 22)	Ocean County Public Meeting (n = 29)	Average (n = 99)
Pristine Aquatic Communities	1	1	1	2	1
Headwaters	2	2	2	1	2
Unique or Exceptional Ecosystems	3	3	3	3	3
Nationally Endangered Species	5	5	5	7-8	6
Linkage Corridors	4	4	7	4	4
State Endangered, Threatened, Declining, or Undetermined Species	7	9	6	5-6	5
Breeding Areas (Nesting and Spawning)	6	6	4	5-6	5
Species Proposed or Under Review for National List	8	12-13	10	10	11
Diversity of Vegetation Types Within a Given Area	9	7	11	9	8
Outlier, Disjunct, or Relict Species	11	16	14	15	15
Migratory Stopover Areas	12	8	8	12	9
Restricted and Endemic Species	10	11	12	14	13
Overwintering Concentrations	14	10	9	11	10
Representative Vegetation Types	13	12-13	13	7-8	12
Species at Limits of Their Geographic Range	15	15	16	16	16
Areas of Scientific Interest and Research	16	14	15	13	14
Oldest, Largest or Exceptional Tree Specimens	17	17	17	17	17

Table 6.2—Importance Values of Criteria For Ecologically Critical Areas

Critical Areas Criteria	Group and Sample Size (n)				
	Staff, Scientists, and Consultants (n = 17)	Burlington County Public Meeting (n = 31)	Atlantic County Public Meeting (n = 22)	Ocean County Public Meeting (n = 29)	Average (n = 99)
Pristine Aquatic Communities	9.8	9.1	9.0	8.8	9.0
Headwaters	9.2	8.6	8.5	9.2	8.8
Unique or Exceptional Ecosystems	8.9	8.3	8.3	8.2	8.3
Nationally Endangered Species	8.0	7.2	7.4	6.9	7.2
Linkage Corridors	8.2	7.4	6.8	7.8	7.4
State Endangered, Threatened, Declining, or Undetermined Species	7.1	6.3	7.0	7.1	6.8
Breeding Areas (Nesting and Spawning)	7.4	7.1	8.0	7.1	6.8
Species Proposed or Under Review for National List	6.8	5.4	5.8	6.7	6.5
Diversity of Vegetation Types Within a Given Area	6.8	6.7	5.8	6.7	7.2
Outlier, Disjunct, or Relict Species	5.4	4.1	4.8	5.6	4.9
Migratory Stopover Areas	5.3	6.3	6.3	6.2	6.2
Restricted and Endemic Species	5.7	5.5	5.5	5.9	5.6
Overwintering Concentrations	4.9	6.1	6.1	5.9	5.9
Representative Vegetation Types	5.3	5.4	5.0	6.9	5.7
Species at Limits of Their Geographic Range	4.4	4.5	4.2	5.2	4.6
Areas of Scientific Interest and Research	3.9	4.9	4.4	6.1	5.0
Oldest, Largest or Exceptional Tree Specimens	2.6	3.8	3.7	4.0	3.8

Historic and Cultural Goal — MAINTAIN AND ENHANCE THE HISTORIC AND CULTURAL RESOURCES OF THE PINELANDS.

Policy 1: Maintain opportunities for traditional lifestyles that are related to and compatible with the overall ecological values of the Pinelands.

Policy 2: Maintain the social and cultural integrity of traditional Pinelands communities.

Policy 3: Maintain and enhance historic and archeological areas and sites of national, state, and local importance.

Agricultural and Horticultural Goal — PRESERVE AND ENHANCE AGRICULTURAL AND HORTICULTURAL USES THAT ARE COMPATIBLE WITH THE PRESERVATION AND PROTECTION OF THE OVERALL ECOLOGICAL VALUES OF THE PINELANDS.

Policy 1: Reserve for agricultural purposes prime agricultural soils and soils of statewide significance in or adjacent to established agricultural areas.

Policy 2: Reserve unique agricultural soils and protect water quality and quantity necessary for cranberry and blueberry cultivation.

Policy 3: Protect the long-term economic viability of agricultural activities.

Policy 4: Require the use of Recommended Management Practices in areas of substandard water quality.

Policy 5: Protect agricultural operations and other private landowners from trespass and vandalism.

Policy 6: Encourage horticulture of native Pinelands plants.

Development Goal — ACCOMMODATE RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL DEVELOPMENT IN A WAY THAT IS COMPATIBLE WITH THE PRESERVATION AND PROTECTION OF THE OVERALL ECOLOGICAL AND CULTURAL VALUES OF THE PINELANDS.

Policy 1: Permit infill development in existing communities.

Policy 2: Direct new residential, commercial, and industrial development into environmentally suitable areas in orderly patterns which are within or adjacent to existing developed areas.

Policy 3: Assure opportunities for housing for all economic groups.

Policy 4: Allow economic development which supports existing community needs but does not generate new development outside those areas designated for future development by the Comprehensive Management Plan.

Policy 5: Permit growth-generating capital improvements only within those areas designated for future development.

Recreation Goal — PROTECT AND ENHANCE OUTDOOR RECREATIONAL USES AND THE NATURAL RESOURCES ON WHICH THEY DEPEND.

Policy 1: Preserve, protect, and enhance those natural resources, including forests, waters, and wildlife habitats, necessary for compatible recreational uses.

Policy 2: Promote diverse recreational opportunities in a manner that minimizes land use conflicts.

Policy 3: Assure that recreational uses in undeveloped areas be of low intensity and compatible with the protection of the natural resources.

Policy 4: Assure that, insofar as possible, intensive recreational uses be located in or near developed areas.

Policy 5: Protect and enhance opportunities for proprietary recreational facilities in areas that are suitable for such uses.

from: New Jersey Pinelands Comprehensive Management Plan

CHAPTER SEVEN

Protecting the Pinelands

The foregoing chapters have described both the natural and man-induced processes which have affected the Pinelands in the past, are affecting it now, and which may affect it in the future. That information, assembled from detailed studies undertaken over the past months, provides the basis for a strategy which will meet the mandates of the state and federal legislation to protect, preserve, and enhance the significant values of the resources of the Pinelands.

There is no question that the Pinelands' resources would be in a greater jeopardy if these legislative initiatives had not been taken. Even the best efforts of local governments to date have been unable to deal with protection of the area from a regional perspective. Incursions thought to be individually insignificant are, in fact, cumulative. They result in significant deleterious impacts over time. As the New Jersey Legislature declared in the Pinelands Protection Act, the "continued viability" of the area and its resources is "threatened by pressures for residential, commercial, and industrial development."

The protection strategy designed for the Pinelands has evolved in three interrelated steps. The foundation is set forth in the state and federal legislation. From that basis the Commission developed a series of five resource and use goals and 25 policies.

When considered in light of the legislation and the data generated through the Commission's studies, these goals and policies led directly to the second step: a spatial description of the Pinelands and an allocation of appropriate land uses among different areas. The third step involved the selection of programs to ensure that activities allowed within different areas are compatible with the characteristics of particular sites.

RESOURCE GOALS AND POLICIES

The following goals and policies were adopted by the Commission to guide the protection, preservation, and enhancement of the significant values of the Pinelands in a manner which is consistent with the provisions of the National Parks and Recreation Act of 1978 and the New Jersey Pinelands Protection Act.

Natural Resources Goal

PRESERVE, PROTECT, AND ENHANCE THE OVERALL ECOLOGICAL VALUES OF THE PINELANDS, INCLUDING ITS LARGE FORESTED AREAS, ITS ESSENTIAL CHARACTER, AND ITS POTENTIAL TO RECOVER FROM DISTURBANCE.

Policy 1: Preserve, protect, and enhance the quality and quantity of surface and groundwater.

Policy 2: Preserve, protect, and enhance the diversity of plant and animal communities and their habitats.

Policy 3: Preserve, protect, and enhance existing soil conditions.

Policy 4: Preserve, protect, and enhance existing topographic features.

Policy 5: Preserve, protect, and enhance existing air quality.

Policy 6: Protect natural scenic qualities.

LAND ALLOCATION AND GROWTH

Both the federal and state Pinelands acts guide the Commission in its protection efforts. They direct that a determination be made of the amount and type of human development and activity that the area can sustain while still maintaining its overall ecological values. The acts further provide that a land use capability map be prepared.

The state Pinelands act divided the region into two areas, a Preservation Area and a Protection Area, and established the boundaries for each. In addition, specific goals were established to direct the Commission in the preparation of a comprehensive management plan. For the Preservation Area, the goals included the preservation of an extensive, contiguous land area in its natural state, the promotion of compatible agricultural, horticultural and recreational uses, the prohibition of any development incompatible with the area's preservation, the provision of a sufficient amount of undeveloped land for specific wilderness management practices, and the preservation of surface and ground water quality and quantity. For the Protection Area these goals included the preservation and maintenance of the essential character of the existing Pinelands environment, the protection and maintenance of surface and ground water quality, the promotion of the continuation and expansion of agricultural and horticultural uses, the discouragement of piecemeal and scattered development, and the encouragement of appropriate patterns of development in or adjacent to areas already utilized for such purposes.

To meet the goals and objectives of the legislation, and the Commission's goals and policies, the resources of the Pinelands have been characterized and then evaluated against various land uses to assess compatibility. The intent was to strike a balance between the region's intrinsic natural values and the need to provide for the housing, employment, and recreation on which the region's people depend. The characterization, which is described in a later section, resulted in the designation of the following land use planning areas. These areas are depicted on the Land Capability Map (Plate 28).

Area Allocation

The **Preservation Area District** represents that area found by the New Jersey Legislature to be "especially vulnerable to the environmental degradation of surface and ground waters which would be occasioned by the improper development or use thereof;" and "which constitutes an extensive and contiguous area of land in its natural state."

The **Agricultural Production Areas,** occurring in both the Preservation and Protection Areas, represent those areas which are primarily devoted to field agricultural uses, and adjoining lands with soil conditions suitable for those farming activities.

The **Special Agricultural Production Areas,** occurring in the Preservation Area, represent those areas devoted to berry agricultural and native horticultural uses, and the adjoining lands utilized for watershed protection, to be designated at the option of the municipality.

The **Military and Federal Installation Area,** occurring in both the Preservation and Protection Areas, represents major federal landholdings with an established land use pattern and providing significant benefits to the people of the Pinelands.

The **Forest Areas** of the Protection Area represent largely undisturbed forest and coastal wetland areas adjoining the Preservation Area and extending into the southern section of the Pinelands. The Commission has determined that these areas possess "the essential character of the existing Pinelands environment," which the Legislature said it was the Commission's responsibility to "preserve and maintain."

The **Rural Development Areas** in the Protection Area represent those transitional areas which generally separate growth areas from the less developed, predominantly forested areas of the Pinelands. These areas are somewhat fragmented by existing development and serve a dual purpose as buffers and reserves for future development.

The **Regional Growth Areas** represent those land areas which are: (1) in or adjacent to existing developed areas; (2) experiencing growth demands and pressure for development; and (3) capable of accommodating development without jeopardizing the most critical elements of the Pinelands environment.

Pinelands Towns and Villages are spatially discrete existing developed areas. Most of these settlements have cultural, historical, and commerical ties to the Pinelands environment, while others represent areas of concentrated residential, commercial, and industrial development.

Each of these land capability areas is quantified by county in Table 7.1. In the discussion that follows, the procedure by which the areas were delineated is explained.

Table 7.1A—Protection Area and National Reserve Land Allocation

	Approximate Acreage					
County	Military and Federal Installation Area	Regional Growth Areas	Rural Development Areas	Agricultural Production Areas	Forest Areas[1]	Pinelands Towns[2]
Atlantic	5,055	28,600	45,550	32,270	158,210	7,720
Burlington	13,300	23,100	33,760	21,220	25,650	—
Camden	—	9,740	9,620	12,540	9,110	—
Cape May	—	7,910	6,480	—	68,525	4,280
Cumberland	—	—	7,420	260	52,090	—
Gloucester	—	4,600	13,540	11,230	4,070	—
Ocean	—	45,100	28,630	—	102,565	3,080
Total	18,355	119,050	145,000	77,520	420,220	15,080

1. The Forest Areas include approximately 105,000 acres of publicly held land.
2. The acreage of Pinelands Villages is included within the Rural Development Area, Agricultural Production Area, and Forest Area totals.

Table 7.1B—Preservation Area Land Allocation

	Approximate Acreage				
County	Total Acres	State Owned Public Land	Military and Federal Installation Area	Agricultural Production Areas	Preservation[1] Area
Atlantic	21,300	12,060	—	—	9,240
Burlington	232,400	108,260	6,273	2,100	115,767
Camden	14,400	14,400	—	—	—
Ocean	100,700	40,900	23,383	—	36,417
Total	368,800	175,620	29,656	2,100	161,424

1. Within the Preservation Area are the Special Agricultural Production Areas. The acreage for Special Agricultural Production Areas is not available as they are to be designated by municipalities during conformance.

Area Delineation Procedure

The delineation of the Protection Area into land use areas required a planning method which was sensitive to the many competing goals outlined in the state and federal Pinelands legislation and the additional goals and policies adopted by the Pinelands Commission. The method developed for use in this analysis involved the successive application of a series of factor maps expressing the multitude of resource and human values identified in the above documents. The baseline data for the delineation consisted of the over 130 individual map separations developed by the Commission.

The planning method outlined here reflects a refinement of the original method utilized for the Draft Comprehensive Management Plan. The refinements were accomplished by testing the initial criteria which had been applied, and by introducing other criteria either developed from review comments on the draft plan or previously omitted due to data deficiencies. The sources for method revision included municipal and county comments based on local perceptions and realities, public meetings, and meetings with various interest groups.

The first step in the Commission's procedure was to define the essential character of the Protection Area. Based on a detailed evaluation of resource values and guidelines for their management found in the legislative mandates and the Commission's goals and policies, the following criteria best express, in a spatially explicit manner, those portions of the Protection Area which possess the essential character of the existing Pinelands environment. In addition, several criteria recognize the high water quality in many areas of the Protection Area and the importance of maintaining that quality. Individually, these criteria summarize the many studies done for the Commission by its consultants.

1. *Ecologically critical areas:* These areas are subwatersheds receiving 40 points or more according to the procedure and public values used in the Critical Areas Study, as outlined in Chapter Six.
2. *Undisturbed subwatersheds:* These are subwatersheds that have very little development in them, particularly that which degrades surface and ground water quality and fragments the Pinelands ecosystem. Subwatersheds, or upstream portions thereof, are classified as undisturbed if they satisfy all of the following criteria:
   - Less than 5 percent in urban or developed use categories
   - Less than 10 percent of area in active agricultural land categories
   - No major solid waste disposal sites
   - No point sources of pollution
3. *Wetlands:* Wetlands include the following vegetation categories:
   - Cedar swamp
   - Hardwood swamp
   - Pitch pine lowland forest
   - Coastal marsh and Wetlands Act area
   - Bog/inland marsh
4. *Cranberry cultivation areas and areas draining into them.*
5. *Areas of deep aquifer recharge:* Areas contributing to deep aquifer recharge are those areas where the depth to the unsaturated zone is 20 feet or greater, not underlain by either of the two extensive clay lenses in the east and southeast of the Pinelands.
6. *Unique resources:* Several unique resources are identified that require high levels of protection. They are:
   - The Pine Plains and a buffer zone around them to protect the elements that are necessary to maintain their unique biological characteristics.

- Subwatersheds in which biological surveys show the presence of aquatic species characteristic of the Pinelands. Survey results from main stem sampling stations are not considered in this designation.
- The corridor connecting environmentally sensitive areas in the southern portion of the Pinelands with the Preservation Area to the north. The corridor, defined as a large, contiguous, relatively underdeveloped land area, is an ecological imperative. Its function is to provide a protected natural passage for the dispersal of native plants and animals in order to maintain genetic diversity and variability. Should species movement and genetic exchange be restricted through the lack of such a corridor, there is an increased likelihood that changes in the natural and man-made environment would, over long periods of time, lead to the extirpation of one or more species in areas they now inhabit, and to the gradual fragmentation and loss of the Pinelands ecosystem.

7. *Public lands managed for resource protection or recreation.*

These seven components, and their mapped expressions, served as the determinants of the essential character of the Pinelands environment within the Protection Area. They were later utilized in the last step of this procedure to provide guidance in the resolution of conflicts. The delineation of areas of essential character provided the basis for the designation of Pinelands Forest Areas.

The Commission's second step was to delineate Agricultural Production Areas. Designation of these areas responds to the legislative goals to protect and enhance agricultural and to the Commission's goals and policies to reserve agricultural lands for agricultural use.

Agricultural Production Areas were delineated on the basis of significant contiguous areas in active agricultural use and soils in or immediately adjacent to these uses that are suitable for the same agricultural activities. In many areas, suitable agricultural soils could extend the size of a delineated area manyfold over that actually in production. Therefore, delineations based on prime agricultural soils, soils of statewide significance, and unique soils adjacent to areas actively farmed were limited by watersheds lines, urban uses, extensive wetlands, or highways.

The third step in the procedure recognized major existing federal land ownership patterns and resulted in the delineation of the Military and Federal Installation Area. This land capability category includes Fort Dix Military Reservation, McGuire Air Force Base, the Naval Air Engineering Center at Lakehurst, and the Federal Aviation Administration Technical Center in Atlantic County (including the Atlantic City Airport). The category includes lands within both the Preservation and Protection Areas.

The fourth step in the procedure was to identify those areas in or adjacent to developed areas that can produce appropriate patterns of further development. This step in the procedure responded directly to the legislative and Commission goals to establish concentrated patterns of development to avoid the cumulative impacts, both economic and environmental, attending to diffuse growth. The state act requires that future growth be directed to areas that are in or adjacent to areas already developed, and where there is capability to accommodate development in order to avoid dispersed and inefficient land use patterns. The following elements contributed to the identification of areas appropriate for development:

- Existing density and pattern of development
- Availability of transportation alternatives
- Proximity to job centers
- Sewerage location and capacity
- Capability to produce phased and flexible growth patterns
- Development of efficient community services
- Land transaction and development approval activity

- Land suitability for development
- Regional growth influences
- Population and housing demand

Having developed the mapped expressions of essential character outlined earlier and the expressions of development opportunity listed above, the next step was to compare the mapped expressions and to identify conflict areas. Those areas exhibiting the essential character of the Pinelands and not conflicting spatially with areas appropriate for development were assigned to the Forest Area. Similarly, those areas most appropriate for development and not demonstrating what was identified as essential character were assigned to development categories. Those areas that both represented the essential character of the Pinelands and were appropriate for development were then identified and described in detail as conflicts to be resolved.

The resoulution of each conflict area involved the application of all available information. Particularly important in this process were all available municipal and county planning efforts and suggestions, public comments, and suggestions from other state agencies and interest groups. All of these factors were incorporated not only into the process of conflict resoultion, but also into the refinement of the planning method and procedures. Other data used in the resolution process included fire hazard and frequency, detailed soils mapping, current aerial photographs, and social and cultural factors.

The mapping process utilized in the identification and resolution of conflicts operated on two levels. Initially, the various expressions relating to essential character and development potential were compared to each other. These expressions were then transferred to the draft Land Capability Map and analyzed relative to the district boundaries presented in the draft plan. The final Land Capability Map reflects the revisions resulting from the resolution of conflicts on these two levels.

To provide direction in the revision and resolution process, several general guidelines were established. The guidelines arose from the bi-level mapping process discussed previously. On the first level, Agricultural Production Areas were examined. Where an area did not have the necessary amount of 1,000 acres of active, contiguous agriculture land, it was reclassified to an adjacent land capability category. On the second level, the mapped expressions of essential character and development potential and their conflicts were compared to the existing Forest Area, Rural Development Area, and Regional Growth Area categories, and guidelines were developed to effect the appropriate revisions.

In the application of the essential character criteria to the district delineation, where an area exhibited such characteristics and had been previously classified as a Forest Area, the area remained in that class. Additionally, when an area exhibited essential character as an undisturbed watershed, or had greater than 75 percent wetlands and/or critical areas, and had been previously classified as a Rural Development Area, it was reclassified as a Forest Area. When areas of less than 1,000 acres did not exhibit essential character, but were entirely surrounded by, and not merely adjacent to, areas of essential character, such areas also became Forest Areas.

Conversely, rules were established to direct the delineation where lands did not contain essential character and displayed some measure of existing or potential development. If these areas had not previously been classified as development areas, they were reclassified as such, so long as they were not wholly surrounded by characteristic Pinelands areas. As a corollary to this rule, portions of a watershed which were indicated as exhibiting some measure of essential character, but were less than 1,000 acres and adjacent to development areas, were either retained in or transferred into development areas, depending on their previous classification.

The application of these rules resulted in certain areas of conflict becoming Forest Areas, with other areas classified as appropriate for development. The appropriate areas for development were separated into Rural Development and Regional Growth Areas depending upon the degree to which they exhibited the elements important to development and their compatibility with surrounding areas. Important elements in the classification included municipal and county

recommendations, existing level of development, existing development activity and approvals, location of lateral sewage collection systems, availability of transportation alternatives, land suitability for development, and the capability to establish coordinated development patterns. Additional categories of development included Pinelands Towns and Villages, which were defined as localized, spatially discrete areas with historical, cultural, and community links to the Pinelands.

To increase municipal planning flexibility and potential, an additional category, the Municipal Reserve Area, was added, to be implemented and activated at the option of the municipality. These are lands in Rural Development Areas adjacent to growth areas that may serve as future growth areas when the supply of land for growth is essentially exhausted, and the demand for additional growth arises within a regional context.

The procedure utilized to resolve conflicts and to establish land capability areas in the Protection Area produced a flexible approach to growth and development potential while protecting larger expanses of the area's critical resources.

The delineation of the Preservation Area into land capability areas proceeded in much the same manner. The Preservation Area is that portion of the Pinelands generally referred to as the "core area," and containing the greatest concentration of critical resource values. The boundary was established by the state legislation, and is drawn to encompass the major, contiguous public landholdings in the Pinelands. The area also includes the largest expanses of undisturbed lands in their natural state, cranberry watersheds, and critical ecological values. It is the region designated by the legislature "wherein more stringent restrictions on the development and use of land should be utilized and public acquisition of land or interests therein should be concentrated."

The Military and Federal Installation Area within the Preservation Area again recognizes major federal land ownership patterns, and includes lands of the Fort Dix Military Reservation, McGuire Air Force Base, and the Naval Air Engineering Center. This classification accommodates the unique characteristics of these installations and facilities, which represent a substantial economic resource to the area, while preserving and protecting the region's unequaled natural resources.

The Agricultural Production Areas established in the Protection Area extend into the Preservation Area where fields of conventional row-crop agriculture are crossed by jurisdictional boundaries. These areas were delineated on the basis of active agricultural lands contiguous to Agricultural Production Areas in the Protection Area. The extent of the boundary is terminated by non-agricultural use.

An additional land class in the Preservation Area relating to agricultural land uses is the Special Agricultural Production Area. These are intended to be well-defined areas utilized for berry agriculture or horticulture of native plants. They represent a unique and integral element of the Pinelands economy and are part of the Pinelands' essential character. The delineation of the areas is not shown on the Land Capability Map, but is instead to be accomplished by municipalities during the period of conformance. The special areas are to encompass active cranberry bogs and their immediate upstream drainage area, along with blueberry fields and native horticultural areas.

The remainder of the Preservation Area was examined using the same procedure to identify the areas of essential character as was outlined under the Protection Area. The criteria for ecologically critical areas, undisturbed watersheds, wetlands, cranberry cultivation areas, areas of deep aquifer recharge, unique resources, and public lands were also applied to the Preservation Area. In addition, the Preservation Area was viewed as a functional unit which, together with the adjacent forested areas, serves to maintain the integrity and viability of the unique characteristics of the Pinelands ecosystem. The sensitivity of the resources to degradation requires a high level of protection throughout the Preservation Area and results in the establishment of a Preservation Area District for management purposes.

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fice.

The governor said he will hand over the

My ... ...king about it and about how ... ...ve," said Hilary, who lives in the most affluent section of one of the nation's wealthiest counties.

She said she didn't just want to give money "to show them we had enough to give. We wanted to show that we care."

Hilary decided that a way to raise money ...

ra...

She said the ... keep 16 children alive for a year.

The girls were accompanied by Sally Spivak, Hilary's mother, and Dr. Paul Garvas, of Bethesda, Lauren's father.

"We're very proud of the girls," Garvas said. "It's been a good experience for them."

Return to Jim Gutman. 25 copies

Boosted freshwater demand may hurt bay

Associated Press

The withdrawal of freshwater from the Chesapeake Bay's tributaries over the next 35 years could cause permanent salinity changes in the bay with devastating effects on some wildlife, a Army Corps of Engineers study says.

The study examined data on water use from 1965 and included extrapolated figures up to the year 2020, which showed the growing population around the bay will double the demand on freshwater.

The study said that demand would remove an additional 3 billion gallons of water a day from rivers feeding the bay.

The report also predicted an "alarming" increase in the amount of water that is withdrawn from natural outlets and is not recycled back into the bay.

By the year 2020, the freshwater flow to the bay is expected to be reduced by 11 percent during the average summer when water usage peaks, and by as much as 30 percent during severe drought conditions, according to the study.

Such a loss would result in a permanently saltier bay that would shift the zones of salinity upward by two to four parts per thousand, and to more than five parts per thousand during droughts.

From the bay's mouth near the Virginia Capes, where the ocean has a salinity of about 35 parts per thousand, the salt ratio is diluted by the flow from rivers until the bay contacts the Susquehanna River, which is mostly freshwater.

Increased salinity would adversely affect the populations of crabs, rockfish, oysters, clams, ducks and other life around the bay.

The study on freshwater is part of the Corps of Engineers overall study of the bay. It recommends water conservation and storage and controls over population growth around the bay as methods to stave off the dangerous increase in salinity.

The Corps of Engineers noted that its freshwater-withdrawal estimates were based on population growth projections that may be outdated. But, the corps added, "it is probably sufficient to note that the lower growth rates estimated at present may simply forestall realization of . . . [(water] losses until a later date."

SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401-1991

GERALD W. WINEGRAD
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DISTRICT 30
ANNE ARUNDEL COUNTY
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COMMITTEE
JUDICIAL PROCEEDINGS
CHESAPEAKE BAY COMMISSION

December 28, 1984

Judge Solomon Liss, Chairman
Chesapeake Bay Critical Areas Commission
Tawes State Office Building
D-4
Annapolis, Maryland 21401

Dear Judge Liss:

Thank you for the opportunity to appear before the Critical Areas Commission at the public hearing in Crofton on December 11. I would like to submit the following additional comments for the consideration of the Commission.

1. In developing the criteria for the critical areas, you are currently looking to other State's programs. I would suggest that the Patuxent River Policy Plan, which is a land management strategy, be examined as particularly germane to your tasks. Part of the Patuxent is within the critical area and the Plan and its 10 recommendations have been approved by joint resolution of the Maryland General Assembly. Some of the recommendations I would like to emphasize are: number 2, providing for the establishment of best management practices and vegetative buffers all along the River; number 4, retrofitting existing development; number 6, purchase of recreation and open space lands along the Patuxent; and number 7, protecting existing forest cover and reforesting sensitive areas. Again, the Patuxent River Plan provides some excellent general guidance as to non-point pollution protection within a critical area, called Primary Management Areas under the Plan.

2. The Commission and the three subcommittees that have been established are considering measures to prevent adverse water quality in the critical area. I would suggest that pollutant loadings be broken into two categories: point and non-point source pollution. Although by definition, the Critical Areas Commission will be looking primarily at land use and concomitantly non-point pollution, even cluster development in the critical area can result in increasing point source loadings of nutrients from the increased sewerage flows to a wastewater treatment facility discharging to the Bay or a tidal tributary. Sewerage loadings, levels of phosphorous and nitrogen removal and plant operational history (have there been spills, malfunctions, the presence of heavy metal and other toxics) should be considered.

3. The criteria developed should stress the location of development outside the critical area where possible. Recommendation number 5 of the Patuxent River Plan contains such a provision.

4. Before any development is permitted in the critical area, the criteria should require that the local subdivision must give assurances of the proper implementation of the stormwater management law and regulations and the sediment control law and regulations. This should be done with cognizance of the Department of Natural Resources delegation of local sediment control programs and funding of stormwater management but not allowing DNR to be the sole determinant of adequacy. The Commission should assure in its criteria that stormwater and sediment control provisions will be implemented and enforced in strict compliance with current laws and regulations.

5. Forest cover and other vegetation must be protected in the critical area to the maximum extent possible. At a minimum, there should be a 200 foot building setback from the mean high water mark. This should include parking lots, houses, and any other impervious surfaces. The only exceptions would be permitted marina or recreational access areas, and soil and vegetation disturbance for these facilities should be minimized. Reforestation should be required in sensitive areas within the critical area. (Forest land contributions of phosphorous is a maximum of 0.1 lbs. per acre per year and up to 2 lbs. per acre per year of nitrogen. Developed areas contribute a maximum of 2.0 lbs. of phosphorous and 10 lbs. of nitrogen per acre per year).

6. Minimizing impervious surfaces within the entire 1,000 foot zone should be a primary emphasis of the criteria. If parking lots, streets, houses and sidewalks, curbs and gutters are permitted, stormwater flows should be maintained at no more than predevelopment rates and volumes. Porous pavement should be required whenever feasible as should vegetated swales (instead of curbs and gutters) and maintaining vegetated buffer strips.

7. Non-tidal wetlands, because of their extreme importance to water quality, should be completely protected in the critical area.

8. Because of the high erosion caused by disturbance of steep slopes and of highly erodable soils, development should not be permitted in such areas.

9. Sand and gravel extraction within the critical area should be restricted and, where permitted, criteria established to strictly regulate extraction and land stabilization after extraction.

I am enclosing some land use data I have culled from various publications coupled with the land use recommendations of the land use work group for the Chesapeake Bay Conference. I would appreciate if your staff would send my letter and this enclosure to all members of the Commission. As you well know, the doubling of population in the Bay drainage basin projected by the year 2020 means the Commission cannot be timid in its proposals. I would encourage strong, comprehensive criteria to protect the Bay and her tributaries for future generations.

Sincerely,

Gerald W. Winegrad

GWW/sy

enclosure

LAND USE DATA FOR THE STATE OF MARYLAND

I. Population Data

In 1880 there were 94 people per square mile in Maryland.
In 1979 there were 435 people per square mile in Maryland.
In the 1990 projection is 506 people per square mile in Maryland.

From 1970 to 1980, Maryland's population rose from 3,923,897 to 4,216,446, a 7.5% increase, and the number of housing units rose by 320,786 or a 25.7% increase. This reflects smaller household sizes and a movement from urban centers such as Baltimore City to exurban and rural areas. Certain counties experienced significant population growth during the 1979-1980 period: Howard County - 90.0%; Calvert County - 67.5%; Charles County - 52.6%; and Queen Anne's County - 38.5%.

Land use patterns reflect this growing population and its dispersal and the resultant conversion of forest and farm land to residential and commercial uses. Maryland's population is projected to reach 4,789,9980 by the year 2000, an 18.3% increase over 1980.

II. Land Development

From the colonization of Maryland in 1634 to 1981 some 665,450 acres of land in Maryland, mostly forest, were converted to development. Projections by the Department of State Planning indicate a demand for 217,000 more acres for development by the year 2000.

Under the present County 10 Year Water and Sewer Service Area Plans, an additional 602,000 acres would be provided sewer and water from 1980 to 1990 and thus become usable for development.

Present County Comprehensive Plans and already approved subdivisions would permit the development of 506,000 additional acres over the 602,000 acres that are to be provided water and sewer by 1990.

The potential land statewide that could be developed under present water and sewer plans and zoning is then 506,000 plus 602,000 acres or 1.108 million acres even though the demand through the year 2000 is projected at 217,000 acres.

III. Wetlands

From 1908 to 1967, 193,000 acres of Maryland's wetlands, both tidal and non-tidal, were dredged, filled and otherwise converted. Of 500,000 acres of wetlands in Maryland in 1908 only 307,400 remained in 1967.

The 1970 Tidal Wetlands Act has slowed the loss of tidal wetlands to about 60 acres per year.

The loss of non-tidal wetlands continues. From 1973 to 1983, Maryland lost 14,150 acres of non-tidal wetlands.

IV. Forestland

A Maryland Department of Natural Resources survey indicated a 13% loss of forestland in Maryland from 1964 to 1976. This is said to be the highest percentage loss of forestland east of the Mississippi during this period.

From 1973 to 1981, the Department of State Planning has documented a loss of 36,720 acres of Maryland forestland. Most of this loss was to accomodate new development, primarily low density residential use.

The EPA Bay Study shows a loss of forestland in the Patuxent Watershed of over 21% between 1950 and 1980 and over 23% in the WestChesapeake watershed of Maryland during this period.

IV. Agricultural Land

Since 1949, Maryland has lost 1.4 million acres of farmland.

From 1973 to 1981, the loss of agricultural land was 42,000 acres, about 90% of it cropland. The loss was primarily due to development of low density residences.

V. The Future

From the tables in the attached land use workshop recommendations, one can ascertain that the conversion of forest and cropland to developed urban and suburban areas will result in a significant increase in pollutant loadings to the Bay and her tributaries from both non-point(runoff) and point(sewerage treatment plants) sources.

Phosphorous loading from both point and non-point sources under the assumptions used in the tables increases by a factor of at least 70 times even with advanced waste water treatment where forestland is converted to urban/suburban development. Nitrogen loading is also increased significantly with such conversion. These are the two primary nutrients identified as causing the significant loss of our Bay's aquatic resources. Increased sediment and toxic loadings are also to be expected from the sediment and toxic loadings.

Unless the expected population growth is slowed and eventually held constant by public policies, including planning and zoning changes, the resultant land use changes from forest and agricultural land to development and the increased waste water flows will almost certainly exacerbate existing water quality problems in the Bay and her tributaries despite the expenditures of tens of millions of dollars in implementing the Bay initiatives.

AN · ACTION · AGENDA

WORKSHOP RECOMMENDATIONS:

A Report to the Sponsors

October, 1983

LAND USE AND POPULATION GROWTH

Background

In order to restore the health of the Chesapeake Bay, there must be a significant reduction of nutrients, sediments and toxics entering the Bay's system. Such a reduction, from point and nonpoint sources, will require significant expenditures of public and private funds. However, it is clear that much of the population growth and changing land use patterns in the Basin will be concentrated in the Coastal Plain and near the Chesapeake Bay and its tributaries.

Between 1950 and 1980, population in the Bay region grew from 8.45 million to 12.65 million, or by about 50%. By the year 2000, population in the Bay region is projected to reach 14.57 million people, or a 72% increase in 50 years.

This growth in numbers will bring shifts from environmentally beneficial land uses, urbanization, increased wastewater flows, and greater surface runoff. Even with significant improvements in wastewater treatment, including phosphorus and nitrogen removal, and with improved sediment control and stormwater management, the nutrient and sediment loadings from population growth and land use changes could increase overall loadings. Without a comprehensive strategy of land use planning, including zoning and, possibly, a permit system for land conversion that would limit increased nutrient and sediment loadings, the EPA study projects an increase in POTW flows of 35% by the year 2000 with a 43% increase in phosphorus loads (from the 1980 loads), due to population growth and land use changes.

Any comprehensive strategy should protect existing forest land and provide for the reforestation of other lands. Critical sub-basins of the Chesapeake Bay have lost large amounts of forest land, with the low level of nutrient loading which it affords, to urbanization and other land uses. For example, the Patuxent sub-basin and the West Chesapeake sub-basin both lost over 21% of their forest land between 1950 and 1980. The chart below, taken from the Synthesis of the EPA Chesapeake Bay Program technical Studies, clearly illustrates the range of nonpoint source nutrient contributions from different land uses:

	lbs/ac/yr Phosphorus	lbs/ac/yr Nitrogen
Forest	0.06 - 0.1	0.5 - 2
Pasture	0.3 - 0.5	2.0 - 6
Cropland	1.5 - 5.0	8.0 - 18
Urban/Suburban	1.0 - 2.0	4.0 - 10

Policy makers also should be aware of the significant point source nutrient loads from increased population growth. The following figures illustrate that with a density of 4 units per acre, even with advanced wastewater treatment (including nitrogen removal), the phosphorus loading per acre far exceeds the nonpoint source contributions of forests and pastures.

	lbs/ac/yr Phosphorus	lbs/ac/yr Nitrogen*
4 units per acre with secondary treatment	20	55
4 units per acre with advanced waste treatment (TP=2 mg/l; TN=6 mg/l)	5	15

* Assumes 75 gallons of water used/person/day; 3 persons per unit, and TP=8, TN=20 in secondarily treated sewage. No contribution for associated commercial development was considered.

It should be noted that the above figures relate to land use and point and nonpoint nutrient loadings. The conversion of land, with its natural vegetative cover, and the urbanization of the land also increase sediment loading to the Bay system.

Problem

It is apparent from the above that man's activities on land, coupled with an increasing population, will have great impact on the health of the Chesapeake Bay.

The Patuxent Nutrient Control Strategy, which this workshop has endorsed, found that "Population growth and related land use change are the fundamental cause of point and nonpoint pollution."

Conclusion

The impacts of land use changes and population growth patterns must be mitigated.

Recommendations

A. States should take more of a direct role in land use planning and development around the Bay and its tributaries.

B. States in the Bay drainage area must act to control the conversion of beneficial land uses, such as forest land and vegetated areas directly surrounding the Bay and tidal tributaries. Consideration should be given to the adoption of Primary Management Areas around the Bay and its tributaries, as in the Patuxent strategy.

C. States must act to prevent or modify the impact of significant population increases on and near the Chesapeake Bay and its tidal tributaries.

D. States should review their policies, especially their tax structures, and revise those policies that tend to encourage the conversion of forest, pasture, and crop land to urban development.

PART 8 7-800 WATER SUPPLY PROTECTION OVERLAY DISTRICT

7-801 Purpose and Intent

Water Supply Protection Overlay Districts are created for the purpose of promoting the public health, safety, and welfare through the protection of public water supplies from the danger of water pollution. Regulations within such districts are established to prevent water quality degradation due to pollutant loadings within the watersheds of public water supply reservoirs.

This district shall be in addition to and shall overlay all other zoning districts where it is applied, so that any parcel of land lying in such an overlay district shall lie in one or more of the other zoning districts provided for by this Ordinance. The effect is to create a new district which has the characteristics and limitations of the underlying district, together with the characteristics and limitations of the overlying district.

Regulations within such an overlay district are intended to provide a means for specific review and approval of residential, commercial, industrial and other development proposals that may have adverse water quality impacts; to encourage land uses and activities which will be compatible with water quality protection; and to assure that structures and uses within such overlay districts will be developed in a manner that will serve the health, safety and welfare objectives of preserving the environmental integrity of public water supply reservoirs.

7-802 District Boundaries

Water Supply Protection Overlay District boundaries shall be established on the Official Zoning Map, and shall be drawn so as to include lands draining into a water supply reservoir.

7-803 Establishment of Districts

Water Supply Protection Overlay Districts shall be established in the same manner as any other zoning district permitted by this Ordinance, and may be amended in accordance with the provisions of Part 2 of Article 18.

7-804 Administration

1. The Director shall be responsible for reviewing all proposed uses to determine if the property to be developed and/or used is located in the overlay district.

2. If any proposed use is so located, then such use shall be subject, as applicable, to the provisions of Sect. 808 below.

7-805 Permitted Uses

All uses permitted by right in the underlying zoning district(s)

7-806 Special Permit Uses

All uses permitted by special permit in the underlying zoning district(s)

7-807 Special Exception Uses

All uses permitted by special exception in the underlying zoning district(s)

7-808 Use Limitations

In addition to the use limitations presented in the underlying zoning district(s), the following use limitations shall apply:

1. Any subdivision which is subject to the provisions of Chapter 101 of The Code or any use requiring the approval of a site plan in accordance with the provisions of Article 17 shall provide water quality control measures designed to reduce by one-half the projected phosphorus runoff pollution for the proposed use. Such water quality control measures or Best Management Practices (BMPs) shall be reviewed, modified, waived and/or approved by the Director in accordance with Sect. 1-20A of the Public Facilities Manual. In no instance shall the requirement for BMPs be modified or waived except where existing site characteristics make the provision impractical or unreasonable on-site and an alternative provision is not or cannot be accommodated off-site, and where it can be established that the modification or waiver will not affect the achievement of the water quality goals for the public water supply watershed as set forth in the adopted comprehensive plan.

2. Any establishment for warehousing, production, processing, assembly, manufacture, compounding, preparation, cleaning, servicing, testing, or repair of materials, goods or products which generates, utilizes, stores, treats, and/or disposes of a hazardous or toxic material or waste, as set forth in Title 40, Code of Federal Regulations, Parts 116.4 and 261.30 et seq., shall submit the following information with any application for a proposed development or use unless deemed unnecessary by the Director:

   A. A listing of all toxic and hazardous materials and wastes that will be generated, utilized, stored, treated, and/or disposed of on site;

   B. A soils report describing the nature and characteristics of the soils covering the site;

   C. A description of surface and groundwater characteristics of the site and the surrounding area within 300 feet of site boundaries;

   D. A description of all spill prevention, containment, and leakage control measures proposed by the applicant, for all toxic and hazardous materials and wastes generated, utilized, stored, treated, and/or disposed of on the site.

3. Such information shall be referred to the Department of Public Works for review in accordance with the provisions of Chapter 67 of The Code and other applicable laws and ordinances. When deemed appropriate, the Director of Public Works may furnish a copy of the application and information to the State Water Control Board, the State Department of Health and other appropriate agencies.

7-809 Lot Size Requirements

As specified in the underlying zoning district(s)

7-810 Bulk Regulations

As specified in the underlying zoning district(s)

7-811 Open Space

As specified in the underlying zoning district(s)

7-812 Additional Regulations

As specified in the underlying zoning district(s)

PART 4 6-0400 STORM WATER RUNOFF QUALITY CONTROL CRITERIA FOR USES IN THE WATER SUPPLY PROTECTION OVERLAY DISTRICT

6-0401 General Information

1. The Board of Supervisors has established a Water Supply Overlay District in the Occoquan Watershed to protect the Occoquan Reservoir from certain undesirable affects of stormwater runoff. The Water Supply Protection Overlay District set forth in Part 8 of Article 7 of the Zoning Ordinance requires that there shall be water quality control measures designed to reduce the projected phosphorus runoff by at least one-half for any subdivision or use requiring site plan approval unless a modification or waiver is approved by the Director. This Article contains a brief summary of the need for these controls and guidance for their design and implementation.

2. The water quality control measures described in this Article are called BMPs, the abbreviation for Best Management Practices. The term Best Management Practices refers to a practice, or combination of practices, that is determined by a state or designated areawide planning agency to be the most effective practicable means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals.

3. Best Management Practices have been required in all preliminary plats and all commercial and industrial site plans in the Water Supply Protection Overlay District since July 14, 1980.

4. Both the Water Resources Planning Board (WRPB) and the Virginia State Water Control Board (SWCB) have developed Best Management Practices manuals as aids toward implementation of an economically feasible program calculated to fulfill reasonably the goals of the Federal Water Pollution Control Act (PL 92-500).

6-0402 Storm Water Quality Control Practices

The Best Management Practices policy for new development in the Water Supply Protection Overlay District is incorporated into the stormwater management program in the following manner:

1. Where volume controls and/or storage measures are used, a minimum storage volume (see Appendix A6-40) of long-term detention shall be provided for each acre of development related to percent imperviousness or Rational Formula "C" factor.

2. This normally will require modification of the outlet works or the addition of underdrains to reduce the release rates of detained storm water, and hence convert these facilities from a single purpose use to multiple purpose use. (See example in the "Preliminary Design Manual" for specifics.)

3. Volume controls such as percolation trenches already are BMPs and do not require further modifications.

4. Roof top and parking lot detention may also be considered as BMPs providing the discharge is made to pass slowly over a pervious area prior to entering a storm sewer or stream.

5. In addition, Fairfax County has available a Preliminary Design Manual for BMP facilities at the Publication counter located in the lobby of the Massey Building, 4100 Chain Bridge Road, Fairfax, Virginia 22030. This publication outlines design procedures, provides examples and a basic data form to provide guidance to designers of BMP(s).

6. Other measures of control may be substituted for structural measures.

6-0403 Water Quality Goals

1. Fairfax County has established a water quality goal for the Occoquan Reservoir pursuant to the recommendations of the Occoquan Basin Study. This goal requires that County policies and ordinances be designed to prevent deterioration of water quality in the Occoquan Reservoir.

2. Protection of the Occoquan shall be achieved through modifications of the Comprehensive Plan, the Zoning Ordinance and through the vigorous implementation of Best Management Practices (BMPs).

3. The Occoquan Basin Study indicates that the water quality goal will be met if new developments, except residential lots 5 acres or larger, employ water quality control measures sufficient to reduce projected (phosphorus) runoff rates by at least one-half. For purposes of this Article, the following removal efficiencies, which are generalized averages based on local water quality planning studies, may be assumed:

BMP[1]	phosphorous[2]
Dry Detention Ponds	40%
Wet Detention Ponds	70%
Volume Control BMPs (infiltration)[3]	60%
Natural Open Space, e.g., stream valleys	.8% per each % of the site
Vacuum parking lot and street sweeping	
1 pass/week	20%
2 passes/week	30%
3 passes/week	40%

4. The efficiencies set forth in paragraph 3 apply only to the proportion of the site served by each practice; however, credit may be taken for control of runoff pollution from off-site areas. The efficiencies of practices used in series may be considered multipliable, for example, the efficiency of BMPx and BMPy together equals:

$$\left[\left(1 - \frac{\%\text{ efficiency of BMPx}}{100}\right) \times \left(1 - \frac{\%\text{ efficiency of BMPy}}{100}\right)\right]$$

for that area served by both BMPs.

---

[1]Efficiencies are based upon studies prepared by the Northern Virginia Planning District Commission for the Occoquan Watershed Nonpoint Pollution Management Program.

[2]Phosphorus (as total P), the limiting nutrient for algal productivity in the Occoquan Reservoir, is used as an indicator of water quality. Measures that control phosphorus also will control many other pollutants.

[3]Volume control BMPs such as infiltration pits may be used only on soils designated by the County Soil Scientist as adequate for the purpose.

6-0404 Storm Water Quality Design Measures

1. Applicants are by no means constrained to select water quality control measures from the list above. Other practices may be approved if properly engineered and if sufficient evidence documenting their phosphorus removal efficiency is presented to the Director.

2. Developers and their design engineers are encouraged to seek new and better methods beyond those specifically covered in the WRPB and SWCB manuals to achieve the goals of this storm water runoff quality control program, particularly with the end of reducing initial construction costs and ensuing operating and maintenance costs.

3. Developers, in coordination with Department of Environmental Management, are strongly encouraged to seek cooperation with other planned developments in their watershed area in order to design and construct combined facilities which could serve several developing sites.

1/24/85

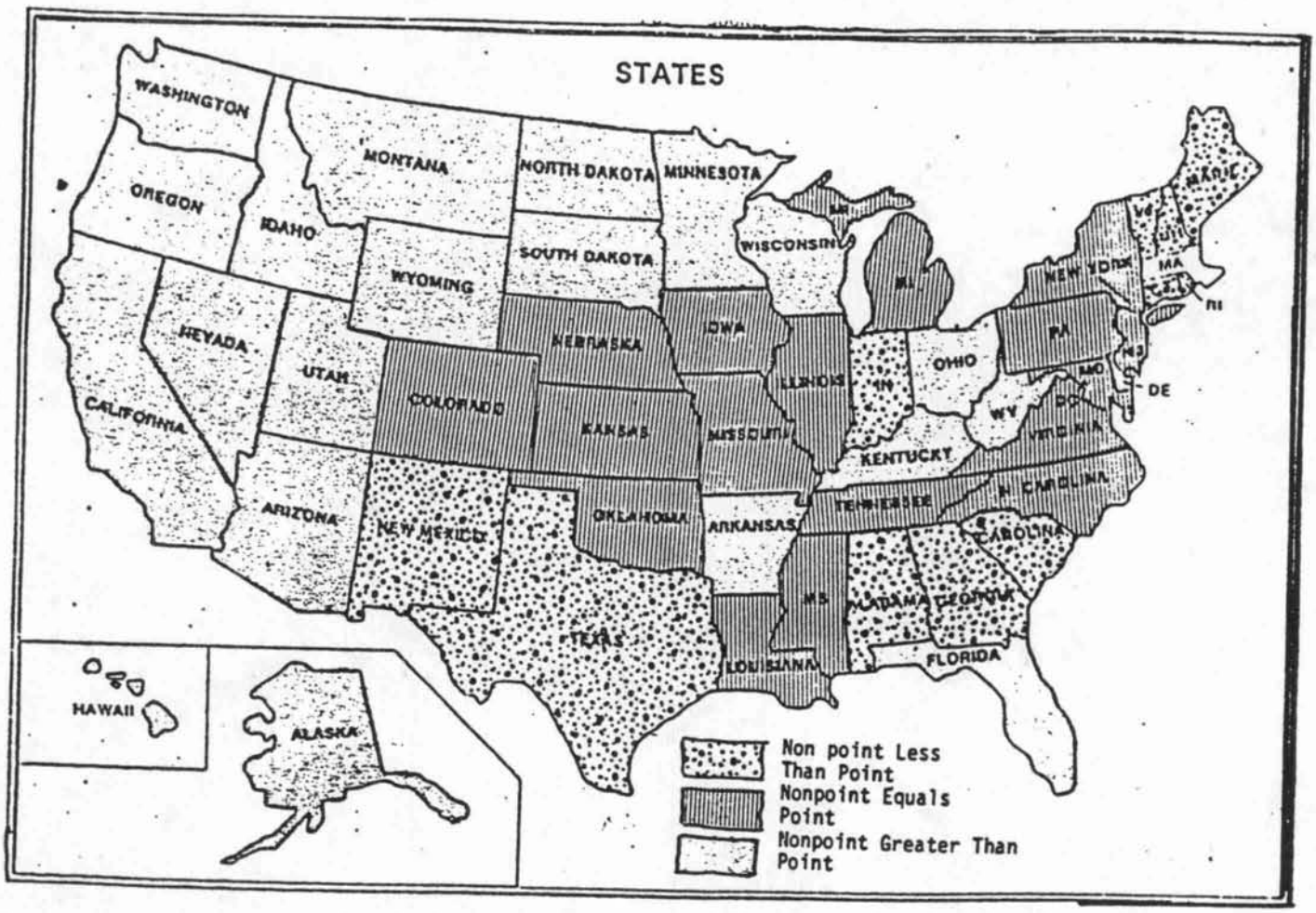
NONPOINT SOURCES OF POLLUTION

- DIFFUSE SOURCE OF WATER POLLUTION--DOES NOT DISCHARGE THROUGH A PIPE

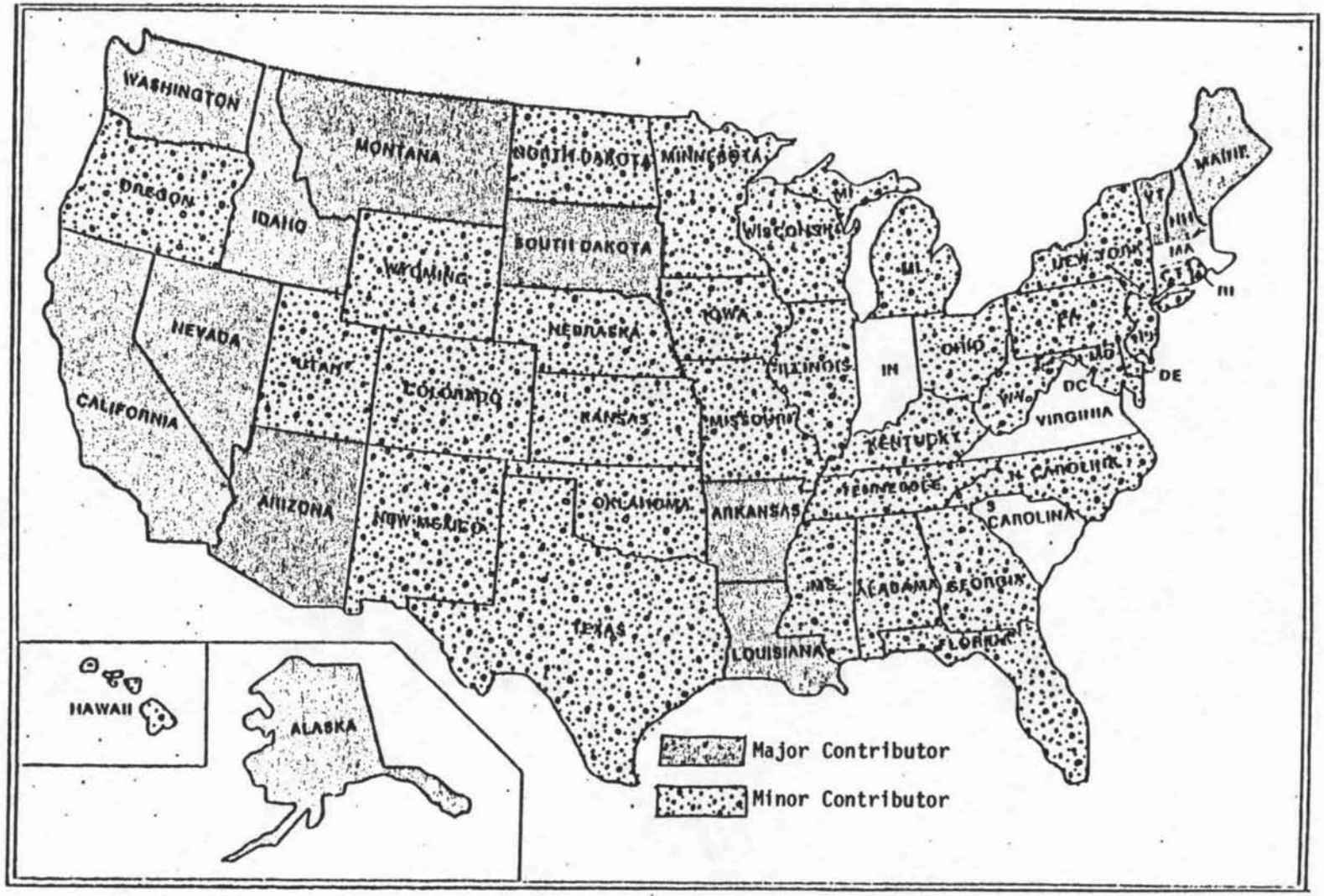
- RUNOFF FROM LAND DISTURBANCE, e.g.:
  - AGRICULTURE
  - SILVICULTURE (FORESTRY)
  - CONSTRUCTION
  - MINING
  - URBAN AREAS

- EXTENT OF PROBLEM AND SOURCES VARIES ACROSS THE U.S.

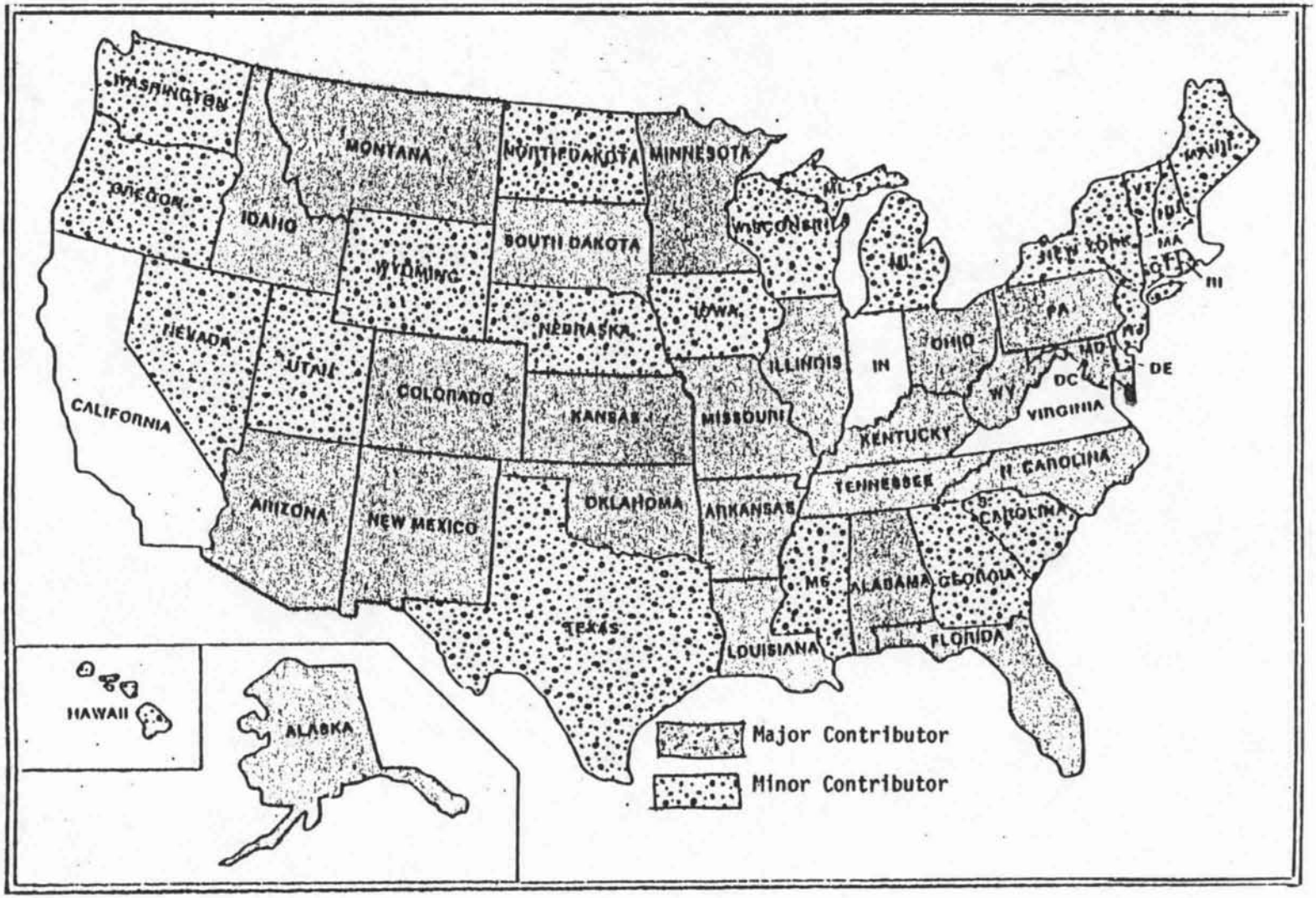
POINT SOURCE VERSUS NONPOINT SOURCE CONTRIBUTION TO WATER QUALITY PROBLEMS



SILVICULTURE



MINING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ALABAMA
GEORGIA
FLORIDA
SOUTH CAROLINA
NORTH CAROLINA
VIRGINIA
WEST VIRGINIA
PENNSYLVANIA
NEW YORK
MARYLAND
DELAWARE
NEW JERSEY
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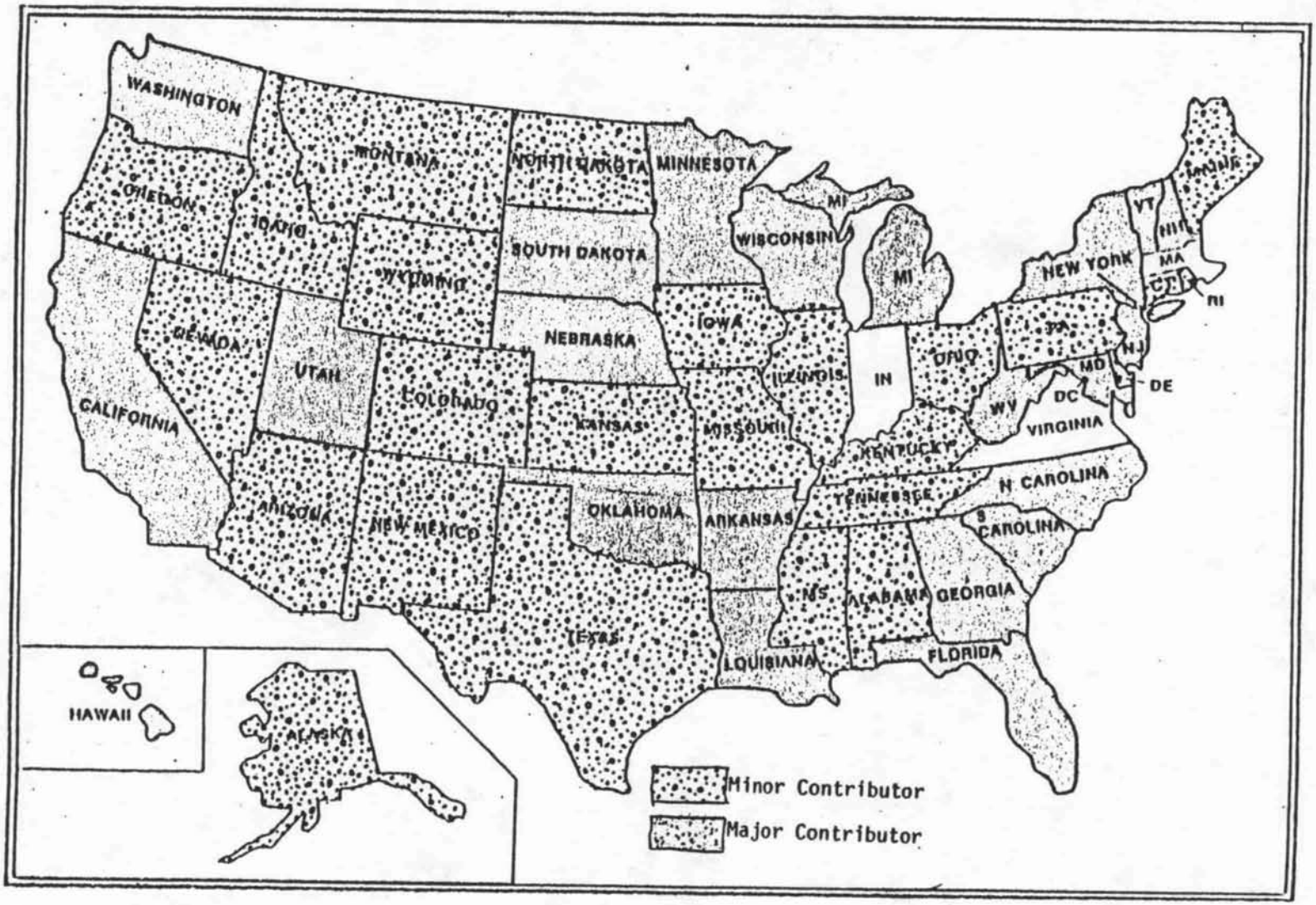
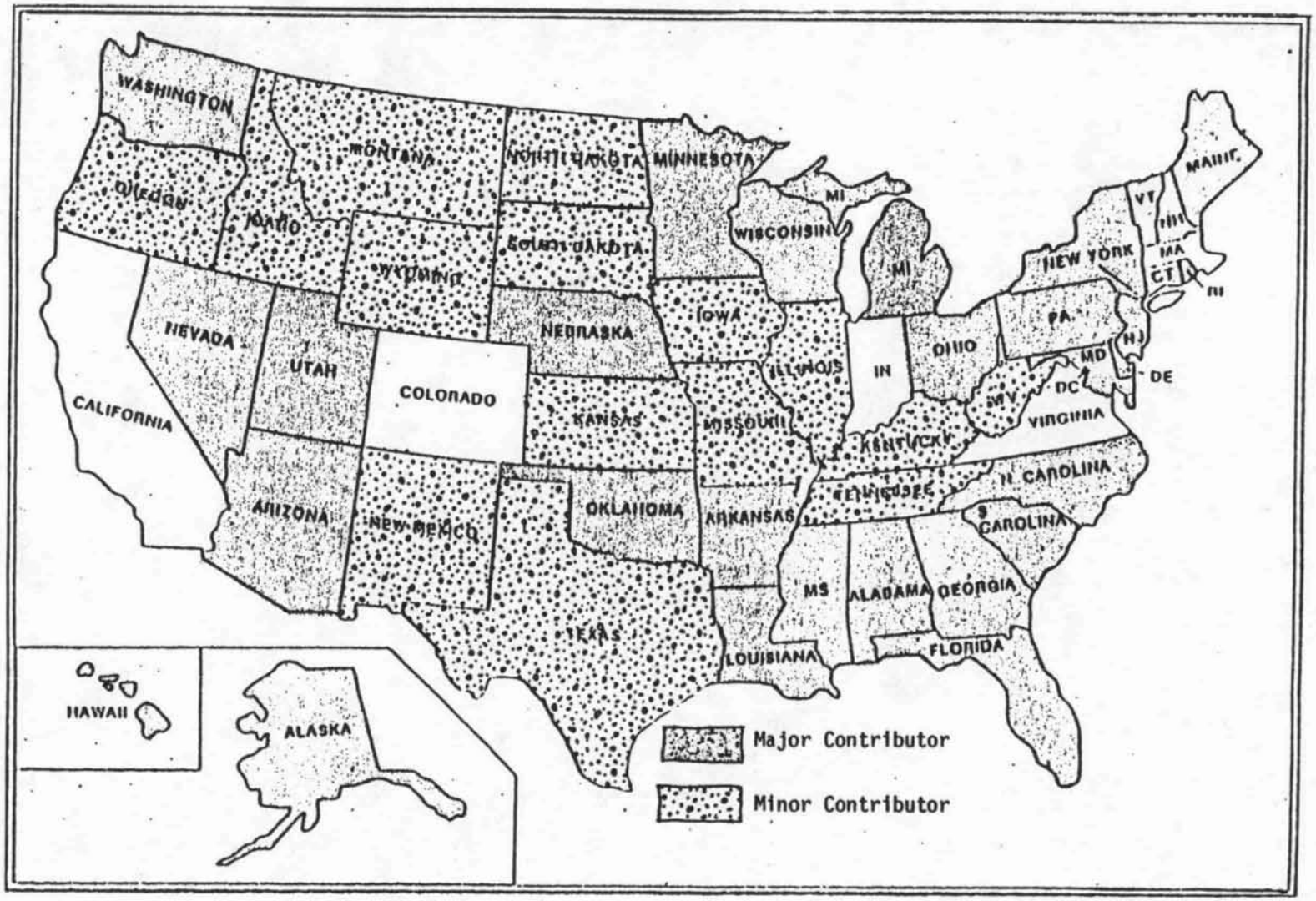
CONSTRUCTION



URBAN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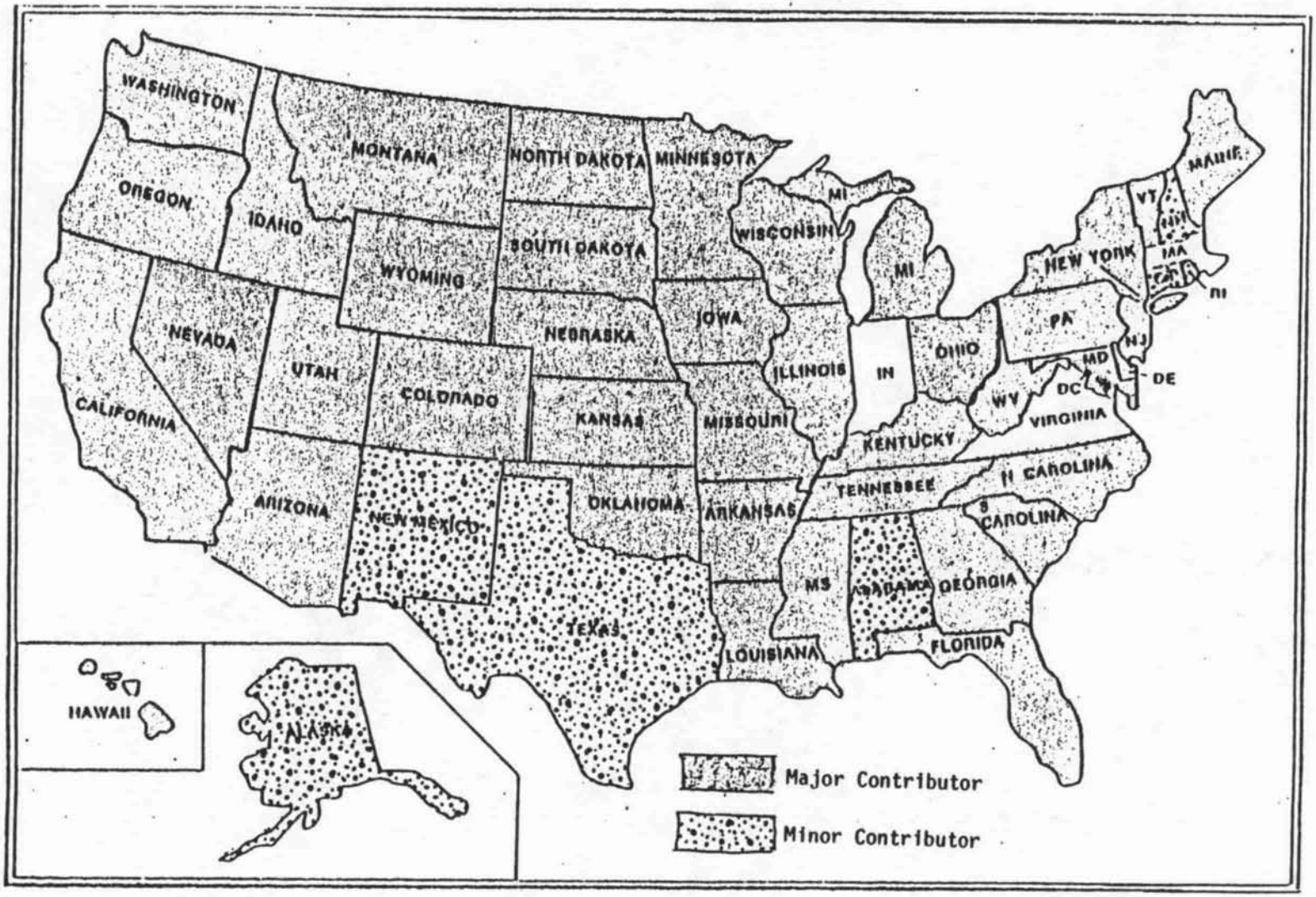
AGRICULTURE



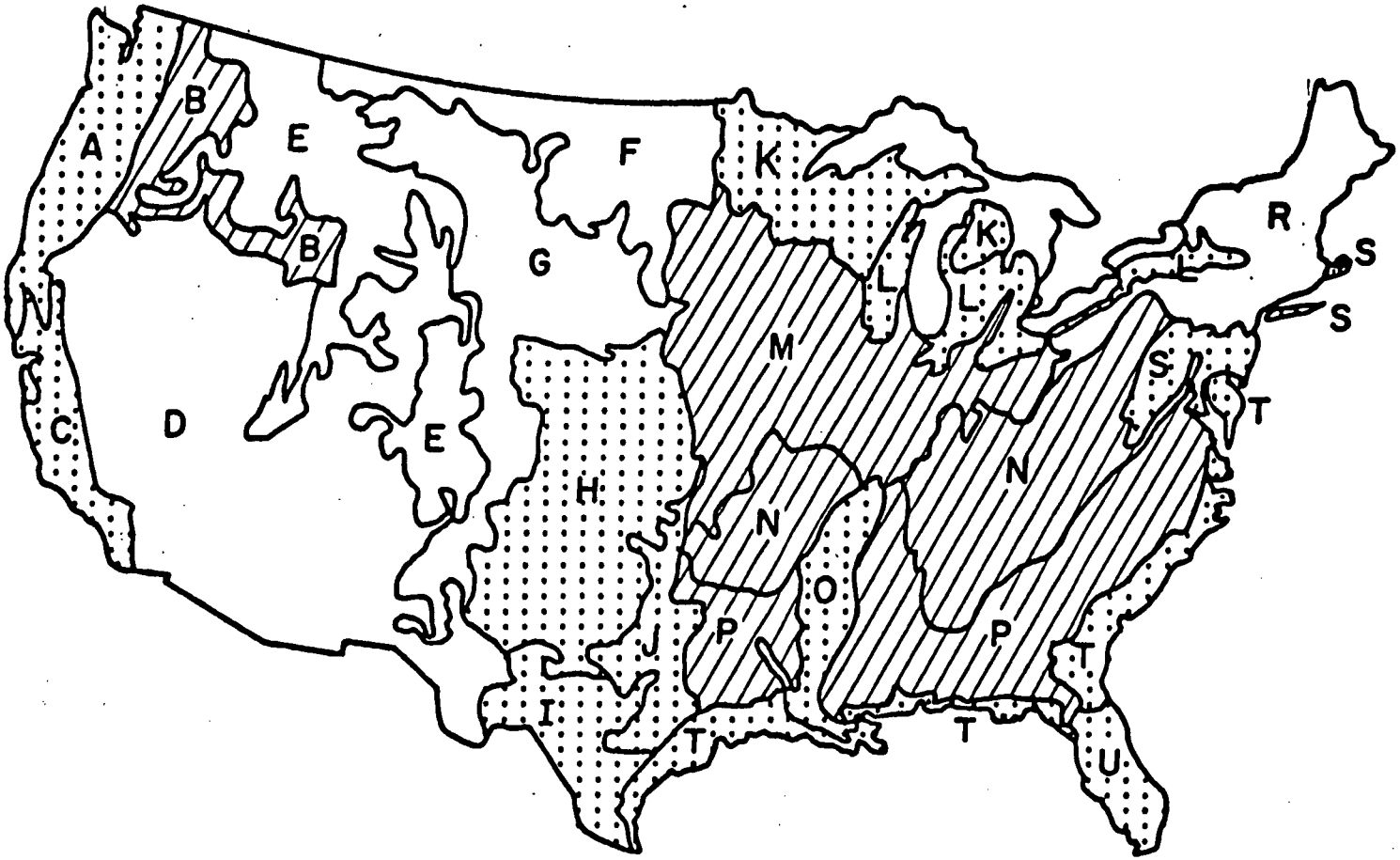


Figure 2. Land resource regions with literature references (///) and projections (:::) indicating conservation tillage as a BMP component.

BASIC DECISIONS FOR CRITERIA AND BMP(S)

- EASE AND EFFECTIVENESS OF ADMINISTRATION AND IMPLEMENTATION

- RELATIVE EFFECTIVENESS OF BMP(S) IN REMOVAL OF POLLUTANTS

LEGISLATIVE GOALS OR STANDARDS

(1) MINIMIZE ADVERSE IMPACTS ON WATER QUALITY FROM RUNOFF

(2) CONSERVE FISH, WILDLIFE, PLANT HABITAT

(3) LAND USE POLICIES

LEGISLATIVE GOALS OR STANDARDS	URBAN AND CONSTRUCTION PROGRAM AND STANDARDS	EXAMPLE STATE
SECTION 8-1808(b) (1) MINIMIZE ADVERSE IMPACTS ON WATER QUALITY FROM RUNOFF	● SHORELINE PROTECTION ORDINANCE PROTECTION WITHIN 300 FEET OF STREAMS 1000 FEET OF PONDS	WISCONSIN
	● SHORELINE PROTECTION FOR 30 YEARS OF EROSION	MICHIGAN
	● EROSION AND SEDIMENT CONTROL	OHIO MICHIGAN
	● NUTRIENT CONTROL	FAIRFAX COUNTY, VA
	● STORMWATER MANAGEMENT DETENTION	NEW JERSEY

LEGISLATIVE GOALS OR STANDARDS	URBAN AND CONSTRUCTION PROGRAM AND STANDARDS	EXAMPLE STATE
(2) CONSERVE FISH, WILDLIFE, PLANT HABITAT	CRITICAL AREA - BUFFER STRIPS - SLOPE PROTECTION	MARYLAND WISCONSIN

LEGISLATIVE GOALS OR STANDARDS	URBAN AND CONSTRUCTION PROGRAM AND STANDARDS	EXAMPLE STATE
(3) LAND USE POLICIES	● BUFFER ZONES WITH REQUIRED BMP(s)	TAHOE REGIONAL COMMISSION
	● LIMITS ON IMPERVIOUS SURFACES	
	● CLUSTERED DEVELOPMENT	
	● DESIGNATION OF AREAS FOR SPECIFIC USES (e.g. SMA(S))	WASHINGTON MISSISSIPPI
	● ALL OF ABOVE INTEGRATED IN COMPREHENSIVE OF MASTER PLANS	

ALTERNATIVES

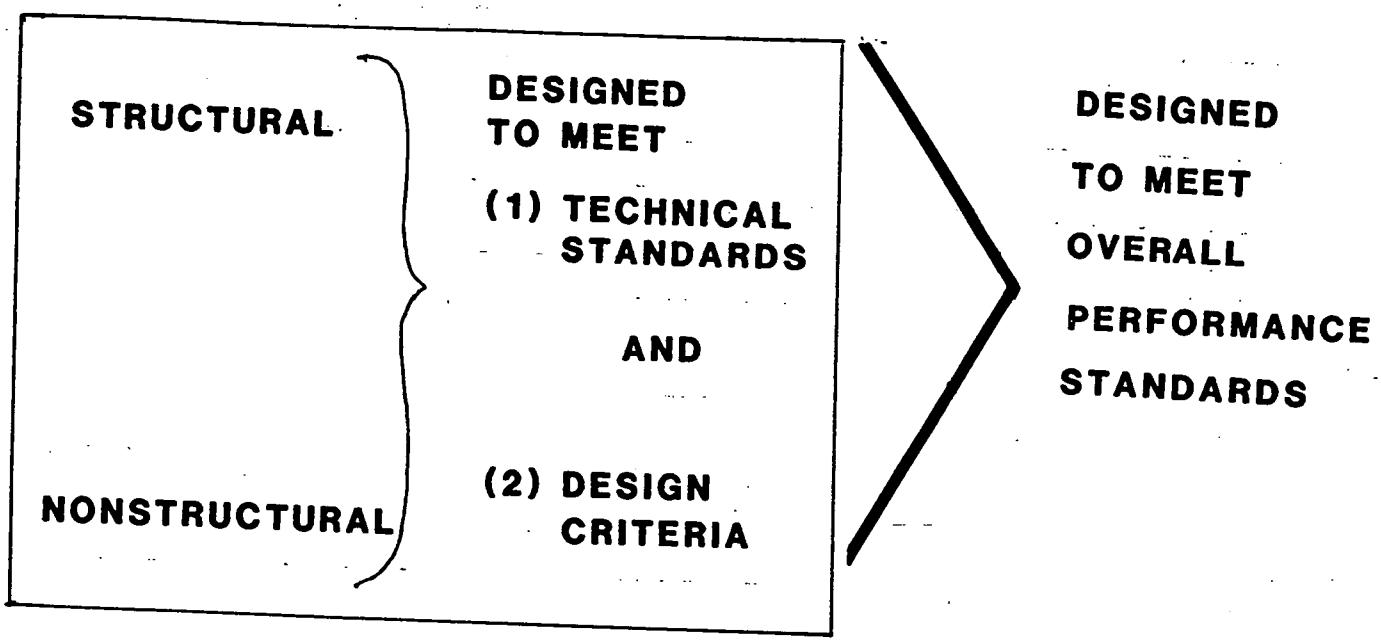
(1) SPECIFY CONTROL MEASURES AND PRACTICES

(2) SPECIFY PERFORMANCE STANDARDS

(3) COMBINATION

DEFINITION OF TERMS

CONTROL PLAN



ALTERNATIVES FOR EROSION CONTROL STANDARDS

- TONS OF PREDICTED AVERAGE ANNUAL SOIL LOSS WILL BE
  1ST YEAR - 15 TONS
  2ND YEAR - 5 TONS to 10 TONS
  REMAINING YRS - 1 TON to 5 TONS
  (USES U.S.L.E.)

- LESS THAN EXISTING RUNOFF IF LAND WERE LEFT UNDISTURBED

- EROSION CONTROLLED IN KEEPING WITH SPECIFICATIONS - (SEE GUIDEBOOK)

ALTERNATIVE STANDARDS FOR RUNOFF CONTROL AND DETENTION

- PEAK RUNOFF RATE AFTER DEVELOPMENT NOT TO EXCEED UNDEVELOPED STATE

- PEAK RUNOFF RATE IS LESS THAN SAFE CAPACITY OF EXISTING OR PROPOSED STORMWATER DRAINAGE

  - DETENTION FOR INCREASED RUNOFF OF 100 YR STORM OF ANY DURATION

  - MULTIPLE STORM EVALUATION SELECTS CRITICAL STORM FROM 1-100 YRS

FAIRFAX COUNTY WATER QUALITY CONTROLS OCCOQUAN BASIN

- **REDUCE PHOSPHOROUS RUNOFF RATES BY 50%**

- **DEVELOPER HAS CHOICE FROM THE FOLLOWING IN ACHEIVING 50% REDUCTION**

- **REMOVAL EFFICIENCIES ASSUMED TO BE:**

BMP	PHOSPHOROUS REDUCTION
DRY DETENTION PONDS	40%
WET DETENTION	70%
VOLUME CONTROL (INFILTRATION)	60%
OPEN SPACE(e.g STREAMS)	0.8% per % OF SITE

STANDARDS FOR PROJECT REVIEW

STANDARDS	ADVANTAGES	DISADVANTAGES
PERFORMANCE STANDARDS	● FLEXIBILITY	● DIFFICULT TO ADMINISTER
WATER QUALITY AND EROSION CONTROL GOALS	● BMP's TAILORED TO SITE	● STAFF MONITORING
	● LOWER COST POSSIBLE	● INCREASE STAFF RESOURCE COMMITMENT

STANDARDS FOR PROJECT REVIEW

STANDARDS	ADVANTAGES	DISADVANTAGES
SPECIFICATIONS STANDARDS (e.g., STORMWATER BASINS BUFFERS ZONES, ETC.)	● EASE OF ADMINISTRATION	● LACK OF FLEXIBILITY
	● INDIVIDUAL PROJECT EVALUATION UNNECESSARY	● LESS OPPORTUNITY FOR NEW PRACTICES
	● LESS TECHNICAL EXPERTISE REQUIRED	● ASSUMPTION OF EFFECTIVENESS OF REQUIRED PRACTICES
SPECIFICATION STANDARDS WITH PERFORMANCE STANDARDS		

TAHOE REGIONAL PLANNING AGENCY

LAND USE POLICIES TIED TO BMP(S)

- LAND CAPABILITY CLASSES DEFINED FOR ALL OF REGION

- % COVER OF LAND DEFINED BY CLASS (SLIDING SCALE 1-30%)

- EROSION CONTROL, INFILTRATION TRENCHES, ETC. REQUIRED BY CLASS OF LAND

- STREAM ENVIRONMENT ZONE DEFINED BY VEGETATION--NO COVER ALLOWED HERE

- TDR DEFINED BY CLASS

URBAN RUNOFF PROJECT
WASHINGTON COUNCIL OF GOVERNMENTS

CONCLUSIONS ON BMP REMOVAL OF POLLUTANTS

- CONVENTIONAL DRY PONDS--INEFFECTIVE

- EXTENDED DETENTION DRY PONDS--EFFECTIVE REMOVER OF SEDIMENTS, TRACE METAL AND ORGANIC NUTRIENTS, BUT NOT BIOLOGICAL AVAILABLE NUTRIENTS

- WET PONDS WERE EFFECTIVE FOR ALL OF ABOVE

- GRASS SWALES--INEFFECTIVE BECAUSE OF RAPID RUNOFF

- INFILTRATION CONTROLS
  - MODERATELY EFFECTIVE REMOVAL OF SEDIMENTS, TRACE METALS AND O2 DEMANDING MATERIALS
  - INEFFECTIVE REMOVAL OF SOLUBLE NUTRIENTS

- POROUS PAVEMENTS--EFFECTIVE REMOVAL OF MOST POLLUTANTS

- MOST IMPORTANTLY RESEARCH INDICATES THAT BMP DESIGN HAS TO BE CAREFULLY APPLIED FOR EACH SITE

72
.19
648
72
13.68

260
.19
2340
260
49.40

160
.19
1440
160
30.40

Salisbury Mtg (Mon.) 12 hrs. — 72 @ 19¢ = 13.68

Jan. 2 (Wed) mileage — 260 @ 19¢ = 49.40

meal — $9.03 = 9.03

Easton (Thurs. A.M breakfast) — = 4.46

mileage — 160 @ 19¢ = 30.40

$106.97

SUGGESTIONS FOR FACILITATORS

Steps in Group Discussion

- Introduce group members.
- Choose a documentor.
- Review task to be accomplished and process for proceeding.
  Note: During this step, keep group focused only on task to be accomplished.
- Discussion of items, if any, that group members would like to have seen accomplished that were not accomplished.
- Brainstorm important points. List on newsprint - 1st without discussion to make sure all ideas are included. Then discuss and determine most important ideas to be carried out.
- Have documentor read back documentation.
- Choose a person to report out.

Suggestions for Facilitators

- Purpose is to give enough clarification information so as to elicit feedback from citizens.
- Make sure all citizens have had a chance to comment.
- Make sure no citizen monopolizes the discussion.
- Keep non-defensive stance.
- Clarify citizens comments by feeding back a restatement.
- Check for understanding when you give clarification.
- Save time at end of each session to read back documentation.

1. CREATION IS NECESSARY to CONSERVATION
2. VARIOUS INTERESTS TO IMPART KNOWLEDGE
3. Needs + Requirements
   a) DEVELOP GOALS + POLICIES
      1) W.Q
      2) HABITAT
      3) LAND USE POL.
   b) ADDRESS THE NEEDS
      1) MIN
      2) SETBACKS
      3) interactive process
   c) 11 AREAS AS A MINIMUM
   d)

PROCESS
REACH A CONCENSUS
WHY DEV A STANDARD
HOW " "
HOW TO ACCOMPLISH
HOW TO MEASURE

REGULATORY FEVER

GET THE STAFF OUT TO THE LOCALS

BLOG ON WHAT YOU HAVE

QUALITIES, DATA BASES,
UNIQUE LOCAL GOVT.

NEED TO ASSESS TO WHAT
EXTENT TO USE OTHERS

NEED TO BE STRATEGIC
W/ WORK + MONIES

TABLES AT THE VARIOUS
OTHER LEVELS + W/ INSTI-
TUTIONS

OPPORTUNITIES:

WHAT EXISTS OTHER THAN
WHAT IS REQUIRED

- GRANDCHILDREN
- WHAT WILL GET THE COMM.
  A HIGHER $
- WHAT WILL GET THE
  VARIOUS PLAYERS
  TO DO WHAT is NEEDED
- VISION
- USE AN ASSET APPROACH
  NOT A PROBLEM APP

ASSET APPROACH — ACCESS

DISTINCTIVENESS
HOW TO PACKAGE WHAT
WE ARE DOING.

- FRAME THINGS IN TERMS OF POSITIVES -

NEED A SENSE OF PLACE, COMMENT
+ COMMUNITY

BE SURE ABT THE POLICIES, BE FLEX.
GETTING THERE
ED IMPT.
LOCAL GOVT IMPT.

PARTNERSHIPS IMPT.

SHORT T. OBJ.

- WHAT CAN BE DONE IN URBAN AREAS TO GET THEM TO GIVE UP SOMETHING

LONG T. OBJ

- PARTNERSHIPS
- COLLABORATIVE AGREEMENT.

1. ask questions of what we need to investigate
2. priorities of what can be addressed.
3. What do yous want to focus on?

priorities
Where they ~~have~~ come from - what is impt. ~~etc.~~
Pas & hear what do you think is useful.

What do you want to see happen in the 1000 foot W/ regard to use?
Do we want to preserve the marshes? + other resources.
Problems in doing so.

How what can we deal with it?

- Limited Powers
  Debate on the issues

- What do we do if there are several juriscl that cop out?

Why they are the way they are.
Group introd. themselves.
Where they are coming from - what is important.
From what you have heard.

→ members working together
— where they are coming from
— what is important for the subcommittee to accomplish
— what are the priorities that need to be addressed
— what are the bottom lines
— what don't you want to see done, what do you want to see done?

what are you interested in?

what resource are in need of protection?

— Charge to the Subcommittees —

• 2 things - from listening

- concerns & what their perspectives are
- objectives for the Commiss in the development of criteria

~~from~~ what do you want to attain for this 1000' area

a) Strengthen local govt capabil. for managing land use + development
b) Protect shoreline + marine res. etc.
c) Ensure max well being of the crit. area + its citizens thru sound econ develop.
d) Limit ~~not scenic resources~~ adverse impacts of development on w.q.

General

use your experience
what you have seen happen +
~~of~~ that what you don't like
+ what you do like

It can cover the resources,
the roles of existing agencies,

Sub committee ~~Relate these goals to~~
overall goals - get them
explicit as possible.

Then focus on the ~~topics~~ issues of
the Work of resource persons

cluster developm, where necess. or appropriate

f) establishm. of buffer areas along shorelines. Within which agl. will be permitted only if BMP are used, provided that struct or any other use of land which is necess. for adjacent agriculture shall also be permitted in any buffer area.

g) Requirements for minimum set-backs for structures and septic fields along shorelines.

h) Designation of shoreline areas, if any, that are suitable for parks, hiking, biking, wildlife refuges, scenic drives, public access or assembly, and water related recreation such as boat slips, piers and beaches.

i) Designat. of shoreline areas, if any, that are suitable for ports, marinas, and industries that use water for transportation or derive benefits from shore access.

Buoys?

j) Provisions requiring that all harvesting of timber in the Ches. Bay CA be in accord w/ Plans approved by the Dist Forestry Bd.

k) Provisions ~~established~~ establishing that the controls in a Program which are designed to prevent runoff of pollutants will not be required on sites where the topography prevents runoff from directly or indirectly reaching tidal waters.

What are your goals? What are the perceived problems?

1. Taken what you have heard, what specific points were made that are applicable to the sub-committee.

2. What do we want to accomplish in looking at these issues? What are our priority issues? What do we want to see happen w/ the use in order to protect the resource?

States: Wisc.
Wash State
Maine
Vermont
Michigan

Types of Criteria:

* residential zones.
* Keep out Setbacks tree restrict
* Density rest
* max. dev. allowed on a lot.

Permit bottom-line means.

wetlands + steep slopes high flood haz endangered Species

Standards + crit for uses

Washington
How detailed + what do you want to get.

Pretty much performance

Local Plans + Planning Processes

How you want the local govt. to interact w/ you.

Differences — law is very narrow
objectives very narrow
corridor very narrow

Data Base - best
Build on Other Programs + show some vision

Joe Petrillo – California

1976 Regulat. CCC	Acquisit.	CC Conserv
Interim policies & language justifying How should it be set up: 1) Have local govt develop a local coastal program (plan) 2) resource based plan 3) Maintained an appeals process for maj. projects 4) Public Trust – lands underneath etc.	GOB's - bond act to purchase areas which regulat. does not help.	1) conflict resol. 2) restore + enh. cnst areas 3) positive devel. {rights of refusal tdr access u. w/ front dev. buy + sell revenue bond Conservancy Approach: 1) Conf resol. – econom terms – adjustm econ. return. 2) seek accommod. 3) flex density transf non-prof. grps mitigation banks

1. specific policies
2. avoid regulatory dimentia
3. proced. flex.
   be firm abt policies but be flex in the way it works (mechanism)
4. Give yourself a chance

Agric. zoning program
Pineland Devel. Credit Program - TDR

Forestry - tree ordinances

What is the process for density determination?

Federal enforcement

Fisheries - short term - moving bed.

Parting Thoughts.

1. Fdtn. contacts
2. Take care of the problems you can
3.

...ues.
...kets. That's
...wo girls when
...State House of-
fice.

The governor said he will hand over the

My mom ... king about it and about how I ...ave," said Hilary, who lives in the most affluent section of one of the nation's wealthiest counties.

She said she didn't just want to give money "to show them we had enough to give. We wanted to show that we care."

Hilary decided that a way to raise money ...

Ra...

She said the ... keep 16 children alive for a year.

The girls were accompanied by Sa...yi Spivak, Hilary's mother, and Dr. Paul Garvas, of Bethesda, Lauren's father.

"We're very proud of the girls," Garvas said. "It's been a good experience for them."

Return to Jim Gutman. 25 copies

Boosted freshwater demand may hurt bay

Associated Press

The withdrawal of freshwater from the Chesapeake Bay's tributaries over the next 35 years could cause permanent salinity changes in the bay with devastating effects on some wildlife, a Army Corps of Engineers study says.

The study examined data on water use from 1965 and included extrapolated figures up to the year 2020, which showed the growing population around the bay will double the demand on freshwater.

The study said that demand would remove an additional 3 billion gallons of water a day from rivers feeding the bay.

The report also predicted an "alarming" increase in the amount of water that is withdrawn from natural outlets and is not recycled back into the bay.

By the year 2020, the freshwater flow to the bay is expected to be reduced by 11 percent during the average summer when water usage peaks, and by as much as 30 percent during severe drought conditions, according to the study.

Such a loss would result in a permanently saltier bay that would shift the zones of salinity upward by two to four parts per thousand, and to more than five parts per thousand during droughts.

From the bay's mouth near the Virginia Capes, where the ocean has a salinity of about 35 parts per thousand, the salt ratio is diluted by the flow from rivers until the bay contacts the Susquehanna River, which is mostly freshwater.

Increased salinity would adversely affect the populations of crabs, rockfish, oysters, clams, ducks and other life around the bay.

The study on freshwater is part of the Corps of Engineers overall study of the bay. It recommends water conservation and storage and controls over population growth around the bay as methods to stave off the dangerous increase in salinity.

The Corps of Engineers noted that its freshwater-withdrawal estimates were based on population growth projections that may be outdated. But, the corps added, "it is probably sufficient to note that the lower growth rates estimated at present may simply forestall realization of . . . [(water] losses until a later date."

BEGINNING

1. – RESOURCE AS THE BASIS IN CONSIDERATION OF OUR DELIBERATIONS
2. – WATER QUALITY
   CONSERVATION OF HABITAT
   LAND DEV. POLICIES
3. – THERE ARE ALSO 11 MINIMUM REQUIREMENTS WITH WHICH TO DEAL:
   a) map design. the CRITICAL AREA.
   b) comprehensive zoning MAPS FOR CRITICAL AREA.
   c) NEW OR AMENDED PROVISIONS of the jurisdictions subdivis. regs. comp. OR MASTER plan; zoning ORDINANCES OR REGS; PROVISIONS RELATING TO ENFORCEMENT; provis. relating to the grandfathering of development at the time of Program approval.
   d) PROVIS. REQUIRING THAT PROJECT APPROVALS SHALL BE BASED ON FINDINGS that projects ARE consistent w/ THE STANDARDS STATED IN §8-1808 (b)
   e) PROVIS. to limit the amt. of land covered by bldgs., rds., PARKING LOTS, OR OTHER impervious surfaces, + to require OR encourage

OVERVIEW: Perspectives - W.Q. HABITAT MINIMUM. FOCUS ON RESOURCE ORIENTED

WHATEVER WE DO

~~• What you have heard, what~~

- WHAT DO YOU THINK IS MOST IMPT. ~~ARE EACH PERSONS EXPECTAT. AS A S.C.~~ FOR @ group to ADDRESS:

- Reflect back ON WHAT WE HAVE HEARD & WHAT CAN BE BORROWED.

1. Are there pcts and the C.B. that need more attention?
2. Have too much platted for development than we are going to need in the next 20 yrs.
3. zoning protection was strong as comp plan
4. agriculture + forest to developed.
5. bonuses for certain types of developm.
6. USFWS - shallow marsh habitat.
7. 10% is in pvt ownership

8 yrs. - 71-83 recession

NPS + terraces, filter strips.

COMMISSION SUBCOMMITTEE LIST FOR
CRITERIA DEVELOPMENT

12/24/84

#1 Subcommittee on Resource-Based Activities

Ann Sturgis Coates
Dr. Shepard Krech, Jr.
Florence Beck Kurdle
John Luthy, Jr.
J. Frank Raley, Jr.
Harry T. Stine
Samuel E. Turner, Sr.
Mary Roe Walkup

Tim Moore

Ex.-Officio: Torrey C. Brown, Wayne A. Cawley, Jr.

Staff Member(s): Sarah J. Taylor, Charlie Davis

#2 Subcommittee on Development Activities

William Bostian
Clarence "Du" Burns
Parris N. Glendenning
James E. Gutman
Donald P. Hutchinson
Robert R. Price, Jr.
Robert S. Lynch

Joe Pictillo
Dave Owen

Ex.-Officio: William Eichbaum, Constance Lieder, Ardath Cade

Staff Member(s): Tony Redman, Charlie Davis

#3 Subcommittee on Resource Enhencement and Management

John W. Logan
Barbara W. O'Neill
Lloyd S. Tyler, III
Albert W. Zahniser

Jon Kusler

Staff Member: Kevin Sullivan

Judge Liss will circulate among the subcommittees.