A SUMMARY OF THE CHESAPEAKE BAY CRITICAL AREA COMMISSION'S CRITERIA AND PROGRAM DEVELOPMENT ACTIVITIES 1984–1988

Prepared by
J. Kevin Sullivan
August, 1989

Chesapeake Bay Critical Area Commission
Annapolis, Maryland

THE CHESAPEAKE BAY CRITICAL AREA COMMISSION

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The views expressed herein are solely those of the author and not necessarily represent those of the Members or staff of the Commission.

EXECUTIVE SUMMARY

This report documents the substantive activities of the Chesapeake Bay Critical Area Commission from its establishment in 1984 through the major portion of its local program development and review work in early 1989. The Commission was established pursuant to the Chesapeake Bay Critical Area Law passed by the Maryland General Assembly in 1984. The Law was called the "centerpiece" of Governor Hughes' package of initiatives aimed at arresting the decline of the Chesapeake Bay. It created a State-local government partnership for regulating land-use in the Critical Area to achieve water quality, habitat protection and growth management goals.

The Critical Area was defined in the Law as all waters of, and lands under, the Chesapeake Bay and all land and water areas within 1,000 feet beyond the landward edge of tidal waters, tidal wetlands, and tributary streams up to the head of tide. The Critical Area comprises about 640,000 acres, approximately 10 percent of the State's land area.

The Law established a 25-member Critical Area Commission. The members, appointed by the Governor with the advice and consent of the Maryland Senate, include a Chairman, 11 elected or appointed local officials from the affected jurisdictions, 8 persons representing "diverse interests", and 5 cabinet-level secretaries from State agencies.

The Commission was required to develop criteria for local jurisdictions (16 counties and 44 municipalities) to use in creating their own local Critical Area protection programs. These criteria were promulgated by the Commission in December of 1985 and approved by the General Assembly in 1986. Following these actions, local jurisdictions began their program development activities and most had received Commission approval by early 1989. Following Commission approval and local adoption, the jurisdictions have the primary responsibility for implementing their programs although the Commission Chairman has standing and the right and authority to intervene in any proceeding or appeal concerning local project approvals.

The criteria adopted by the Commission are complex and far-reaching. They represent a comprehensive land use strategy based on focussing or containing new development in, or adjacent to, existing developed areas. Lands in the Critical Area are required to be placed into one of three land management categories: Intensely Developed Areas (IDAs), Limited Development Areas (LDAs) or Resosurce Conservation Areas (RCAs). Each has specific land management goals.

IDAs are those areas where residential, commercial, institutional or industrial uses predominate. When new development or redevelopment occurs, at least a 10 percent improvement in water quality must be achieved on the development site.

LDAs are areas of low to moderate intensity uses where housing densities range from one dwelling unit per five acres up to four units per acre. New development must observe limitations on removal of forests and woodlands, creation of impervious surfaces (not to exceed 15 percent of the site), and building on steep slopes.

RCAs are areas characterized by natural environments (i.e., wetlands, forests, or abandoned fields) or by resource utilization activities (i.e., agriculture or forestry). Density of development is less than one unit per five acres. The density of new development in RCAs may not exceed one dwelling unit per 20 acres and such lands may not be zoned for industrial or commercial purposes.

Overlaying all three areas are habitat protection requirements. These include a minimum 100-foot Buffer within which new development is not allowed unless it is associated with a water-dependent facility. Protection is also afforded to non-tidal wetlands, the habitats of threatened and endangered species and species in need of conservation, colonial water-bird nesting sites, waterfowl staging and concentration areas, forest interior dwelling bird habitats, Natural Heritage Areas, habitats of local significance and the watersheds of anadromous fish spawning streams.

The designation and protection of these habitats are accomplished through local land use plans and regulations using information provided by State and federal agencies. This represents the most comprehensive habitat protection program ever

adopted in the United States at the local level of government.

The criteria also address resource utilization activities in the Critical Area. Growth management policies were adopted to maintain existing agricultural lands. All farms are required to have a Soil Conservation and Water Quality Plan and to implement appropriate Best Management Practices by 1991. Farming operations are to observe certain setback requirements from tidal waters and to protect important habitat areas. All forestry operations must be conducted under an approved Forest Management Plan which addresses water quality and habitat protection goals. Surface mining operations are to avoid areas of important habitat and to observe the minimum 100-foot Buffer. The criteria also limit the expansion of new marinas and other industrial and commercial maritime facilities. The installation of bulkheads is discouraged where no significant shore erosion occurs and non-structural erosion control methods are promoted where appropriate.

These criteria for local jurisdiction programs are also to be observed on State and local government lands. State and local agency programs are to be conducted in a manner consistent with the criteria for actions on private lands.

CHAPTER 1

INTRODUCTION

The Chesapeake Bay Critical Area Program was called the "centerpiece" of Governor Hughes' State initiatives that were proposed in late 1983 for cleaning up the Chesapeake Bay. The Law establishing the Program, passed by the Maryland General Assembly in 1984, was controversial and represented a unique State/local approach to regulating land use for water quality protection and habitat conservation in Maryland. The criteria developed by the Critical Area Commission and the process of preparing and approving the 61 local Critical Area Programs were also controversial. This process of criteria development and Program approval, begun in 1984, was largely completed by the end of 1988. Thereafter, the Commission's activities shifted to overseeing local Programs and reviewing individual development projects proposed by State and local agencies.

During this formative phase of the Program, the Commission created a complex fabric of regulations, guidelines, and informal judgements that will affect the form, location, and rate of new development in the Critical Area. The Program, based as it is on the requirements of the Critical Area Law, is far-reaching. Some of the concepts developed required the creation of new jargon. Terms such as "growth allocation", "interim findings", and "Resource Conservation Area" are unique to the Critical Area and have no comparable basis elsewhere in Maryland. Because of the time limitations imposed by the

Law, the Commission's work has been intense and it has not been possible to publish a record of the Program's activities, key decisions, and accomplishments.

The purpose of this report is to establish such a record for use by the Commission, and for future reference by members of the General Assembly, the general public, and others who may be interested in understanding or analyzing the Program. It includes a description of: 1) the process of promulgation and approval of the criteria; 2) Program development issues; and 3) the adoption of special regulations. A final section discusses the Program's accomplishments and some of the criticisms made of its conceptual basis and substantive regulations. It also offers conclusions about the factors that contributed to the Program's accomplishments. The Appendices contain factual material relating to legal opinions affecting the Program; a key to the Commission meetings; basic information about the Commission membership, staff and budgets; and a list of key publications.

While this report summarizes the substantive actions of the Commission, it should be noted that a significant portion of Commission and staff efforts over this period was devoted to the process of obtaining approval of the criteria, and to the review of local Programs. These activities included holding six public hearings in November and December of 1984 to obtain initial public comment on the direction of the Program, and an additional nine such hearings in June and July of 1985 following publication of the first proposed version of the criteria. Later in 1985, the Chairman and staff began discussions with the General Assembly in an effort to obtain passage

of the criteria and these activities continued on almost a daily basis through the conclusion of the 1986 Legislative Session in April. Following approval of the criteria in May of 1986, the Commission immediately began to work with the 61 jurisdictions to negotiate contracts, allocate funds, and generally assist in the preparation of local Programs.

Thereafter, the process of review and approval for the local jurisdictions' programs was lengthy and complex, and still not completed as of early 1989. Many individuals, organizations, interest groups, consultants, and local government planners and officials were closely involved in this process. This report does not describe in detail all of these activities. It emphasizes those issues that consumed much of the overall substantive efforts of the jurisdictions, the Commission, and the consulting community, to implement the Critical Area Law.

CHAPTER 2

ORIGINS OF THE LAW

In the Summer of 1982, results of the Environmental Protection Agency's Chesapeake Bay Study began to appear in publications made available by the Agency, through the public participation program established as part of the Study, and in the press. These results generally indicated deteriorating water quality conditions in the Bay resulting from excessive nutrient discharges from sewage treatment plants and land run-off. Also identified were certain areas where high concentrations of toxic chemicals were present. The net effect of these conditions was a substantial decline in the productivity of the Bay's economically valuable biological resources.

Although a long-term action program of Bay clean-up activities was suggested by the Study, the Environmental Protection Agency, in a briefing for Governor Hughes in the Summer of 1982, stated that federal funds for all such activities would not be available. The Governor's staff then began discussing the magnitude and scope of State programs that could possibly be directed to the Bay. John Griffin, a member of the staff, was directed to discuss the situation with Governor Robb of Virginia, who indicated that the Commonwealth would be prepared to join Maryland to implement a clean-up program. This was subsequently confirmed in a meeting between the two Governors held in the Fall of 1982. Following that meeting, it was announced that Governor Thornburg of Pennsylvania and Mayor Barry of the District of Columbia, would be asked to participate in a coordinated program. The four principals met in early 1983, and agreed to sponsor

a Governors' Conference on the Chesapeake Bay in December of 1983, where details of a joint State/Federal program would be announced.

Work on action programs began in Maryland in the Spring of 1983 within a group initially comprised of John Griffin; Torrey Brown, Secretary of the Maryland Department of Natural Resources; Lee Zeni, Director of the Maryland Tidewater Administration within the Department of Natural Resources; and William Eichbaum, Assistant Secretary of the Department of Health and Mental Hygiene. It later included Verna Harrison and Ellen Fraites of the Governor's Staff; Wayne Cawley, Secretary of the Department of Agriculture; Constance Lieder, Secretary of State Planning; and Ian Morris, Director of the University of Maryland, Center for Environmental and Estuarine Studies. This working committee, which came to be known as the Wye Group, met intensely in the Summer of 1983 (and for the remainder of Governor Hughes' term) to prepare Maryland's program for announcement at the Governors' Conference, and for submission of the program to the 1984 Session of the General Assembly. The concept of a Critical Area Program was developed within this group.

John Griffin and William Eichbaum had discussed this concept earlier in the Fall of 1982. At that time, Griffin had become aware of the land-use program in the Adirondack Preserve in New York State, and the two discussed the relevance of that program, and a similar one in the New Jersey Pinelands, to Maryland. They noted that the EPA study indicated that urban development in the Baltimore/Washington area would continue to intensify and that this growth would adversely affect the Bay and its shoreline area. They were aware that elements of a growth management program in Maryland were already in place in

the Patuxent River Plan, in the program administered by the Department of State Planning called Areas of Critical State Concern, and in the State Coastal Zone Management Program administered by the Department of Natural Resources. Each existing program, however, had limitations. The land-use portion of the Patuxent Plan was advisory in nature and the Coastal Zone Management Program relied on a networking approach to shoreline management with voluntary participation by local governments. The Areas of Critical State Concern program involved a nomination process by local jurisdictions that was never fully implemented.

Accordingly, after the 1983 Legislative Session, John Griffin organized a small student intern project to bring together information on relevant programs extant in Maryland and in other parts of the United States, including the Adirondack and Pineland efforts noted above, and others in North Carolina, Oregon, California, and San Francisco Bay. As the concept of a shoreline protection program for Maryland grew in the Wye Group, it also was included in several of Governor Hughes' speeches that Summer and seemed to receive positive public response. In the early Fall, Griffin asked George Liebmann, a lawyer whose services were often offered to the Governor, to review the material contained in the student intern's report, and to use it to draft a shore protection bill for Maryland. The bill, written in about two months with the assistance of the Wye Group members, was approved by Governor Hughes shortly before the Governors' Conference, and submitted to the General Assembly for action in the 1984 Session. A discussion of Liebmann's considerations in drafting the bill, and of some of the changes made in the General Assembly, is

contained in an article by Liebmann entitled The Chesapeake Bay Critical Area Act: The Evolution of A Statute published in The Daily Record, (Vol. 194, April 20, 1985). Substantial revisions were made to Liebmann's draft bill within the General Assembly. A full legislative history of the bill is not contained in Liebmann's article and will not be attempted here.

As finally passed by the General Assembly in 1984, the Critical Area Law established a 25-member Critical Area Commission. The members, to be appointed by the Governor with the advice and consent of the Maryland Senate, included a Chairman, 11 elected or appointed local officials from the affected jurisdictions, and 8 persons representing "diverse interests". In addition, the Commission included 5 cabinet-level Secretaries from agencies with land use or environmental or resource management responsibilities.

The Law required the Commission to develop criteria for local jurisdictions (16 counties and 41 municipalities) to use in creating Critical Area protection programs. These criteria were to address 3 goals set forth in the Law:

(1) Minimize adverse impacts on water quality that result from pollutants that are discharged from structures or conveyances that have run off from surrounding lands;

(2) Conserve fish, wildlife, and plant habitat; and

(3) Establish land use policies for development in the Chesapeake Bay Critical Area which accommodate growth and also address the fact that, even if pollution is controlled, the number, movement, and activities of persons in that area can create adverse environmental impacts.

The criteria were to be promulgated by the Commission by December 1, 1985. Following approval of the criteria by the Maryland General Assembly, local jurisdictions were to develop implementing programs and to submit such programs to the Commission for approval. All programs were to be approved and in place by June of 1988. Thereafter, the local jurisdictions would have the primary responsibility for implementing their programs although the Commission Chairman would have standing and the right and authority to intervene in any proceeding or appeal concerning local project approvals.

The extent of the Critical Area was defined in the Law as: 1) all waters of, and lands under, the Chesapeake Bay and its tributaries to the head of tide, as shown on the State wetlands maps, including all designated State and private wetlands (generally, all tidal wetlands); and, 2) all land and water areas within 1,000 feet beyond the landward edge of tidal waters, tidal wetlands, and tributary streams up to the head of tide. The Critical Area comprises about 640,000 acres, approximately 10% of the State's land area. The distribution of Critical Area lands, by jurisdiction, is shown in Appendix C.

CHAPTER 3

THE CRITERIA DEVELOPMENT PROCESS

The Critical Area Law required the Commission to promulgate criteria for local Program development by December 1, 1985. In order to meet this deadline, and adhere to the public hearing requirements of the Law and to the publication schedule of the Maryland Register, the Commission needed to complete its action on the initial proposed criteria by May 22, 1985. Since the Commission did not have its first formal meeting until October of 1984, and was not fully staffed until January of 1985, only a few months were available for the criteria development process. Moreover, the Commission was obligated to conduct six hearings to obtain public comment on the Program and these could not be completed until mid-December of 1984.

The criteria development process began at the second Commission meeting (December 1984) when the members agreed to divide themselves into three subcommittees for purposes of preparing the criteria: one on "development", a second on "resource utilization activities" (forestry, agriculture, aquaculture, and surface mining), and the third on "resource protection". The Commission further agreed to assemble for a two-day workshop in Easton, Maryland on January 24-25, 1985, to begin this work.

The workshop focussed on presentations to the Commission from persons involved in other State and regional programs. The presenters included David Owens from the North Carolina Coastal Resources Program; Terry Moore from the New Jersey Pinelands Commission; Joseph Petrillo of the California Coastal Conservancy; and Michael Mantell

from the Conservation Foundation, who was able to discuss other programs in Florida, the Adirondack Preserve, Oregon, and Washington. Also involved were representatives of various Maryland State agencies, the Governor's Office, and George Liebmann, who, as noted earlier, drafted the first version of the Critical Area Law in 1983. In the concluding session of the workshop, each of the Commission's Subcommittees met to discuss general principles for criteria preparation and to agree on a work plan and schedule for future meetings. These meetings began in early February, and continued on a weekly or bi-weekly basis for the next three and one-half months.

Each of the Subcommittees sought participation from various State (and Federal) agencies which had expertise in the subject matter being discussed, and from interest groups or organizations who would be affected by the Subcommittees' deliberations. All meetings were open to the public. As criteria were prepared by staff and modified by the Subcommittees, drafts were circulated among the staff and the Chairman, and reviewed by the Assistant Attorney General for the Commission. Thus, there was a continual process of internal review to ensure consistency among the committees, avoid duplication, and promote common objectives. The following sections summarize the actions of the three Subcommittees.

DEVELOPMENT SUBCOMMITTEE

This Subcommittee focussed on development generally, but particularly on the context of the third goal of the Critical Area Law, wherein the Commission was charged with establishing land-use

policies for accommodating growth, but also to address the fact that the number, movement, and activities of people can cause adverse environmental impacts even if pollution is controlled.

While a number of goals and specific objectives for the Subcommittee were discussed at the Easton workshop, the first statement of general principles for guiding development was contained in a memorandum by William Eichbaum, a member of the Subcommittee. In the memo, dated February 11, 1985, Mr. Eichbaum proposed a ranking of land uses on a continuum from beneficial to detrimental (e.g., from forest land through industrial or transportation uses). He noted that maintenance of forested, wetland, and habitat areas would contribute to the purposes of the Critical Area Law, whereas other uses would be detrimental, singly, and cumulatively. It followed that existing forest, wetland, and habitat areas should be preserved and that new development should occur where these beneficial uses are largely gone. Thus, a policy emerged that future development should be spatially limited to areas of existing development. His proposal also stated that where changes in the use of existing developed land occur, offsets in the form of reduced pollutants and increased habitat must be provided. In areas of existing, moderate intensity development, which also contain beneficial uses, new development could occur, but under (unspecified) strict controls. Maritime and recreation development could occur outside existing developed areas under certain conditions (i.e., if offsets were provided).

Finally, repeating a requirement of the Law, he proposed that agriculture could only occur proximate to the shoreline (e.g., within any buffer zone established by the Commission) if Agricultural Best

Management Practices (BMPs) were in place. The memo concluded by asserting that these policies would serve to control the general pattern of future land development in the Critical Area. The policies thus established the spatial basis for the subsequent criteria by recognizing variations in the intensity of existing development, by focussing new growth in areas already largely or moderately developed, and by protecting areas in non-intensive uses (forest land and agriculture) or in natural habitats.

The Subcommittee discussed Eichbaum's memo at its February 21st meeting, and further expanded it to include an additional policy that certain uses should not be allowed in the Critical Area. They were non-maritime heavy industry and transportation facilities, except those necessary to reach water-dependent uses, or where regional or interstate facilities must cross tidal waters. At the February 28th meeting, the Subcommittee also added landfills, and hazardous waste storage and disposal facilities as further examples of prohibited uses.

The Subcommittee, at its next meeting on March 7th, discussed a statement of policies prepared by the staff, which described the three development areas inherent in the previous meetings; namely, undeveloped areas(to be called Resource Conservation Areas or RCAs), areas of limited development (to be called Limited Development Areas or LDAs), and intensely developed areas (IDAs). The staff report noted that each of the three areas posed different challenges for land managers attempting to achieve the goals of the Critical Area Law and, therefore, the management program for each would be different. The Subcommittee responded positively to this suggestion, and began

attempts to characterize the three areas in a concrete way, and to establish boundaries for each. The staff was directed to assemble development criteria for each area.

The first draft criteria were presented to the Subcommittee on March 21st. The previous policies were incorporated into a statement of general policies including: 1) focussing new development towards existing intensely developed areas; 2) permitting some new low-intensity development in limited development areas, basically as similar density infill, but under strict regulations to prevent adverse impacts on water quality and habitat areas; and 3) designating "natural resources areas" chiefly for habitat protection and for forestry, agriculture, and other resource utilization activities.

Generally, the specific goals for the three areas were: 1) in intensely developed areas - improve water quality (in surface water runoff) whenever new development or redevelopment is proposed (such means were suggested as clustering of development and reducing impervious surfaces); 2) in limited development areas - similar water quality goals including a percentage limitation on impervious surfaces (12% of the development site), but also limits on the removal or clearing of forests and woodlands and on development on steep slopes; 3) in natural resource areas - protecting agriculture and forest lands and limiting new non-farm residential development (one dwelling unit per 50 acres was proposed). Also included in this statement was the idea that new intensive development should be directed outside of the Critical Area altogether.

In this early draft, the development areas were distinguished by a general description of current development and a quantitative

description based on the percentage of impervious surfaces found in an area. Subsequent staff revisions altered these definitions to include housing density, average lot width or length of shoreline per lot, and current availability of public sewer or water distribution systems. At later meetings on April 4th, 10th, and 14th, the Subcommittee sought to sharpen the definition of the three areas, to visualize the extent of each in various jurisdictions, and to consider specific mapping rules to be used by the local jurisdictions. The Subcommittee also began to discuss specific criteria including the appropriate percentage limitation on forest removal when development is proposed, and the allowable density for new development in the natural resources areas (now called Resource Conservation Areas).

During the final month of drafting, the Subcommittee worked on the details of the criteria for the three land-use management areas. In the Intensely Developed Area (IDA), the early criteria sought to achieve water quality improvement by including such directives as reduced impervious surfaces, establishing permeable areas in vegetation, and minimizing the adverse affects of stormwater runoff.

The Subcommittee concluded that the criteria should contain specific water quality improvement requirements for both new development and redevelopment. The criteria were then revised to provide that stormwater management technologies, already required by applicable State and local ordinances, are required to be used for both new development and redevelopment. If such technologies do not reduce pollutant loadings on the development site by at least 10% over predevelopment conditions, then offsets are to be provided. The 10% criterion was chosen as a reasonable goal for water improvement in

developed urban areas on a site-by-site basis.

The criteria further required that equivalent offsets may be provided either on- or off-site, provided that the offset benefits can be demonstrated through the use of such techniques as modeling or monitoring. These criteria were proposed by the Subcommittee so that in the already-urbanized portions of the Critical Area, the Commission could ensure that some tangible water quality benefits would be associated with the development and redevelopment process. Moreover, the Subcommittee was aware that a substantial body of information existed for the metropolitan Washington/Baltimore region on stormwater characteristics and the pollutant loading reductions that could be achieved through the use of various techniques (i.e., wet-pond retention and filter strips). Thus, the 10% reduction requirement was capable of being estimated and practically achieved.

In the Limited Development Area (LDA), the two principal criteria proposed by the Subcommittee were limitations on impervious surfaces in the development site and on the clearing of trees. (Other limitations were being proposed by the Resource Protection Subcommittee). The thrust of both these criteria was to maintain as much forest and woodland areas as possible in the development process, so that the quality of surface run-off would not be impaired. In regard to impervious surfaces, the Subcommittee staff examined the technical literature that related land use in an area to the quality of run-off. It was determined that no adverse effects on run-off could be demonstrated (relative to undeveloped conditions) for impervious surfaces up to about 12 to 13% of a given area. The Subcommittee rounded this figure to 15%. Some members of the

development community believed this to be overly restrictive, particularly in view of local requirements for paved roads, curbs and gutters. The Subcommittee therefore added provisions encouraging the jurisdictions to relax road standards, where possible, to reduce the extent of impervious surfaces in a subdivision.

The limitations on forest removal were likewise aimed at water quality considerations and the guiding policy, ultimately expressed in Section .04C(3)(a) of the criteria, was that the total forest coverage within a jurisdiction's Critical Area shall be maintained or, preferably, increased. In order to implement such a policy in LDAs and RCAs, replacement of cleared trees would be necessary. The Subcommittee estimated that in a new subdivision, the development that would meet the 15% impervious surface criterion discussed above, could result in approximately a 20% loss of trees on a fully-forested site. Thus, clearing up to this amount was allowed with 1-to-1 replacement. If clearing occurred over this amount, then the replacement requirement would be higher. A severe replacement penalty was required if a site was cleared prior to the developer obtaining a grading permit.

In the Resource Conservation Area (RCA), the Subcommittee sought a density criterion that would serve to maintain the protective land uses of agriculture and forestry, although consideration was also given to determining whether a relationship existed between the density of development in an area and the quality of runoff from that area (i.e., could a threshold be found where, beyond a certain development density, the quality of surface runoff was essentially the same as forested or "natural" land uses).

In regard to agricultural land preservation, the Subcommittee noted that several counties in Maryland had agricultural protection programs where a 1 dwelling unit per 20 acres density (or even lower densities) was contained in zoning ordinances. Moreover, the Maryland Agricultural Land Preservation Program limited new development on participating farms to such a density. The Subcommittee also heard a presentation from Robert Gray of the American Farmland Trust, who pointed out that hundreds of jurisdictions in the United States had enacted development density limitations of 1 in 20 acres or less in an effort to preserve farm lands, primarily from low-intensity residential development. The intent of such programs was to limit new development in targeted agricultural areas to a density that would not cause or accelerate the conversion of agricultural lands to residential or other uses. It was noted that in the eastern United States generally, the "1 in 20" density seemed to be a threshold. At greater densities, land use conflicts and speculative land investing occurs which undercuts the maintenance of these areas when development pressures increase.

The Subcommittee also received data from the Maryland Department of State Planning showing that the percentage change of agriculturally assessed land between 1982 and 1985 occurred most frequently on parcels of 20 acres or less. Large numbers of 2, 5, and 10-acre lots had been developed for residential uses, thereby consuming substantial amounts of agricultural and forested lands.

Based on this information, the Subcommittee concluded that if densities greater than "1 in 20" were allowed, RCAs would be converted out of agriculture and forest lands into more developed uses that

would contribute greater overall pollution loadings. Such an outcome would also be counter to the Critical Area Law which defined agriculture and forests as "protective land uses".

The Subcommittee heard further presentations from members of the Resource Protection Subcommittee concerning the habitat protection aspects of the RCA density proposals. They emphasized the importance of maintaining large connected areas of forests for certain species of wildlife, particularly forest interior dwelling birds. Citing recent research conducted in Maryland, they stated that forest fragmentation was a key factor contributing to the decline in abundance of these species. They urged the Development Subcommittee to adopt a density criterion that would limit the direct loss, and the fragmentation, of large forest tracts. It was also noted that in addition to direct loss of forest land, higher density development would also lead to greater human activities that would have adverse impacts on wildlife.

The Subcommittee ultimately selected the "1 in 20" criterion based on agriculture and forest land preservation, habitat protection and water quality grounds. A fuller discussion of the factors addressed by the Subcommittee in making this judgement is contained in a Commission staff paper entitled "Rationale for a Twenty Acre Density Requirement in Resource Conservation Areas in the Chesapeake Bay Critical Area" and in a staff paper of the Department of Health and Mental Hygiene entitled "In Defense of Establishing a Maximum Twenty-Acre Residential Density Within Resource Conservation Areas of the Chesapeake Bay Critical Area". A later report on this subject has also been written. It is "A Report to the Chesapeake Bay Critical Area Commission: An Assessment of the One Dwelling Unit/20 Acres

Limitation", (R. Gray and L. Vinis, Resource Management Consultants, Inc., Washington, D. C., 1988) which is available at the Commission.

Late in the criteria drafting process, the Subcommittee discussed the matter of providing the jurisdictions with some additional growth potential beyond that permitted within the three land management categories. This concept, which came to be called "growth allocation", was incorporated into criteria provisions. These provisions would enable the jurisdictions (counties) to identify new IDAs in an amount up to 100% of their existing IDAs or 5% of their existing LDAs. The formula for Anne Arundel County and Baltimore City was to be determined in the future. A number of revisions were later made to this section and will be discussed under "Criteria Changes".

RESOURCE PROTECTION SUBCOMMITTEE

In the initial organizational meeting of the Subcommittee at the Easton workshop, several themes emerged that influenced subsequent criteria development. These included concern about tidal wetlands and the extent to which existing regulations were adequate for their protection; the function and extent of shoreline buffers; the relationship between fastland development and impacts on aquatic resources; the identification of unique habitat in the Critical Area; and the designation of habitat areas that would not be appropriate for development under any circumstances.

Prior to the first formal meeting of the Subcommittee in early February, the staff began to outline possible subject areas for criteria development. Initially, a general category of "Fish, Wildlife, and Plant Habitat" was proposed consisting of subsections on

Aquatic Areas, Wetlands and Shorelines, and Terrestrial Habitats. Aquatic habitats were defined as fish spawning areas and beds of shellfish and submerged aquatic vegetation. Factors to be addressed in protecting these habitats were physical alterations, sedimentation, and biological or chemical contamination. Tidal wetlands and shoreline areas were to be protected from direct disturbance by the establishment of buffers. It was also stated that riparian areas along streams would, in many cases, have intrinsic habitat values. Terrestrial habitats initially included those of rare and endangered species, unspecified unique areas, habitats of common wildlife, and other sensitive areas (i.e., steep slopes or highly erodible soils) whose development may have detrimental impacts.

At its first meeting, the Subcommittee modified those categories. For aquatic habitats, the Subcommittee decided that existing State and Federal programs governing dredging, waterway construction and the alteration of tidal wetlands, were adequate, and that any further regulation by the Commission would be duplicative. The same conclusion was reached for direct impacts to fish spawning areas and submerged aquatic vegetation beds. Thus, the Subcommittee decided to focus instead on specific land-based activities, such as water-dependent facilities and shore erosion protection devices, that would produce adverse impacts on aquatic resources, and on the role of setbacks or buffers in mitigating the impacts of fastland development on these resources. The Subcommittee also concluded that adequate protection was not being afforded to non-tidal wetlands because there were no existing State regulations for such areas, and that Federal protection under Section 404 of the Clean Water Act was not then fully

exercised by the U.S. Army Corps of Engineers.

The initial concept of terrestrial habitat was questioned for being broad and unfocussed, and for including reference to the habitats of common wildlife. In the course of the Subcommittee discussions, several policies emerged that clarified the scope of these criteria. First, it was agreed that the overall effect of the criteria being drafted by the Development and Resource Utilization Subcommittees would be to limit future land disturbances in the Critical Area, and to conserve areas of natural habitat. Thus, habitats for common wildlife would generally be afforded protection without the need for any additional protection measures. Secondly, the Subcommittee proposed that emphasis be given to: 1) habitats of significance to wildlife that are currently scarce, or would become so in the future, if current land-use trends were to continue; and 2) habitats which are uniquely required to support the continued presence of species in the Critical Area.

As a result of these early deliberations, the subject matter to be addressed by the Subcommittee was narrowed to buffers; non-tidal wetlands; rare, threatened and endangered species; certain specific plant and wildlife habitats; and the watersheds of anadromous fish spawning streams. These categories will be discussed in the following sections.

BUFFERS - The Subcommittee knew that the establishment of buffers was one of the required minimum elements of local Programs, as set forth in Section 8-1808 of the Critical Area Law. In that Section, the Law directed the establishment of buffer areas along shorelines and required minimum setbacks for structures and septic fields.

The Subcommittee undertook a review of buffer concepts as expressed in other State and regional shoreline or stream protection programs to determine the functions that buffers fulfill and the specifications of such buffers in terms of width and composition. Much of the background information on this subject was contained in a report prepared by Earl Bradley of the Coastal Resources Division in the Department of Natural Resources, entitled "Natural Buffer Areas Study". The Subcommittee also examined the buffer regulations for the New Jersey Pinelands and the Adirondack Preserve and technical literature for riparian forests and other wildlife-related buffer issues.

Subcommittee members noted that some programs had established buffers for scenic or aesthetic purposes (i.e., the Boundary Waters Canoe Area in Minnesota), but such considerations had been explicitly deleted from the Critical Area Law by the Maryland General Assembly.

The Subcommittee then focussed its attention on the buffer functions that would be relevant to the Critical Area; that is, for streams, the Bay shoreline, and landward from the edge of tidal wetlands. It determined that the following functions would be appropriate for such areas, and these were then adopted as policies by the Subcommittee:

1) Preventing direct impacts of fastland development to wetlands, stream banks, and shoreline environments;
2) Filtering land runoff so that excessive amounts of nutrients, sediments, or other harmful materials would not enter adjacent waters;
3) Maintaining the transitional habitat that exists between

aquatic and upland areas; and

4) Protecting riparian plant and wildlife communities.

In regard to buffer width, the Subcommittee recognized that in other programs, this distance varied depending on the resources being protected and the type of disturbance being addressed. For example, a minimum 50-foot buffer had been specified between commercial timbering operations and streams primarily for sediment control purposes. In the New Jersey Pinelands, a 300-foot buffer between new development and streams, is in effect because of the nature of the soils in that region. For wildlife protection purposes, a 300-foot width has been recommended to protect riparian areas. Studies of the filtering effect of forested areas (i.e., Peterjohn and Correll in Ecology, 65(5), 1984) showed that high rates of up-take of nitrogen and phosphorus would occur within a 100-foot wide buffer.

After considering these factors, the Subcommittee concluded that a minimum 100-foot buffer would be appropriate as a general requirement for the Critical Area. But, they also recognized that such a buffer should be expanded where there were adjacent sensitive areas (i.e., steep slopes or hydric soils) or where significant habitat was contiguous with the minimum buffer (i.e., forested areas serving as habitat for forest interior dwelling birds).

The extent to which various development activities would be allowed to occur in the Buffer was hotly debated by the Commission both before and after publication of the criteria. Such issues are described later in this Chapter.

NON-TIDAL WETLANDS - As previously indicated, the Subcommittee decided to include non-tidal wetlands in the criteria because of their

water quality protection functions and because many of these wetlands provided habitat for unique plant and animal communities. Moreover, existing protection under Federal regulations (Section 404 of the Clean Water Act) was limited to direct effects from dredge and fill operations and the Corps of Engineers was not, at that time, exerting authority for applying the 404 Regulations to most isolated non-tidal wetlands.

The principal issues considered by the Subcommittee were defining non-tidal wetlands and designating those for which protection measures should be applied. With the assistance of the Non-tidal Wetlands Division in the Department of Natural Resources, the initial criteria drafts were written using three defining characteristics: 1) hydrology (the water table is at or near the surface, or the soil is covered by shallow water during the growing season); 2) vegetation (the area supports plants adapted to growing in water or in saturated soils); and 3) soils (the substrate is predominately undrained hydric soils). In order for an area to be described as a wetland, it would have to have at least one of those characteristics. This wetland definition generally followed that used by the U.S. Fish and Wildlife Service.

A further clarification was made to the definition by using the wetland classification system of the Fish and Wildlife Service. Thus, wetlands were limited to those of the Palustrine class, a term used to describe fresh-water wetlands that contain trees, shrubs, emergent plants or mosses, and to similar wetlands occurring in fresh tidal waters. While other classes of wetlands occur in the Critical Area (e.g., Riverine and Estuarine), the Subcommittee concluded that they

would be adequately protected by the Buffer criteria. Four of the sub-classes of Palustrine wetlands which occur in the Critical Area (e.g., aquatic bed, emergent, forested and scrub-shrub) were specifically identified for protection.

Once these definitions were agreed to, the Subcommittee considered the scope of a protection program; that is, which wetlands should be afforded protection. In the initial drafts, the criteria provided that local jurisdictions would identify and protect all non-tidal wetlands with a hydrologic connection to tidal water or streams, or which had special importance to wildlife as determined by various agencies within the Department of Natural Resources. (The purpose here, was to address the water quality and habitat protection goals of the Critical Area Law.) When this draft was circulated among the full Commission, concern was expressed about the difficulty of using "hydrologic connection" to identify a protected wetland and of the vagueness of the term "special importance to wildlife". In order to address these concerns, the Subcommittee decided to use as the main designator, the National Wetlands Inventory maps that had been completed for Maryland. These maps, which had been made using aerial photography, showed the location of non-tidal wetlands by class and sub-class, and could, therefore, be used by the local jurisdictions in developing their Critical Area Programs. The full Commission agreed with this approach. Some members of the Commission were also concerned about limiting the scope of protection to wetlands of a significant size. This issue was resolved by adopting a minimum size of one acre which coincided with the limit established under Federal regulations. However, the criteria for protecting hydrologically-

connected wetlands and those with special habitat significance were retained, so that wetlands smaller than one acre with either of these characteristics would also be protected.

The first draft criteria contained two forms of protection that remained unchanged thoughout the drafting process. They were the establishment of a buffer around the wetland, and protecting the hydrologic regime of a wetland by minimizing land disturbances in its drainage area. By these means, both direct and indirect impacts were to be prevented. Thus, the protection provided was stronger than Federal regulations. The only subsequent change made was specifying a required buffer width, and 25 feet was chosen as providing some sediment control value. In addition, this was expressed as a minimum width, so that the buffer could be expanded where steep slopes or other conditions warranted.

Late in the Commission's criteria review process, two additional issues were introduced. These were to establish circumstances where a wetland could be disturbed, and to provide a public notice requirement for the designation of a wetland. In regard to disturbances, the Commission wished to recognize that there may be circumstances where a wetlands alteration would be permissable. However, the Commission also agreed that if direct wetland impacts were permitted, mitigation of the impact would be required. The Subcommittee proposed language for the kinds of activities and circumstances where disturbances would be allowed, and a process for preparing and implementing a mitigation plan. (These are discussed in detail in the Commission's Guidance Paper "Guidelines for Protecting Non-Tidal Wetlands in the Critical Area".) It should be noted that altering wetlands for agricultural

purposes would require meeting the circumstances provided for in the criteria (e.g., the activity would have to be of substantial economic benefits and the wetland impact determined to be necessary and unavoidable). However, mitigation would not be necessary if the wetland only contained surface water occasionally during the growing season (e.g., is classified as "temporarily flooded" or "saturated"). This provision was added to allow some clearing of land for agriculture without mitigation, but only where the water quality and habitat value of the wetland is likely to be relatively low.

Finally, certain members of the Commission were concerned that private landowners be given notice of the existence of a non-tidal wetland on their property and of the restrictions or limitations that may be proposed on such areas. The Commission agreed with this concern and consequently a concluding section was added to the criteria with the public notice requirement.

RARE, THREATENED, AND ENDANGERED SPECIES - As noted earlier, the Subcommittee decided in its initial meetings, that protection should be given to plant and wildlife species whose existence in the State was threatened or endangered. They recognized that State and Federal regulations under the Endangered Species Act already afforded a certain degree of protection. However, such regulations generally addressed the direct taking or collecting of these species and not the protection of their habitats. Thus, the Subcommittee, in the first draft criteria, adopted a policy of providing protection for "rare and endangered species and their habitats" which occur in the Critical Area.

The Subcommittee encountered two principal issues in preparing

criteria for this section: defining species fitting this category, and prescribing appropriate protection measures. Initially, the Subcommittee used as a definition those taxa of plants and animals which have been, or may be in the future, classified by the Maryland Natural Heritage Program (MNHP) as of national, regional, or State significance. However, when this early draft was circulated to the full Commission, concern was expressed about the statutory standing of the Heritage Program, and of the Commission's legal basis for designating species for protection based on the MNHP classification. The Commission noted that the MNHP was a research program, rather than a regulatory one, that published lists and descriptions of plants and animals, some of which may be threatened or endangered, and others which are not. On the other hand, the Secretary of Natural Resources has broad authority to develop protection programs for threatened and endangered species of animals and plants, including such species designated pursuant to the Federal Endangered Species Act. The criteria definition was, therefore, revised to include the categories of rare, threatened and endangered species which are designated as such by regulations, by the Secretary of the Department of Natural Resources.

Following publication of the criteria in June of 1985, the staff determined that the category of "rare" species was not contained within the Secretary's authority under the Natural Resources Articles, whereas species of non-game wildlife deemed "in need of conservation" could be afforded protection. The final criteria thus were changed by substituting "species in need of conservation" for "rare". However, the former term only includes wildlife (and fish) and therefore, all

plants which had been classified as "rare" by the MNHP were not included for protection in the criteria. Since many of these plants occur in non-tidal wetlands, the Commission concluded that the criteria for wetland areas would serve to protect such species. Subsequently, in 1987, the Secretary of Natural Resources adopted new Regulations .01. through .11 under COMAR .08.03.08 (Threatened and Endangered Species) wherein a number of wildlife species and plants were added to the threatened and endangered species lists. A new listing for species in need of conservation was likewise adopted. Thus, the criteria protects the habitats of all of these species occurring in the Critical Area.

In regard to protection measures, the Subcommittee determined that it would not be feasible to provide site-specific or species-specific directives in the criteria. Early criteria drafts proposed that a buffer area around habitats be designated by the MNHP where no development would be permitted. Also, local jurisdictions would be required to develop policies and programs for protecting the habitats and for submitting these plans for approval to the Commission. These requirements were later combined in the following manner. Local jurisdictions were required to develop management programs for these habitats drawing on the expertise of the MNHP and the Maryland Forest, Park and Wildlife Service. The programs would consist of one or both of two elements: first, designating a protection area (e.g., "buffer") around the habitat within which development activities or other disturbances would be limited or prohibited; and second, developing programs such as conservation easements, acquisition or other instruments to directly protect these areas.

The intent of these criteria was to: 1) ensure that a given habitat area was "buffered" from the effect of a specific proposed development and that the jurisdiction could, in consultation with the appropriate State agency, prevent adverse habitat impacts on a case-by-case basis; and/or 2) provide protection in advance of any proposal for disturbance through covenents, easements, or other means.

The full Commission added an additional criteria requirement for public notice, as explained in the previous discussion on non-tidal wetlands.

PLANT AND WILDLIFE HABITAT - These criteria were an outgrowth of the Subcommittee's earlier discussion on appropriate policies for terrestrial plant and wildlife habitats that were not already covered by the sections on the Buffer; non-tidal wetlands; rare, threatened and endangered species; and anadromous fish spawning streams. The Subcommittee considered this question: Are there further important habitats worthy of protection which are in danger of becoming scarce in the future because of development pressures? In order to address this question, the Subcommittee sought comments from agencies within the Department of Natural Resources, the U.S. Fish and Wildlife Service, the Smithsonian Institution, and the University of Maryland. These discussions produced the following list of habitats which met the condition listed above.

1. Colonial Water Birds - These species of birds (herons, egrets, terns, and glossy ibis) congregate or colonize during the nesting season on a few, somewhat fixed, sites. During the nesting season, they are extremely sensitive to disturbance from human activities. Colony sites had been identified on maps prepared by

the U.S. Fish and Wildlife Service, and this information was available through the Non-Game Species Program in the Maryland Forest, Park and Wildlife Service.

The Subcommittee proposed two forms of protection. One was to establish a buffer area around the colony within which new development or other disturbance (i.e., timber harvesting) would be prohibited; the second was to protect the colonies during the spring nesting season from disturbances that may interrupt nesting activities. Such disturbances might include construction activities, pile driving, heavy recreational use, and the like. The Subcommittee recommended that the local jurisdictions seek the assistance of the Maryland Forest, Park and Wildlife Service when using both general and site-specific protection measures.

2. Waterfowl Staging and Concentration Areas - At certain locations on the Bay and its tributaries, waterfowl have historically concentrated for feeding purposes or for staging prior to migratory flights. These areas had been mapped by the U.S. Fish and Wildlife Service and these data were available from the MFPWS. The Subcommittee developed criteria so that these areas could be identified in the development process and afforded protection.

While the full Commission agreed to the intent of the Subcommittee criteria, several members suggested that they be clarified to indicate that only aquatic areas were being protected. Their concern was that protection of waterfowl on all terrestrial feeding sites (i.e., agricultural fields) was neither necessary, nor practical. The Subcommittee agreed, and the section title was

revised to specify concentration areas only in aquatic environments. Protection measures were, therefore, limited to preventing disturbances resulting from water-dependent facilities since these were the only development activities allowed to occur along the shoreline within the Buffer that could directly disturb aquatic concentration sites.

3. Forest Interior Dwelling Birds - The Subcommittee heard presentations from scientists at the Smithsonian Institution and the Patuxent Wildlife Research Center on recent trends in Maryland for the populations of bird species which occupy large forested areas (e.g., forest interior dwelling species). These species, including vireos, warblers, flycatchers and woodpeckers, have declined in abundance as their forest habitat has been diminished or fragmented by development. Because of this local decline, and a similar loss in wintering habitat in Central America for some of these species, the Subcommittee concluded that protection measures were warranted. Data from Maryland were studied to determine the relationship between the size of a forested area and the relative abundance of these species. Researchers concluded that upland hardwood forests of approximately 100 acres, or larger, or riparian (e.g, streamside) forests of 300 feet in width or wider, are likely to be habitats of these species. Therefore, these two types of forests were suggested for protection in the criteria. In order to demonstrate that a given tract contained breeding populations, the criteria referred to "documented breeding areas" meaning that the presence of these species could be ascertained by site surveys during the breeding season. However, the

Subcommittee assumed, based on the studies examined, that all hardwood forests of the size and characteristics mentioned above were likely to be habitats for these birds. A detailed discussion of this section of the criteria is contained in the Commission's Guidance Paper No. 1 entitled "A Guide to the Conservation of Forest Interior Dwelling Birds in the Critical Area."

When these criteria were presented to the full Commission, there was general support for the concept and for the protection measures proposed by the Subcommittee. The principal concern expressed was that no mention had been made of the specific bird species that could be defined as "Forest-Interior Dwelling" and which therefore, needed protection. While the Subcommittee concurred with this objection, sufficient time was not available to analyze the data and derive a list of protected species. The Subcommittee proposed, and the Commission agreed, that this task would be undertaken after publication of the criteria. Such a list was eventually proposed to, and accepted by, the Commission in its approval of the Guidance Paper referred to above.

4. Other Plant and Wildlife Habitat Areas - The Subcommittee wished to protect other important habitat areas that may be identified in the future. This ability was added as a separate category to the criteria and qualified by the requirement that identification be made by State or Federal agencies. No specific protection measures were proposed although a buffer area was suggested where appropriate.

To date, no habitats have been proposed that would qualify for protection under this section. It is likely that a designation

process would involve the Secretary of Natural Resources (or an appropriate offical of a federal agency) making a finding that a particular habitat is significant and proposing to the Commission that it be protected. The Commission could then decide if it wished to implement the Secretary's (or other officials') recommendation. If the Commission voted to do so, then the affected jurisdiction(s) would be notified and the local public hearing process initiated.

5. Plant and Wildlife Habitat of Local Significance - It was brought to the Subcommittee's attention that local jurisdictions may wish to protect habitats that have local significance, but are not rare or unique on a State-wide basis. Such a criterion was drafted and protection measures were left to the jurisdiction.

6. Natural Heritage Areas - Late in the drafting process, the Subcommittee considered whether it would be desirable to include in the criteria, provisions for protecting "Representative Plant Communities". These would be communities of plants identified by the MNHP as the best examples of their kind in the State. An example given of such an area was the Seton Woods tract in Prince George's County--a relatively large forest that had not been logged or significantly disturbed in recorded time. The Subcommittee agreed that such areas would be considered, but, in the subsequent draft, the more descriptive term "Exemplary Plant Communities" was used. However, when the criteria were brought to the Commission, objection was again raised as to the authority of the MNHP to designate such areas. The Commission insisted that these communites should be designated, by regulation, by the

Secretary of the Department of Natural Resources and this provision was then added to the definition of "Exemplary Plant Communities".

After the June publication of the proposed criteria, the title of this section was changed again to its final designation, Natural Heritage Areas (NHAs) to coincide with an existing designation within the MNHP. Subsequently, the staff determined that if these areas were to be designated by regulation by the Secretary of Natural Resources, that there was no statutory authority for the designation of non-threatened and non-endangered plants for protection. Accordingly, NHAs could only be designated if they contained threatened and endangered plants (see L. Epstein memorandum to Linda Lamone, November 8, 1985). As a result of this determination, a nomination process for NHAs was undertaken within the Department of Natural Resources and regulations designating such Areas were adopted in 1987. In this regard, one should note that the criteria definition of NHAs is incorrect and will eventually be changed by the Commission.

ANADROMOUS FISH SPAWNING STREAMS - As noted earlier, the Subcommittee singled out for protection streams that supported spawning runs of anadromous fish (e.g., rockfish, shad, white perch, yellow perch, and river herring). Two approaches for protection were proposed in the first criteria draft, one addressing instream or stream bank areas, the other directed at land disturbances in the watersheds of these streams. In regard to direct stream impacts, the first criteria addressed the construction of dams and other instream structures, the installation of artificial surfaces onto natural

stream beds, channelization or other physical alterations, and seasonal construction and repair activities along stream banks associated with bridges and other stream crossings. However, the Subcommittee determined that some of these activities were already subject to State or Federal regulations. As a result, a criteria section was added calling attention to existing state regulations for dams and for seasonal limitations on bridge and road construction. One change was made to existing regulations by extending the seasonal prohibition on the latter activities from March 1 to June 15, thereby more fully protecting early runs of white perch. This was subsequently adopted State-wide.

The Subcommittee retained two criteria that would be required in local Programs, one prohibiting artificial stream bed surfaces, and the other prohibiting channelization. In both cases, the Subcommittee believed that these criteria would strengthen State regulation of such activities.

In regard to watershed disturbances, the Subcommittee was unable to develop specific criteria for limiting the effects of land disturbances on the stream environment. This was the case because the Subcommittee believed that the Buffer regulations, coupled with the development criteria, would serve to minimize upland disturbances in the stream's watershed. They decided that by designating watersheds and requiring local jurisdictions to develop policies and programs for such areas, future development would tend to be conducted in a manner more sensitive to the stream environment. Such a criterion was therefore added.

WATER-DEPENDENT FACILITIES - Initial draft criteria for water-

dependent facilities were prepared separately by the Development and Resource Protection Subcommittees. The thrust of the Development Subcommittee was to concentrate maritime development in or near existing centers of development; to limit development on the shoreline to that which is water-dependent; to site such development away from ecologically sensitive areas; and to ensure operation of the facility in a way to minimize the discharge of toxic materials.

The Resource Protection Subcommittee focussed on delineating environmental impacts that should be avoided by water-dependent facilities; characterizing the various kinds of such facilities (i.e., marinas, ports, etc.) that would be regulated, and developing locational criteria whereby certain facilities would be allowed or prohibited depending on which of the three land-use categories (e.g., IDA, LDA, or RCA) was involved. Early in the criteria development process, the drafts of each Subcommittee were merged and further refinements were made by the Resource Protection Subcommittee. The intent of both Subcommittees was to limit new development in the Buffer to only those that needed an immediate shoreline location because of their water-dependent nature. Thus, a section was drafted that defined water-dependent facilities as structures or works that needed to be located at or near the shoreline within the Buffer because of their intrinsic nature. Once a facility was determined to be water-dependent, then it could, in general, be allowed in the Buffer, but subject to criteria that would minimize adverse environmental impacts and that would concentrate most facilities in areas already developed.

As noted above, the Resource Protection Subcommittee worked to

develop a list of environmental factors for determining if a facility should be sited in a particular area. Eight such factors were identified, including water circulation and salinity regimes, presence of shellfish beds, and the like. In the initial drafts, the criteria required the applicant to make findings regarding the effect of the project on these factors, and to submit such findings to the local jurisdictions. In a following draft, the Subcommittee introduced the concept of requiring the jurisdiction to develop a plan for implementing the water-dependent facilities criteria that would involve, in part, designating areas suitable for these facilities by using the environmental factors. Thus, a local Critical Area plan would identify shoreline areas where new facilities would, or would not, be permissable.

Objections to this approach were raised by the full Commission because it was felt that few, if any, of the jurisdictions could assemble and analyze the technical information necessary to make these siting designations in their programs. The requirement was, therefore, changed to provide that the jurisdictions' plan contain a specific process by which these factors would be used in approving areas suitable for water-dependent facilities. In effect, the factors would then become part of the project review process and, in most jurisdictions, the applicant would be required to supply the technical information.

The Subcommittee then returned to the matter of defining locational criteria. These were formulated based on the Development Subcommittee's draft by listing the types of facilities being regulated and by determining, for each, whether they should occur in

the three development areas. This resulted in the following policies:

1) Intense water-dependent development, specifically, ports or industrial facilities. These could only be located in IDAs and only in those portions that the local jurisdiction designated as exempted from the Buffer requirements. In effect, new, expanded, or redeveloped facilities of this nature could only occur in existing developed areas and where the shoreline (the Buffer) was largely devoid of habitat or other environmental values.

2) Commercial marinas and other such maritime facilities. These could not be sited in RCA areas, but could be permitted in IDAs or LDAs.

3) Community piers and related non-commercial boat docking and storage facilities. These would be allowed in IDAs without limitation, and in LDAs if associated with a residential development approved for the LDA. The Committee proposed that these facilities should not be allowed in RCAs. However, the full Commission believed that community piers would generally be preferable to private piers, and the criteria were revised to allow them in RCAs at a slip denisty not to exceed 1.5 times the number of buildable lots in the Critical Area within the subdivision.

4) Public beaches and other public water-oriented recreation areas. Because the Commission wished to encourage such facilities, (e.g., encourage public access to the Bay), they were allowed in all three areas except that, in LDAs or RCAs, service facilities are to be located ouside of the Buffer

whenever possible, and the use of permeable surfaces is encouraged

5) Research Areas. These facilities would be permitted in all three areas, subject to the Buffer setback requirements for non-water-dependent features of the facility.

6) Fisheries Facilities. The Commission did not wish to limit facilities associated with commercial fisheries and no restrictions were required, other than those contained in the General Criteria Section (.03).

This Section also contained mention of aquaculture and asked the jurisdictions to identify land and water areas suitable for such use. (See Section on Aquaculture under Resource Utilization Subcommittee for a discussion of aquaculture criteria.)

After publication of the June 1985 criteria, several changes were made to these criteria in response to public comment. These are discussed in a later section on criteria changes. One aspect of these changes is noted here. The definition section characterizes water-dependent facilities in terms of development within the Buffer. However, neither the Subcommittee nor the full Commission foresaw that this definition would remove from regulation, redevelopment proposed on existing piers or pilings. Thus, the renovation of an abandoned industrial facility built on piers for residential purposes could not be prevented by these criteria since it would not occur in the Buffer. This later became a problem for the Commission when such kinds of development were proposed in the Baltimore City Critical Area.

SHORE EROSION PROTECTION - The Subcommittee, at its earliest meeting, expressed several concerns regarding shore erosion measures. One was that bulkheads, or other vertical erosion control structures, could have adverse impacts on the shoreline and adjacent aquatic environments. As a result, the Subcommittee wished to encourage the use of alternative non-structural methods (i.e., vegetative) that would have lesser adverse effects. In addition, there was concern about the use of structural methods where no appreciable erosion was occurring. The Subcommittee observed that in many rivers and creeks, particularly on the Western Shore of the Bay, large stretches of the shoreline were bulkheaded, primarily for cosmetic purposes. These concerns were translated into shore erosion protection policies in the first criteria drafts.

The approach to devising regulations for shore erosion protection measures was the following. Local jurisdictions, with the assistance of State agencies, would designate and map shoreline areas according to their erosion susceptibility. Following such mapping, the jurisdictions would then adopt regulations or programs wherein an erosion measure would be evaluated on whether it was appropriate or effective for a given area. Thus, in an area determined to have no significant erosion, a proposal for bulkheading would be considered inappropriate. Conversely, in a rapidly eroding area, vegetative methods would likely be ineffective and structural measures would thus be appropriate.

The criteria for shore erosion protection were adopted by the full Commission, although objections to the apparent bias against bulkheading was raised by the marine construction industry. These

objections resulted in subsequent changes to the criteria and will be discussed in a later section on Criteria Changes.

AREAS OF CRITICAL STATE CONCERN - In 1974, an effort was made to enact a State-wide land-use planning program. Although the proposal was not adopted by the General Assembly, a modified version was passed called Areas of Critical State Concern. Under the program, administered by the Department of State Planning, local jurisdictions could nominate areas for special management or protection that had particular economic or environmental value. Since some of the areas designated occur in the Critical Area, the Subcommittee drafted criteria requiring local jurisdictions to prepare plans showing how adverse impacts to such areas from development would be avoided. When the draft circulated to the full Commission, objections were raised regarding the desirability of the Critical Area Program appearing to supersede another State agency program. In addition, the Commission observed that many areas of Critical State Concern would be otherwise protected by the habitat protection criteria. Moreover, local jurisdictions were enabled, under the plant and wildlife criteria, to designate areas for protection as "habitats of local significance". As a result of these considerations, criteria for Areas of State Critical Concern were dropped from the program.

RESOURCE UTILIZATION SUBCOMMITTEE

This Subcommittee was charged with criteria development for resource utilization activities in the Critical Area, specifically, agriculture, forestry, surface mining, and aquaculture. (Initially, it was also to consider shore erosion protection, but that subject was

addressed by the Resource Protection Subcommittee.) The Subcommittee included, as resource persons, representatives of State agencies and the private sector who would be affected by the resource utilization criteria. The following is a discussion of the criteria developed for each subject area.

FORESTRY - The initial basis for subsequent criteria governing forestry was a paper prepared by the Maryland Forest, Park and Wildlife Service (MFPWS). The paper discussed the recent loss of forest land in Maryland, mainly to accommodate low intensity residential uses. It cited the Environmental Protection Agency's Chesapeake Bay Study in arguing for protecting forest land for the water quality benefits such areas provided, rather than purely for the economic gains to be made from timber harvesting. The paper proposed policies for forest and woodlands including conducting forest practices in an environmentally sound manner, encouraging reforestation and urban forestry programs, and maintaining or establishing forest buffers along water courses to filter surface run-off from adjacent lands. The specific criteria presented included: 1) requiring a Forest Management Plan for all timber harvesting and cutting in the Critical Area; 2) protecting habitats of rare, threatened and endangered species; 3) requiring a minimum 50-foot buffer along streams and shorelines within which only selection cutting or the removal of dead or diseased trees would be allowed; 4) requiring a Soil Conservation Plan for all harvests exceeding 500 square feet and which cross a stream with a drainage area exceeding 400 acres; 5) incorporating comments of the MFPWS on all land development plans; and 6) requiring local jurisdictions to maintain

all of their existing forest land acreage in the Critical Area. The overall thrust of these criteria was to recognize the water quality (and to some extent, habitat protection) benefits of forests, as a land-use type, and to maintain or, preferably, expand such lands in the Critical Area. Also, in order to ensure that timber harvesting and cutting operations are conducted according to proper practices, a Forest Management Plan, prepared on a voluntary basis elsewhere in the State, would be required in the Critical Area.

As criteria drafts were prepared based on the MFPWS document, changes and additions were made in response to comments of the other Commission Subcommittees. One provided that additional areas of significant habitat should be afforded protection when cutting or harvesting is proposed. Thus, in addition to the habitat of rare, threatened and endangered species, the draft criteria were expanded to protect non-tidal wetlands, the habitats of forest interior dwelling birds and colonial water birds, and the watersheds of anadromous fish spawning streams.

There was also considerable discussion of the extent to which the cutting of trees would be allowed in the Buffer as described by the Subcommittee on Resource Protection. As noted above, the Subcommittee, in adopting the MFPWS recommendations, proposed a minimum 50-foot buffer, but allowed selection cutting within that buffer if it was supported by a Forest Management Plan.

However, several Commissioners believed that timber harvesting should be treated similarly to other land disturbing activities and not allowed at all within the minimum 100-foot buffer proposed by the Resource Protection Subcommittee. Representatives of the MFPWS

responded that regardless of the width proposed for the Buffer, its water quality value would be maximized if it were composed of relatively young, rapidly growing trees where runoff uptake was greater, rather than older, more mature trees. In practice, this argument would allow for selection harvesting throughout the Buffer. Despite some misgivings, the full Commission agreed to this change and the criteria were revised to allow selection cutting in the Buffer, but only where it could be shown that the water quality value of the stand would thereby be enhanced. The concept of cutting for habitat enhancement was also included.

AGRICULTURE - The Subcommittee began its work on agriculture criteria by considering a position paper prepared by the Maryland Agriculture Critical Area Task Force (dated March 13, 1985), a group composed of the Maryland Department of Agriculture, the Farm Bureau, and other agricultural interests. The paper described the activities of the Soil Conservation Districts in soil erosion control and related activities, and discussed the State's new initiatives in non-point source pollution control, including the designation of priority watersheds for the implementation of such programs. It also explained the process for preparing Soil Conservation and Water Quality (SCWQ) Plans and implementing the necessary Best Management Practices (BMPs). The report proposed the adoption of criteria for agricultural lands as follows:

1) All farmlands within the Critical Area would be required to have SCWQ Plans approved by a Soil Conservation District (SCD).

2) All agricultural activities within the Critical Area are to be permitted if BMPs are used; and

3) A landowner is to be allowed to select and implement, with the assistance of a soil conservation planner or technician, those BMPs that solve a problem and integrate best with the farming operation.

The paper also noted, however, that it would take at least ten years for plans to be prepared for farms in the State, and that landowners who sign as cooperators should not be penalized if the SCD, due to manpower limitations, was unable to prepare the plans. The report concluded that no new programs or initiatives were needed to solve agricultural problems in the Critical Area, and that a cooperative, voluntary arrangement with individual farmers was the best approach to dealing with agricultural non-point source pollution. In a final section, the Task Force requested the Commission to consider the potential adverse impacts on farm equity, should the criteria result in lowered values for agricultural land. If that were to happen, the Task Force recommended compensating affected farmers.

The first draft criteria (dated March 27, 1985) generally followed the recommendations of the Task Force. They included requirements for all farms in the Critical Area to have in place and to implement a SCWQ Plan, but within five years, not ten as the Task Force recommended. The landowner would, with technical assistance, select the appropriate BMPs. In addition, two policies were added that were not contained in the Task force paper; that creation of new agricultural land by the diking, draining, or filling of tidal marshes

and associated wetlands should be prohibited; and, that animal feeding operations and manure storage should be located away from water bodies.

After circulating the draft among the other Subcommittees, several issues arose affecting the criteria. One was the extent to which agriculture should be allowed within the Buffer. The Critical Area Law (Section 8-1808) required, as a Critical Area Program goal, the establishment of buffer areas, within which agriculture would be permitted, but only if BMPs are used. The initial drafts of the Buffer criteria prepared by the Resource Protection Subcommittee proposed a minimum 25-foot buffer for agriculture, provided the farm has a SCWQ Plan and is using BMPs, and further provided that no clearing of existing natural vegetation in the 100-foot Buffer would be allowed. The drafts also stated that farming activities in the Buffer should not disturb stream banks or areas of wildlife habitat.

The Resource Utilization Subcommittee, aware of the proposed buffer requirement, did add the 25-foot limitation, but only for highly erodible soils.

The issue was subsequently debated before the full Commission during the final drafting session in May. As was the case with forestry, there was significant sentiment among the Commission Members that some Buffer requirements should be observed by all land-disturbing activities in the Critical Area. Thus, mindful of the language in the Critical Area Law, it was proposed that the Buffer provision be stated as a required BMP for farms in the Critical Area. That BMP would consist of a minimum 25-foot, naturally vegetated filter strip. The concept of "naturally vegetated" was

introduced because the Commission believed that such vegetative characteristics would have greater habitat and water quality (i.e., filtering) value than a planted and mowed grass strip. The Commission further proposed that the required filter strip would have to be maintained until a SCWQ Plan, and a program of BMPs was adopted that would achieve the water quality and habitat protection objectives of the filter strip. The Commission ultimately adopted this concept. They also required another BMP: that the grazing, feeding, and watering of livestock would not be permitted in the filter strip. The concepts of not allowing clearing of new land for agriculture in the Buffer and prohibiting the disturbance of habitat areas were also retained.

A second issue involving the criteria for agriculture--that of alterations or disturbances to non-tidal wetlands--was discussed earlier in this paper.

SURFACE MINING - The Surface Mining criteria were generally directed at sand and gravel operations because they are the predominant mineral resources in the Critical Area. The first criteria draft contained policy statements which recognized the economic contributions of mineral extraction activities, but suggested that pollution from these activities should be minimized and that enforcement of the State's Surface Mining Act is necessary in the Critical Area. The draft criteria
proposed that local jurisdictions have a mineral resources plan element; that a 25-foot vegetated Buffer for existing sand and gravel operations shall be established; future wash plants would observe the 100-foot buffer and be included in state permitting; and that areas of

important habitats would be considered unsuitable for future mining operations.

In subsequent drafts, the policy statement was revised to focus on the prevention of pollution from mining operations and to encourage reclamation of the mining site in a timely manner. A lengthy definition section was added so that the term "surface mining" has a meaning identical to that already contained in State law, but to also include on-site processing operations, extraction from borrow pits, and prospecting. However, mining operations less than one acre were excluded from coverage by the regulations.

The criteria were modified somewhat in later drafts to provide that local jurisdictions, using resource maps prepared by the Maryland Geological Survey, would identify undeveloped lands that contain mineral resources so that: 1) such areas would not be usurped by other uses; and 2) would not be used for mining if Habitat Protection Areas occurred within these lands.

In addition to this mapping, the local jurisdictions were required to establish regulations for designating areas unsuitable for mining (i.e., Habitat Protection Areas including the Buffer). Future operations, including wash plants, would be required to observe the Buffer requirements while existing operations would need to observe this requirement "to the fullest extent possible".

In general, the net effect of these regulations would be to have new mining operations observe the Buffer and habitat protection requirements of the criteria through the implementing procedures in local Critical Area Programs. No direct regulation of the mining operations themselves was required since the Subcommittee concluded

that existing State surface mining regulations were adequate for this purpose.

AQUACULTURE - The Subcommittee, in reponse to suggestions made by several Commission Members, undertook to address aquaculture in the Critical Area. Several versions of policies and criteria were prepared which generally encouraged both estuarine and pond culture operations and established proposed regulations to ensure that these activities would not interfere with other water-related activities (i.e., navigation). When the draft aquaculture criteria were presented to the full Commission, a number of objections were raised concerning the desirability of the Commission encouraging such operations. Some members noted that aquaculture was a controversial issue in the State and generally opposed by watermen. Attempts by the Department of Natural Resources and other agencies to encourage and support aquaculture, particularly in estuarine waters, were widely resisted by commercial fishing interests. Adoption of the criteria by the Commission would be perceived as a "back door" effort to establish State policy on the matter. As a result of these objections, these criteria were dropped although a short section was added to the water-dependent facilities criteria (Section .10A) which suggested to local jurisdictions that areas with high potential aquaculture should be identified in their Programs. The intent of this language was to recognize the potential for aquaculture in the Critical Area should State policy eventually permit and encourage such activities.

CRITERIA CHANGES

The first version of the Commission criteria was published in the Maryland Register in June 1985. Copies of the criteria were also published separately and widely distributed to members of the General Assembly, local jurisdictions, interest groups, and the general public. All persons who signed-in at the initial hearings in late 1984 received copies. The Commission also held nine hearings to obtain public comments on the criteria. These comments, together with written statements submitted to the Commission, were assembled and considered at a two-day meeting on August 11-12 and at the regular Commission meeting on August 26th. The following is a summary of changes made to the criteria as a result of public comment.

DEVELOPMENT - The Commission received a number of comments on the "one dwelling unit per 20 acres" density criterion for RCAs; on the lack of specificity of the grandfathering section; on growth allocation, and several other issues.

Resource Conservation Area Density - In regard to the RCA density criterion, most of the adverse comments called for increasing the allowable density,and/or altering the growth allocation formula to permit 20 or 30% of the RCA to be developed at LDA or IDA densities in the rural counties. Suggestion of an alternative density were generally one dwelling unit per 8 acres, an arbitrary figure initially proposed by members of the Commission's Oversight Committee in the General Assembly. The Maryland Home Builders Association supported such a criterion for standard single family dwelling lots and one unit per 3 acres in a clustered subdivision.

The Home Builders, and other representatives of the development community, also proposed that by using "Best Management Practices for Development", large tracts of RCA lands could be sensitively developed at much greater densities than the RCA criterion. Such Practices would include: reduction of impervious surfaces, such as roads; vegetative stabilization practices; and the use of various stormwater management measures. The Commission reviewed these proposals and concluded that the Practices described were already required by the criteria. Moreover, they did not address the habitat protection or agricultural land preservation objectives set forth for RCAs.

The Commission considered the many objections to the 1 du/20 acre rule, but most members believed that there was a rational basis for such a designation (see previous discussion on criteria development). Moreover, the Commission's staff (and the staff of the Chesapeake Bay Foundation) had examined maps of the Critical Area prepared by Towson State University, and projections for future development made by the Department of State Planning. Their analysis indicated that in the more rural counties, future development permitted under the criteria, by the use of growth allocation, and by grandfathering, would meet or exceed future demand over the next several decades. Thus, the Commission had a basis for adhering to the 1 du/20 acre criterion because the net effect of the entire program would not unduly or unfairly restrict future development in presently less developed rural areas. Although several votes were taken on the 1/20 rule, it was sustained in each instance.

Growth Allocation - The initial criteria published in June provided that in the 14 rural or less developed counties, new areas of intense development were to be permitted to an extent equal to 100% of existing IDA lands, or equal to 5 per cent of existing LDA lands, whichever is larger. The formula for Anne Arundel and Baltimore Counties and Baltimore City, was to be determined. Critics pointed out that in certain of the more rural counties, the amount of existing IDA and LDA lands was so small that growth allocation based on such lands, would result in negligible future growth opportunities. Conversely, in counties with higher levels of existing development, the criteria would allow even further development. The solution to this situation proposed by the rural jurisdictions was a multi-tiered approach. The less developed counties would be allowed growth up to a certain acreage ceiling (i.e., 20% of their RCA lands). New growth in developed counties would be severely limited.

In response to these concerns, Chairman Liss directed the staff to devise a system for accommodating new growth based on the extent of a jurisdiction's Critical Area already developed. The resulting three-tiered system was presented to the Chairman in a report "Consideration of Alternative Criteria Concerning Land Development in the Chesapeake Bay Critical Area" (unpublished staff draft, August 1985). After studying the document, the Chairman rejected the proposed approach for three reasons: 1) such a system would be exceedingly complicated to administer; 2) it would be perceived to be inequitable in that jurisdictions would not be treated similarly; and 3) it would allow substantial new growth in presently undeveloped areas, a consequence not consistent with the Critical Area Law.

At the Commission's criteria review workshop in August, the Chairman recommended that a tiered system not be adopted and this was agreed to by the members. Subsequently, the growth allocation formula was changed to one based on the extent of a jurisdiction's RCA lands. This had the effect of permitting relatively greater new development in rural areas that had large acreages of RCA lands while allowing very little new growth in the urbanized jurisdictions.

Under the formula, expansion of IDAs or LDAs could occur up to 5% of the county's portion of RCA lands that are not tidal wetlands or federally owned. The criteria then provided guidelines as to where such new IDAs or LDAs should be located (i.e., new LDAs should be located adjacent to existing LDAs or IDAs). In addition, no more than one-half of the expansion allowed could occur directly in RCAs; the other one-half would be used to convert LDAs to IDAs. The overall intent of these criteria was to encourage the use of growth allocation in, and adjacent to, areas already developed.

Grandfathering - The Commission agreed to provide further guidance to the jurisdictions on grandfathering. The initial criteria simply required the jurisdictions to develop grandfathering programs and that in such programs, they would be directed to make water quality and habitat protection findings for all grandfathered development.

In considering approaches to the subject, the Commission sought to achieve fairness to those who had construction in process or who submitted and had approved applications for subdivision or development. Also of concern, however, was preventing a "rush to develop" which the Commission foresaw occurring after the publication

date of the final criteria (December 1, 1985) and up to the date of local program approval which may not have occurred until June of 1988. A complicating factor was that the Law provided no limitations on new development which would occur between June 1, 1984, and program approval, except that certain findings (so-called "interim findings") would have to be made by the local jurisdiction in approving development applications (see Section 8-1813 of the Law). This issue was referred by the Commission to the Development Subcommittee which, with the assistance of Thomas Deming, Counsel to the Department of Natural Resources, and Ellen Fraites of the Governor's staff, derived a new grandfathering section to the criteria. The resulting language is complex and a more thorough explanation may be found in a letter from Deming to Senators Arnick and Riley, dated October 29, 1985. Briefly, these provisions are as follows:

1) Individual parcels of land not part of a subdivision are grandfathered; that is, such land may be developed with at least one house, if a dwelling is not already placed there.
2) Subdivision of land approved prior to June 1, 1984, is grandfathered. Building on the land, however, must comply insofar as possible with the criteria if it is done after December 1, 1985, and prior to Program approval. Otherwise, it will count against the growth allocation if it is in the Resource Conservation Area. If building occurs after the local program is approved, it must comply with the procedures described in the local program.

3) Subdivision of land is grandfathered if it is approved between June 1, 1984, and the date of local program approval. However, it must comply with the "Interim Findings" requirements of the Critical Area Law (8-1813) and if approved after December 1, 1985, must conform to all of the criteria including the RCA density criterion, or count against the growth allocation.

4) Any land on which development activity has progressed to the point of pouring of foundation footings or the installation of structural members, is grandfathered.

5) Existing land uses may continue, but expansion may require a variance.

6) Development that is grandfathered would still have to meet the criteria requirements for water-dependent facilities and for habitat protection.

It should be noted that the responsibility for these grandfathering requirements lies with the local jurisdiction. Thus, with respect to the "rush to develop" issue, the jurisdiction could choose to allow development which did not conform to the criteria to occur after December 1, 1985, but that development would be debited against the county's growth allocation. In reality, a number of counties chose to adopt moratoria on development in the RCA, where that development did not conform to the criteria. In general then, these criteria had the effect intended by the Commission.

Variances - The June criteria did not contain provisions for variances in local programs. The Commission added such language in a new Chapter (11). Generally, the variance provisions are similar to

those commonly in local use in Maryland, except that in Subsection .01A(5), it is required that the granting of a variance will not adversely affect water quality or fish, wildlife, and plant habitat (e.g., will meet the goals of the Act).

Other Changes - In addition to the above revisions, a number of other changes were made to the development criteria. The most important of these include the following:

Sludge handling facilities - Clarified to allow agricultural or horticultural use of sludge in the Critical Area, but not in the Buffer [.02.F.(3)].

Precluding additional development - Local jurisdictions were authorized to preclude additional development that would be detrimental to water quality or habitats [.02F.(4)].

IDA definition - Added institutional uses to those that would constitute an IDA; provided that housing density should be equal to or greater (not only greater) than 4 dwelling units per acre; deleted lot width and shoreline length per lot as defining an IDA area; provided that where public sewer and water facilities are present, an area would be considered an IDA if housing density was greater than three dwelling units per acre [.03A(1) and (3)].

IDA strategies - Added a section requiring the jurisdictions to develop strategies for reducing impacts on water quality from existing development [.03D(1)].

New growth - Deleted the sections on designation of new development and substituted instead, a new Section .06 on growth allocation as described earlier.

10% pollutant reduction - Required offsets to be used if they reduce pollutant loading by at least 10% [.03D(6)].

LDA definition - Housing density clarified to refer to "dwelling" not "units"; LDAs to include areas that would otherwise be classified as IDA, but which are less than 20 acres in size; LDAs to include areas that may not be currently developed at LDA densities, but which have public water, sewer, or both [.04A(1), (3) and (4)].

Development on steep slopes - Allowed development on slopes greater than 15% if that development would be the only way to maintain or improve the stability of the slope [.04.C(6)].

Development on soils with development constraints - Allowed such development if mitigation measures are provided to adequately address the constraints and if no significant adverse impacts on water quality or habitats will result [.04C(10)].

RCA definition - Added fisheries facilities to the list of RCA uses.

WATER-DEPENDENT FACILITIES - Three principal changes were made to this Chapter as follows:

Water-Dependent Facilities Plan - Many Commission Members believed that this plan requirement, although revised in the criteria drafting process, still could not be realistically achieved by jurisdictions without assistance from State agencies. Accordingly, revisions were made to note the need for such assistance in .04A. In addition, the directives for the section [.04B] were revised to make it clear that the jurisdictions were to develop a process which would consider the eight environmental factors when planning areas suitable

for water-dependent facilities, (as opposed to using these factors in actually approving areas suitable for such facilities). In regard to the environmental factors, the subsection on dredged spoil [04.B(7)] was expanded to allow spoil placement within the Buffer under certain conditions (i.e., for vegetative shore erosion projects).

Marinas - The June criteria did not allow new or expanded marinas in the RCA. The Commission was asked by some members to revise this limitation to permit marina expansion. This was proposed because it had been observed that renovation and restoration of poorly run marinas, a desirable activity, often could not be undertaken unless the facility was expanded. This section was changed (.06C) to allow such expansion if a net improvement in water quality could be demonstrated. In addition, two new sections were added (.06 D and E) to address water quality concerns in marina operations.

Community Piers - A number of changes and additions were made to this section as a result of public comment and Commission concerns. Sections 07(1) and (2) clarified that such facilities were not to have commercial features and were for use by residents of an associated, recorded, subdivision. Section .07(5) provided that if slips and moorings (not simply piers) were provided for a development, private piers would not be allowed.

Substantial changes were made to the formula for calculating the number of slips, piers, and moorings allowed at a community pier. The original criteria contained no limitations for such facilites in LDAs and allowed a slip density in RCAs of 1.5 times the number of buildable lots. In the revision, the criteria allowed the lesser of: 1) the number of slips based on shoreline length (one per 50 feet

in LDAs, or one per 300 feet in RCAs); or 2) slips allowed according to a formula based on the number of dwellings or platted lots in the subdivison in the Critical Area. The latter formula was taken from an existing Anne Arundel County ordinance and reflected the observation that slips in community piers are not used by all residents and thus, such facilities should not be "overbuilt". The overall intent of these revisions was to limit the scale of such facilities, and to tailor them for LDA or RCA areas.

SHORE EROSION PROTECTION WORKS - This section was revised at the request of the State shore erosion control program and the marine construction industry. The concern of these groups was the apparent bias against bulkheading, particularly in Section .03B(2) where rip-rap was specified as a preferred structural erosion control measure. The Commission addressed these comments by generally providing that the erosion control measure used should be practical and effective (.03B under Policies) and appropriate to the characteristics of the eroding shoreline [.03B and .03B(5)]. Similarly, where structural measures are needed, Section .03B(2) was revised to provide that the measure chosen should be that which best provides for habitat conservation. Overall, however, the Commission's preference for the use of non-structural measures, wherever practical, remained in the criteria.

FOREST AND WOODLAND PROTECTION - Most of the public comments addressed to this section concerned the conditions under which commercial timber harvesting could occur in the Buffer. These comments are discussed later in this Chapter under the Buffer. The remaining comments were directed at the definition of forests and

developed woodlands and to the requirements for Forest Management Plans.

Forest and Developed Woodlands - The original criteria contained a minimum size of five acres for forests and 5000 square feet for developed woodlands. Objections to these definitions were that areas smaller than 5 acres should be considered as forests since the unregulated cutting of such areas could have substantial water quality and habitat protection consequences. Conversely, 5000 square feet appeared to be too small a unit within which to identify and effectively manage an area of developed woodlands. As a result, both definitions were changed to a one-acre minimum size limit. In addition, the policy section was also revised to be consistent with the development criteria so that the jurisdictions would be directed to increase the acreage of forests in the Critical Area, not the area of "natural vegetation" (.02A and B).

Forest Management Plans - Originally, Forest Management Plans were required for timber harvesting occurring on 5 acres or more. For reasons stated above, forests were redefined as one-acre units and, therefore, the Plan requirement was similarly lowered. The Plan was also required for cutting in developed woodlands. A time interval was also added so that cutting on an area slightly less than one acre, but at a high frequency (i.e., cutting different 0.9 acre tracts daily) would be covered by the Plan requirement. Other changes included requiring that a registered professional forester prepare Plans, and that only harvests disturbing areas of 5000 square feet or more would need a Sediment Control Plan. This latter requirement was already contained in existing State sediment control regulations. Finally, a

provision was added exempting private (e.g., non-commercial) timber harvesting from the Forest Management Plans requirement. Although this was seen as a measure to allow private land owners to harvest trees for firewood and other personal use, it was subsequently dropped in the final revised criteria because the Commission concluded that abuse of this exemption would likely occur. Moreover, the Commission believed that Plans would have educational value and the private owners of small forested areas would gain significant knowledge of proper forest management and habitat protection practices through the plan preparation process.

AGRICULTURE - Public comment on the agriculture criteria were primarily concerned with livestock practices within the Buffer and the Soil Conservation and Water Quality Plan requirements. Buffer revisions are discussed later in this Chapter.

Soil Conservation and Water Quality Plans - Many farmers were concerned that public resources may not be adequate to allow the preparation and implementation of these plans within the five-year period stated in the criteria (e.g., by May of 1991). The Commission was sympathetic to these concerns and Section .03A(3) was revised to provide that farmers who have signed up as conservation district cooperators, but who do not have plans prepared for them by the District, are allowed to continue farming provided all the requirements of the agriculture criteria are met. However, persons who have not signed as cooperators within the five-year permit would be in violation of the criteria.

Other Changes - Clarified the limitations on clearing of forests and developed woodlands for agriculture [.02C(2)]; added a section preventing the clearing of new land for agriculture within the Buffer [.02C(4)]; and required Forest Management Plans for timber harvesting on farms [.03A(2)(iv)], notwithstanding the use to be made of the timber.

SURFACE MINING - The only change to this section was to remove from the Definition section references to those mining operations that do not occur in the Critical Area (i.e., deep mining) or already regulated by existing State Law under the Surface Mining Act.

NATURAL PARKS - No public comments were received on this section and it was not changed.

BUFFER - The Buffer section proved to be one of the most controversial sections of the criteria and the Commission received a number of public comments requesting changes to these regulations. These are described as follows:

Tree Cutting and Timber Harvesting in the Buffer - Representatives of forest industries expressed dissatisfaction with the compromise language contained in the first criteria wherein timber harvesting was prohibited in the Buffer, except by selection methods where it could be shown that the transpiration and habitat value of a stand would thereby be enhanced. It was noted that the criteria contained no rationale whereby such a demonstration could be made, nor who would evaluate such a harvesting proposal. As noted earlier, many Commission Members were also uncomfortable with these criteria. The industry also objected to the limitations on clear-cutting, arguing that this would prevent harvesting of large stocks of loblolly pine on

the lower Eastern Shore.

Another broader issue was raised by forestry professionals who questioned the concept of "no-cut" areas altogether. They argued that forests should be managed in order to maximize their timber production and water quality protection values and such management would involve tree cutting activities.

In order to resolve these issues, the staff prepared several options for the Commission to consider. These included allowing harvesting in the Buffer if it could be shown that a stand had historically been managed for timber production purposes, or if substantial economic hardship were imposed by the criteria. Such an approach was rejected because of the difficulty of making such subjective determinations. The Commission also considered a proposal made to accommodate industry interests that would allow selection harvesting throughout the Buffer (without the transpiration value test) but clear-cutting for loblolly pine to with 50 feet of the shoreline. This was also rejected, primarily over the concern that such a policy would permit harvesting in mature or old growth hardwood forests that have inherent value and may provide important habitat areas.

Eventually, a compromise was reached that involved introduction of the concept of a Buffer Management Plan. Such a Plan would be required for any commercial timber harvesting of any size in the Buffer. The Plan would have minimum requirements for avoiding disturbance to stream banks and shorelines, for replanting or regeneration to restore the wildlife corridor function of the area, and for prohibiting the creation of logging roads or skid trails in

the Buffer. When conducted pursuant to the Plan, selection harvesting and the clear-cutting of loblolly pine and tulip popular would be allowed in the landward 50 feet at the Buffer, unless the area was a Habitat Protection Area as defined in the criteria (e.g., the area was a non-tidal wetland). A further modification was made to allow harvesting to the edge of intermittent streams, but subject to the Buffer Management Plan requirements. This change was made to address concerns of Western Shore landowners who pointed out that in some steeply sloped areas, the presence of many intermittent streams would prevent any timber harvesting operations from occurring even with the Buffer modifications noted above. [These changes are contained in Section .01C(5)].

Finally, in response to many questions raised at the public hearings, several additional circumstances were provided where the cutting or clearing of trees were allowed. These included access to private piers, cutting for personal use (but with replacement required), removal of trees in danger of falling and causing damage to structures, or blockage of streams. Also, horticultural practices on individual trees (i.e., trimming of limbs) was allowed. Generally, these changes were made to make the Buffer criteria more practical for individual homeowners to observe. However, the Commission did not permit cutting or clearing to create water views because such activities would be likely to result in major alterations of existing natural vegetation, thereby diminishing the water quality and habitat protection values of the Buffer.

Agriculture - Members of farm organizations and individual farmers objected strongly to the criterion in the Agriculture Chapter which required, as a Minimum Best Management Practice, that the grazing, feeding, and watering of livestock would not be permitted within 25 feet of the shoreline. They argued that in order to meet this criterion, fencing of shoreline areas would be needed and would be prohibitively expensive. The Commission requested the assistance of the Maryland Cooperative Extension Service in resolving this matter. The Service indicated that if feeding and watering operations were set back at least 50 feet, use of streams by cattle would be minimized and fencing would not be necessary. This could be accomplished through a grassland and manure management program prepared as part of the Soil Conservation and Water Quality Plan. The Commission agreed with this proposal and added such language in Section .02C(4)(d) of the Buffer. However, the criterion in .01C(4)(f) was revised to include livestock grazing as a farming activity that would not be allowed to disturb stream banks, shorelines, or Habitat Protection Areas. Thus, if the livestock measures described above were ineffective or not used, and damage to habitats occurred, they would then be subject to local enforcement action.

The other concern of agricultural interests was the required minimum 25-foot vegetated filter strip, particularly the reference to natural vegetation. Questions were raised about the vegetative composition and management of these strips and if noxious weed control would be permissible. To resolve this issue, the staff consulted the Soil Conservation Service (SCS) technical specifications and derived a

filter strip description based on them. Provisions were also added to enable noxious weed control and for expanding the filter strip where there are adjacent steep slopes [Sections .02C(4)(a) and (b)].

Other Changes - a) Revised the Buffer definition to provide that if the Buffer area is not presently in natural vegetation, it should be established in vegetation and managed to achieve the required Buffer functions (.01A). This revision was directed at the Buffer in already developed areas. It was intended to suggest that homeowners should manage their Buffer lands in a manner that would meet the Buffer functions described in the criteria. Thus, diversified plantings, rather than extensive lawns, would be indicated; b) allowed for other than natural vegetation, where necessary, to accomplish non-structural shore erosion measures [.01C(3)]; c) stated that where agricultural use in the Buffer ceases, the full minimum 100-foot Buffer is required to be established [.01C(6)]; and d) suggested alternative measures which could be used for Buffer exemption areas such as education and urban forestry programs [.01C(8)]. (See page 96 for a discussion of the Buffer exemption rationale).

NON-TIDAL WETLANDS - Changes to these criteria were the following:

Definition - Revised Section .02A to exclude tidal wetlands from regulation under this Section because they were otherwise regulated under existing statutes; specifically mentioned the wetland classification system used by the U.S. Fish and Wildlife Service [.02C(3)(i)].

Scope of Coverage - Established a minimum size (one-acre) for protected wetlands [.02C(3)(i)]; provided protection for wetlands which do not appear on the National Wetlands Inventory Maps, but which are found, by site survey, to meet the wetlands definition in the criteria [.02C(3)(i)].

Regulated Activities - Allowed grazing of livestock in non-tidal wetlands [.02C(3)(b)(i)] because the Commission felt that such activities would occur infrequently and would not result in any significant long-term wetland damage.

Mitigation - Added specific mention of tree cutting and agriculture as activities that would need to prepare mitigation plans if they resulted in adverse wetlands impacts [.0C(3)(b)(iii)]; emphasized that once a mitigation plan is prepared and approved by the appropriate State agency, the local jurisdiction shall require the proposer to implement that plan (e.g., mitigation is the proposer's responsibility) [.02C(3)(b)(iv)]. added a provision that agricultural drainage operations for Public Drainage Associations shall provide mitigation according to those regulations [.02C(3)(b)(v)].

Public Hearings - Provided that if additional non-tidal wetlands are found and identified in the future, (e.g., after local program approval), a public hearing on proposed protection measures shall be held [.02C(4)].

THREATENED AND ENDANGERED SPECIES AND SPECIES IN NEED OF CONSERVATION - In this Chapter, the Commission substituted the term "Species in Need of Conservation" for "Rare" species for reasons discussed under Criteria Development. Also, an addition was made to the public hearing section [.03C(3)] to require public hearings on any

new species designated by regulation under this category, and to require the local jurisdiction to adopt protection measures within 12 months of designation.

PLANT AND WILDLIFE HABITAT - The changes to this Section were primarily clarification, but also, included the change discussed earlier of substituting Natural Heritage Areas for Exemplary Plant Communities. The public hearing section was revised to require hearings if additional habitat areas are designated in the future [.04C(2)(c)].

ANADROMOUS FISH PROPAGATION WATERS - No substantive changes were made to this Chapter.

DIRECTIVES FOR LOCAL PROGRAM DEVELOPMENT - Changes to this section were:

Growth Allocation Recording - Required jurisdictions to maintain records of areas of lands that are converted to a different land use management classification (i.e., RCA to IDA) through the use of growth allocation (01.D).

Findings - Added a new Section (.01O) that required the jurisdictions to make certain findings for project approvals based on the goals of the Critical Area Law (one of the minimum elements in the Law at Section 8-1808).

County/Local Relationships - Added a new Section (.01P) encouraging counties and municipalities to develop their Critical Area Programs cooperatively.

VARIANCES - This new Chapter, as discussed earlier, was added to the criteria at the suggestion of the local jurisdictions.

FINAL ADOPTION

The changes discussed above were made to the initial June 1985 criteria and were republished in September 1985. Subsequently some additional public comments were received that required further revision and the Commission itself discovered several items requiring clarification. As a result, the criteria were again republished in November, 1985. The following is a description of the major changes made:

DEVELOPMENT - Provided that for those facilities generally not permitted in the Critical Area (i.e., landfills) the prohibition includes the expansion of such existing facilities; clarified the RCA criteria to show that a participant in the State's Agricultural Easement Program could still make a family conveyance pursuant to the Program, but the resulting density of development could not exceed one dwelling unit per 20 acres [.02.05(8)].

GROWTH ALLOCATION - Provided that the counties are to work with the municipalities in establishing a process to accommodate the growth needs of the municipalities [.02.06A(2)]. The Commission added this language to insure that growth allocation proposals made by the counties would reflect the plans and needs of the municipalities.

GRANDFATHERING - Several revisions were made by the Commission to clarify this very complex section. The first, in Section .07B, added language to state that, unless specifically noted, application of the grandfathering regulations would result in not having to observe the density requirements (i.e., one unit per 20 acres in the RCA) stated in the criteria. Also, in Section .07B, a concluding sentence was added to allow a single family dwelling to be placed on a lot or

parcel that was legally on record as of the day of local program approval, if no dwelling already exists on the parcel. Note, however, that where a subdivision is approved by the jurisdiction after December 1, 1985 in an RCA, and the density exceeds the RCA density, then the subdivision would count against the County's growth allocation, although an individual owning a lot would be permitted to build a single family house on the lot.

In Section .07B(2)(b), the Commission added a provision requiring, in effect, that the local jurisdiction demonstrate in their program submittal what steps they had taken to ensure that development approved after December 1, 1985, complied with the criteria "insofar as possible". Thus, if such a demonstration was not satisfactorily made, development approved in an RCA after December 1, 1985 may have to be counted against the County's growth allocation.

ACTIONS OF THE GENERAL ASSEMBLY

Following final publication in November, 1985, the criteria were submitted for approval to the General Assembly. The Critical Area Law provided that the criteria could not be implemented unless the General Assembly affirmed them by joint resolution during the 1986 Session. If such a joint resolution was not enacted, the criteria were to be revised by the Commission and resubmitted to the General Assembly for the 1987 Session. They would then become effective on June 1, 1987. One of the intentions of these provisions was to have an "up or down" vote on the criteria as a whole; that is, the General Assembly would not be authorized to change specific criteria. However, the General Assembly could, if it wished, enact amendments to the Critical Area

Law that would have the effect of altering the criteria and a number of such bills were introduced in the 1986 Session. They included proposals to increase the allowable density in RCAs to one dwelling unit per eight acres; to compensate landowners whose property values may be reduced by the Program; and a number of others.

Governor Hughes indicated early in the Session that he would resist any significant changes to the criteria, but was willing to consider some reasonable modifications. Late in the Session, negotiations between the Administration and the Senate and House Leadership led to agreement on such modifications and several bills were subsequently enacted. These are summarized as follows:

CHAPTER 601 - Specifies a quorum requirement for the full Commission and for any panels appointed by the Commission. This requirement arose because at some of the earlier public hearings, attendance by the Members was relatively low.

CHAPTER 602 - Provided that in certain of the rural counties, the full 5% growth allocation (not just the 2 ½% indicated in the criteria) could be located anywhere in the RCA notwithstanding the LDA and IDA adjacency guidelines contained in the criteria. However, a demonstration that adjacency cannot be achieved is required of the local jurisdictions and the resulting development must be clustered. In addition, the acreage of private wetlands located on a parcel is allowed to be used in calculating the one dwelling unit per 20 acre allowable density, but the resulting development on the upland portion of the parcel cannot exceed one dwelling unit per eight acres. Both of those changes were intended to expand, somewhat, the development potential of the rural jurisdictions, but without altering either the

total allowable growth allocation or the RCA density criterion.

CHAPTER 603 - Provided specifically for intrafamily transfers, states the number of parcels that can be subdivided for this purpose, and includes the conditions that would be required to be included in the local program for such conveyances to be made.

This Act, in effect, expanded the criteria provision in 14.15.02.05 (RCA) where intrafamily conveyances were permitted pursuant to the State's Agriculture Easement Program, but the resulting density could not exceed the 1/20 criterion. Under the Act, non-agricultural conveyances were permitted and were allowed to result in greater densities than one dwelling per twenty acres, although the parcels from which such subdivisions would occur had to be of a certain size and in existence (on record) as of March 1, 1986.

CHAPTER 604 - Allows up to 25% impervious surfaces on an individual lot up to one acre in size that is in a subdivision approved after June 1, 1986. The intent of this Act was to allow development to occur on small lots where the 15% impervious surface limitation in LDAs may prevent such development. However, the net effect of this change was considered to be insignificant because the Commission intended the 15% requirement as an overall limitation on a subdivided parcel that need not necessarily be met on each lot in the subdivision. Chapter 604 does not change that limitation.

These amendments to the Law and the criteria were approved by the General Assembly on the last day of the 1986 Session, and signed into law on May 13, 1986. Although many bills were subsequently proposed to amend the Law and alter the criteria, only three have been approved. One was an Act, Chapter 631, passed in 1987, that amended

Section 8-1808 of the Law. It enabled State funds to be allocated to the local jurisdictions for both Program development and implementation purposes. The original provision in the Law limited the use of these funds to Program development. A second, Chapter 234, passed in 1988, authorizes a continuing study of the Commission and its programs by a Joint Legislative Oversight Committee of the Maryland General Assembly. The third, Chapter 646, enacted in 1989, enables local jurisdictions to enforce the tree cutting restrictions in the criteria prior to receiving Commission approval of their Critical Area Programs. It also authorizes the Commission Chairman to enforce such requirements if a local jurisdiction fails to do so.

CHAPTER 4

PROGRAM DEVELOPMENT ACTIVITIES

INTRODUCTION

Following final publication of the criteria in November of 1985, the Commission shifted the focus of its activities to the program development process although, as previously noted, considerable effort was devoted to seeking adoption of the criteria by the General Assembly during the 1986 Session.

The Commission was, even at that time, again under severe time pressure. Thus, if the criteria were approved by the General Assembly and became effective in May of 1986, the Critical Area Law required the 61 local programs to be completed in 270 days (approximately March of 1987) unless an extension was granted by the Commission. Since a portion of the 270 days would be taken up with the processing and award of grants to the local jurisdictions, and from the jurisdictions to consultants, very little time was available to work out substantive program development issues. Moreover, many of the criteria requirements could not be achieved by the jurisdictions unless the necessary information was compiled and made available by the State agencies (i.e., identification of Habitat Protection Areas). Accordingly, in early 1986, the Commission held a workshop for local jurisdictions to determine what problems and issues were perceived by the planners and officials in implementing the criteria. At the Commission's regular meetings in early 1986, the State agencies were asked to discuss their roles and responsibilities in assisting the

jurisdictions. Also, work was begun on writing a handbook or guide to the criteria in order to create a broader understanding of the criteria requirements. Later, in May and June of 1986, following General Assembly approval of the criteria, substantial time was devoted to negotiating and awarding the local jurisdiction grants and working with the jurisdictions and their consultants to answer questions and resolve issues.

A general overview of Commission activities during the lengthy program development process (early 1986 through the Spring of 1989) can be gained by reviewing the index of Commission Meetings contained in Appendix B of this document. The following discussion identifies the principal issues raised for the Commission during this process, and how such issues were resolved. It is not intended to be a chronological description of all the Commission's activities during this period. The Chapter also does not discuss the program development process of the individual local jurisdictions. However, as noted above, local planners and public officials were under the same severe time constraints as the Commission. Following approval of the criteria in May of 1986, the jurisdictions had to: decide whether to develop a program or allow the Commission to do so; negotiate contracts with the Commission to fund their programs; advertise and select a consultant to prepare the Critical Area maps and the required program elements, or provide such activities in-house; establish a public participation process; and hold public hearings on the resulting plans, maps and programs. All of these tasks were to be completed in nine months. While the Commission ultimately extended the deadline to August of 1987, it was still exceedingly difficult for

nearly all of the jurisdictions to meet the extended deadline. In addition to the amount of work required to be completed, local governments and their consultants were hampered by a lack of resolution of several key program issues such as mapping rules, use of growth allocation, and the like. Moreover, because of the novelty and complexity of the criteria, public understanding of the program was generally poor. This exacerbated the task confronting officials in their local planning process.

The Commission's general approach to program development, as articulated by Chairman Liss, was to permit considerable flexibility to the local jurisdictions in preparing their programs. For this reason, many program issues were not addressed by the Commission until they arose in the context of a submitted local program.

MAPPING ISSUES

At the January 1985 workshop, many of the Program development issues raised by the local planners concerned mapping. In particular, considerable uncertainty was expressed about designating the three land use management categories (e.g., IDA, LDA, and RCA) based on guidelines contained in the criteria. Questions posed included whether maps could receive Commission approval in advance of submission of the entire local program; what would be an acceptable extent of "infill" areas in an IDA or LDA; is there a minimum size for LDAs; what is the definition of "currently served" by water and sewer; and how should unusual land uses (i.e., cemetaries and golf courses) be mapped?

In approaching the mapping of their Critical Area, most of the local jurisdictions were seeking to maximize the extent of IDA and LDA lands in order to limit the application of the "one in twenty" density criterion required for lands mapped as RCA. The Commission, on the other hand, generally sought to ensure that as much land as possible which met the RCA definition was so mapped. These two divergent points of view tended to dominate discussion of mapping issues throughout the program development process.

The Commission was presented with the various mapping issues raised by local planners at its February, 1986 meeting. These issues were discussed among the staff and, informally, by the Commission over the next several months. A consensus was eventually reached that the Commission would find it difficult to evaluate individual mapping cases, or even an entire set of a jurisdiction's Critical Area maps, absent the jurisdiction's complete program. This policy, adopted at the Commission's April 2nd, 1985 meeting, meant that the jurisdictions would develop their own mapping rules and procedures and that these would then be evaluated by the Commission after the entire local program was submitted. Subsequently, several key issues about mapping were commonly raised in the local programs, and these are discussed below.

Areas Having Water and Sewer - In a number of the jurisdictions, difficulty was encountered in defining areas having water and sewer. The question was raised as to whether "having" means that sewer and water lines would need to be in place on a given parcel for it to be established as LDA. Alternatively, could "having" be interpreted as meaning that if an area is proposed for sewer service shortly (i.e.,

within one year), or is in a three-, five-, or ten-year planned sewer service area, could it be considered as an LDA parcel? Also, questions were raised regarding the size of a "served area". That is, if a trunk line was in place, how much surrounding undeveloped land should be classified as LDA by virtue of being defined as "served"?

To some extent, this issue resulted from a misunderstanding of the criteria for LDA's. It was the Commission's intent that LDAs would be defined primarily as areas currently (as of December 1, 1985) developed in low or moderate intensity uses, as explained in Section .04A of the Development criteria in Chapter 2. In addition to these features, the area would also need to have one of four additional features, which included "having water or sewer or both". In other words, the Commission did not envision that undeveloped areas should be classified as LDA, even if such areas were currently sewered or proposed for sewering in the future. On the other hand, the jurisdictions saw the criteria as enabling the classification of an undeveloped parcel as LDA as long as it could be considered as "having" sewer or water.

In order to resolve the issue of "having", the Chairman sought advice of the Commission's counsel, Lee Epstein. In a memorandum to the Chairman (May 22, 1987), he concluded that "having" means that water or sewer must be present in the ground, in order for the local jurisdiction to use this feature as a basis for LDA designation. Later, in an opinion of the Attorney General (January 5, 1988), it was concluded that the Commission had broad discretion to determine if a local program element is consistent with the criteria in those instances where the criteria admit to more than one construction. The

Commission, then, would decide "having" issues on a case-by-case basis.

Ultimately, the Commission generally decided these individual cases by allowing a parcel to be mapped LDA if a sewer or water line ran through, or abutted the parcel, as of December 1, 1985. However, in situations where a line abutted a large undeveloped parcel, the Commission tended to allow only a portion of the parcel to be designated as LDA; the remainder to be shown as RCA. In no situation that came to its attention did the Commission allow LDA designation where an undeveloped area or parcel had no existing or imminent (as of December 1, 1985) sewer or water lines.

Following the Attorney General's opinion, the Chairman established a hearing process whereby a local jurisdiction could argue before the Commission in a "formal" proceeding for a particular mapping designation. The only such hearing held to date, was requested by Cecil County, and occurred at the June 5, 1988 Commission meeting. In that hearing, the Commission: 1) rejected an LDA designation on an undeveloped parcel where a sewer line existed, but the line was well outside of the Critical Area; and 2) modified an LDA designation for a large area, only a portion of which had an existing sewer line (see Commission Minutes and staff report for that meeting for further details).

Infill or Adjacent Areas - Another class of mapping issues related, in effect, to the resolution of the mapping. The question raised concerned an undeveloped area within an LDA or IDA. Could such an "infill" area be mapped as LDA or IDA, based on the general overall land use pattern? A related issue involved including as an LDA, an

adjacent undeveloped parcel, on the grounds that the overall character of the area had LDA-like characteristics.

While this issue was not resolved as a matter of general policy, it was determined on a site-specific basis. This was accomplished through a staff review of the local maps. In this review, areas mapped as IDA or LDA were examined to determine if undeveloped areas were classified as IDA or LDA based on an infill or adjacency criterion. All such areas that were approximately 20 acres in size or larger, were flagged for review by the Commission Panel for the jurisdiction. The staff reasoned that an undeveloped area of approximately 20 acres would be large enough to possess the characteristics of an RCA and, other factors being equal, should be so classified. In effect, this staff mapping policy brought forth to the panel's attention those cases where the jurisdiction's mapping should be questioned. The panel then considered the specific context of the case and made a mapping recommendation to the full Commission.

Density Averaging - Early in the development of local programs, the concept of "density averaging" was proposed by several local jurisdictions. Under this concept, an LDA would be defined by the average density of development in an area. For example, if a cluster of 10 houses existed in an area, the size of the LDA for this area would be obtained by multiplying the number of houses by 5--the minimum density allowed by the criteria for LDAs. Thus, although the developed area in this example might only be approximately 10 to 20 acres, LDA designation would encompass 50 acres. A more extreme application of this principle would be obtained in a built-out subdivision where a very large LDA could be achieved that would

include undeveloped lands adjacent to the subdivision.

Although the Commission did not rule specifically on the density averaging concept, the Chairman indicated informally that such a mapping strategy was unlikely to be approved by the Commission. As a result, most of the local maps were redrawn either before submission, or in the program review process with the Commission staff. However, in two jurisdictions, Dorchester and Somerset Counties, mapping of LDAs was done in a manner approaching that of density averaging. In Dorchester County, for example, the County's Critical Area Program states that 3500 of the 9690 acres of LDA are essentially undeveloped. It appears likely that much of this acreage would have been required to be mapped RCA had the same staff mapping policies been applied as was done in the other jurisdictions. Although the full Commission approved the Dorchester Program, the LDA mapping was not presented as a Program issue by the staff, and therefore, was not discussed. The Somerset County Program was "deemed approved" (see pp. 91 and 92), but no final resolution has been reached on any possible mapping issues.

Other Mapping Issues - Many other mapping issues were resolved by the Commission in the context of the individual local Programs. These included designating unusual land uses (i.e., cemetaries and golf courses), allowing areas less than 20 acres to be classified as IDAs, and requiring undeveloped grandfathered subdivisions to be shown as RCA. A complete record of these can be found in the Commission's files for these Programs, or from the jurisdiction planning staff, or local officials. Of particular interest would be Anne Arundel and Queen Anne's Counties, both of whom had large undeveloped areas that

were served by existing sewers or that would be sewered in the near future because the requisite main trunk lines were in place. Many of these lands were initially proposed as LDA or IDA whereas the Commission believed they should be classified RCA. The resolution of these differences was a complex and highly publicized process, but resulted in substantially more RCAs than either jurisdiction initially proposed.

Another issue occurred in Baltimore County where that jurisdiction proposed that the distinction between LDA and RCA lands should be made based on a long-standing "Urban-Rural Demarcation Line", rather than on the distance from a sewer or water line. This resulted in over 1,000 acres of land served by public water being classified as RCA. In Harford County, the Commission required that a 50-acre undeveloped forested tract, served by water and sewer and surrounded by a large residential area, be classified as LDA not IDA, as the County had requested.

LOCAL PROGRAM SUBMISSIONS AND APPROVALS

Several issues arose concerning the nature of local programs submitted to the Commission. Shortly after the criteria were approved in May of 1986, local jurisdictions were asked if they intended to develop their own programs (if not, the Commission was authorized to prepare the program). Several indicated that they would do so, but only under certain conditions. These included the availability of State funds, information to be forthcoming from State agencies, and others. The Commission discussed the matter and referred it to the Assistant Attorney General, Lee Epstein. In a memorandum to the

Chairman (August 4, 1986), he advised that the Commission was not empowered by the General Assembly to accept a conditioned letter of intent to prepare a program. This message was subsequently conveyed to the jurisdictions and none persisted with a conditioned program.

Later, in 1987, when programs began to be submitted to the Commission, questions arose as to whether a program was complete. Several programs (i.e., Baltimore City, Prince George's County) were originally submitted without containing the implementing local ordinances. The advice of the Assistant Attorney General was again sought, and he concluded that a local program was not complete unless it included the implementing ordinance provisions or, at the least, a description of what these ordinances or regulations would contain in order to implement the program. Since almost all of the programs then submitted did not contain this information, they were rejected by the Commission as incomplete and returned to the jurisdictions. Although this resulted in delays in final submisssion and approval, the Commission concluded that absent the implementing ordinances, it could not effectively review these programs.

A related issue occurred later in 1987 when most of the Programs began to be submitted. Under provisions of the Critical Area Law, the Commission was required to take action on a program within 90 days of submission; otherwise it would be deemed to be approved. However, in order for a program to be reviewed, it would have to be determined to be complete; piecemeal approvals were not provided for in the Law. The staff, therefore, prepared a check list containing the program elements required by the Law (Section 8-1808) and by the criteria (14.15.10). Unless the program contained or addressed these required

elements, it would not be considered complete, and the 90-day review period would not begin. In one instance, Somerset County, the Commission failed to meet the 90-day deadline and the County took the position that its Program was therefore, approved. In this case, the Commission construed the 90-day period as beginning as of the date the Chairman's completeness notice; the County claimed that the review period should begin when the Program was submitted. A resolution of this matter was not reached until April of 1989, when the Office of the Attorney General concluded that the County's Program should be "deemed approved". However, the Attorney General also noted that the Program may not comply with all of the requirements of the Law and criteria. He urged the Commission and the County to continue to work to agree on amendments that would bring the Program into compliance.

Finally, the Commission had to determine how to deal with local Programs that were unlikely to be approved by the deadline specified in the Critical Area Law (June 11, 1988). These Programs were either submitted well beyond the August 1987 required submission date and could not be processed by the following June, or had programmatic and mapping issues that required lengthy and extensive revisions. The only remedy available for the Commission was to assume the preparation of the Programs as provided in Section 8-1810 of the Law. However, the process specified in the Law required the Commission to hold two local public hearings and to promulgate a Program, including all the accompanying maps, according to the State's formal rule-making procedures. This process would take at least six months, not including the time needed to actually prepare the Program. Thus, in order to have a given Program formally adopted by June of 1988, the

Commission would have to initiate the adoption process by November of 1987.

The Commission counsel was concerned about the legal issues raised if all local Programs were not in place by June. These included the possibility of suits being filed concerning the Commission's failure to meet the deadlines established in the Law, or suits by private developers whose projects may have been stalled by local moratoria on new development. However, Chairman Liss was concerned about shifting staff efforts from reviewing the local Programs to preparing Commission-adopted Programs. The Governor's Office was also reluctant to see the Commission taking over a significant number of these Programs, particularly if such actions were to occur during the General Assembly Session.

Ultimately, in the Spring of 1988, the Commission did vote to assume several Programs and the staff prepared a "generic" Commission Program that could be adopted for any of the jurisdictions. Because of staffing shortages, and a continuing unwillingness to impose a Program on jurisdictions who appeared to be making reasonable efforts at developing their own Program, the generic Program and the formal adoption process was never implemented. The Commission did vote to take-over the twelve outstanding Programs in December, 1988, but no further action has been undertaken to implement this decision. Several of these Programs have since been approved.

GROWTH ALLOCATION

In deriving the concept of growth allocation in 1985, the Commission expected that it would mainly be used to enable the

development of RCA lands at a density in excess of the "one in 20" criterion. The Commission envisioned this would occur primarily in the context of the subdivision of a parcel of land for residential purposes. The parcel would be converted to LDA or IDA as a result of the subdivision and thus, the parcel would no longer be classified as RCA. In this scenario, the Commission assumed that the entire acreage of the parcel would then be debited against the jurisdiction's growth allocation allowance because it no longer exhibited the characteristics of an RCA.

Although occasional questions arose about growth allocation during the program development process, the manner of debiting did not arise explicitly until Cecil County's program was submitted to the Commission in August of 1987. In that program, an imaginative approach to the allocation of growth was proposed. It was based on the granting of growth allocation on an annual, competitive basis using a point system. Projects would be assigned points according to the extent to which they met or exceeded the criteria requirements. Those scoring highest would be eligible to receive growth allocation awards.

While the Commission was favorably disposed towards this proposal, it was accompanied by a debiting method that did not coincide with the Commission's original concept. Instead, it based debiting on the "area of disturbance". A certain fixed area would be considered "disturbed" depending on the type of development. For example, a single family dwelling would be counted as disturbing 20,000 square feet. In a subdivision of 50 acres with 20 houses on two-acre lots, only about 10 acres would be counted against growth

allocation rather than the entire 50 acres as the Commission initially contemplated. From the standpoint of the County and the consultants involved in designing this system, the disturbance concept was based primarily on water quality considerations resulting from the impervious surfaces associated with a given development. From the Commission's perspective, this form of debiting would enable the development of large amounts of a jurisdiction's RCA lands, far beyond the 5% provided for in the criteria. It would also understate the true extent of conversion of land use from agriculture, for example, to residential. This approach also ignored the habitat protection mandates in the Law and in the criteria.

In order to respond to the County's proposal, Chairman Liss appointed a Subcommittee of the Commission in September of 1987, to develop guidelines for growth allocation debiting. The Subcommittee spent nearly five months deliberating on various approaches, and in January of 1988, presented a draft set of guidelines to the full Commission. The Subcommittee's work and the ensuing debate within the Commission, received wide public attention, because of the significance of this issue to the entire Program.

The Subcommittee's approach to the proposed guidelines was to restate the Commission's original unwritten position that conversion of a parcel of land from RCA to another classification using growth allocation, would mean that the parcel as a whole, being no longer RCA, should be counted against the allocation.

The Subcommittee then considered a number of proposals for debiting that would depart from this general position. After lengthy debate, it was agreed that the method selected should, as nearly as

possible, be based on the criteria. Eventually, a compromise was reached and two options were proposed to the Commission. The first would recognize that there may be circumstances where less than full counting on a parcel would be appropriate. In such cases, the parcel would have to qualify by being adjacent to an existing LDA or IDA, and the development on the parcel set back 300 feet from the edge of tidal waters. The Subcommittee's intent was to allow parcels to be less than fully counted if they are located according to the criteria guidelines for new growth contained in 14.15.02.06. If a parcel qualifies, then the Subcommittee proposed guidelines identifying which portions of the parcel would or would not be debited. These guidelines involved the specification of a "development envelope" which would include all developed areas (i.e., impervious surfaces, utilities, septic systems), areas subject to intensive use (i.e., recreation areas), and all lands in individually owned lots. These areas, taken together, would be considered inside the "envelope" and debited against the allocation. Areas outside the envelope that are contiguous, of at least 20 acres in extent, and which have certain development and use restrictions, would not be debited.

A second option, which was to be added to the above, would allow certain portions of an individually owned lot to be excluded from the envelope.

The Commission ultimately adopted the first option and rejected the second, fearing that little control could be exerted by the jurisdiction over activities on individually owned lots. Thus, although such lands would theoretically remain undisturbed, they would likely be subject to activities inconsistent with their presumed RCA

character.

Subsequently, the Commission evaluated growth allocation debiting proposals according to these guidelines. Some local jurisdictions included the guidelines explicitly in their programs; others preferred to leave the matter unaddressed and to work debiting issues out with the Commission on a case-by-case basis.

In regard to the Cecil County program, the County revised its debiting method to conform to the guidelines except that lands in individually owned lots would be eligible for exclusion from the development envelope. The Commission was unable to agree on either the County's proposal, or on application of the guidelines. Eventually, at its May 18, 1988 meeting, the Commission voted to allow the County to use its method on a one-year trial basis for an amount of growth allocation not to exceed 70 acres. At the end of that period, the County would be required to account for the debiting used and the Commission could, thereafter, require the County to follow the guidelines if the County's method resulted in debiting that was inconsistent with the guidelines.

CRITICAL AREA EXPANSION

The criteria encourage local jurisdictions to expand their Critical Area program beyond the 1000-foot initial planning area, and the Critical Area Law enables them to propose additional lands for inclusion, subject to Commission approval. Prior to development of the criteria, expansion of the Critical Area inland appeared to be desirable. However, when the RCA criteria were adopted, it became apparent that expansion could be used to generate additional shoreline

development. Thus, a jurisdiction could propose to include inland agricultural RCA lands in their program and this additional acreage would be converted to allowable dwelling units to be located on the shore. Expansion would also generate additional growth allocation.

Although such a concept was initially considered in St. Mary's County, it was not adopted and no other jurisdiction submitted a program with these provisions. Some, however, expanded the Critical Area in specific situations, such as on peninsulas where an isolated pocket of non-Critical Area land would otherwise exist. An example is the Back River Neck Peninsula in Baltimore County, where the initial planning area was enlarged to include an interior area with significant habitat value (non-tidal wetlands and forest-interior dwelling bird habitat).

The first instance of expansion proposed to the Commission that created a significant policy issue was on a parcel in Kent County. When the County's Program was submitted to and approved by the Commission, 23 parcels were included that had lands outside the initial planning area. On one, "Langford Farms", the entire property was included in the Critical Area even though a portion (about 250 acres) was outside of the 1000-foot initial planning area. When subdivision of this property was subsequently requested in 1988, and shoreline development proposed, some compensating or mitigating benefits were also included. These were a five-acre waterfowl pond, a waterfowl sanctuary, protection for a 93-acre forested tract that was habitat for forest-interior dwelling birds, restrictions and prohibitions on hunting, and others. While there were other issues presented by this project, in the matter of including additional

lands, the Commission concluded that substantial overall net benefits, particularly habitat protection, were to be gained. Thus, the subdivision was not challenged by the Commission on the basis of the number of dwelling units to be allowed, although the Commission earlier intervened on certain habitat protection features of the project.

In a subsequent case in Cecil County, the Commission approved an expansion of some 120 acres (Sunset Pointe subdivision). Here, the area added would remain in agriculture and further development would be restricted by covenants. Also, the additional dwellings permitted would be set back 300 feet and protection afforded for a nearby eagle nest. Conversely, the Commission rejected another proposal for expansion (Budd's Landing property), also in Cecil County, because no substantial resource protection benefits were obvious beyond what would likely be protected through County ordinances.

It remains to be seen how the Commission will deal with expansion of the Critical Area in the future. However, it appears that expansion simply to generate additional dwelling units is unlikely to be approved; substantial mitigation must be a part of the project, and resource protection purposes and values will have to be served.

BUFFER EXEMPTIONS

In the Buffer criteria, the Commission added a provision [14.15.09.01C(8)] enabling a local jurisdiction to exempt certain shoreline areas from the Buffer requirements. These are areas that have been developed to such an extent that the Buffer functions stated in the criteria could not be fulfilled. The exemption was meant to

address two situations: 1) older highly developed industrial areas such as in Baltimore City where re-development in the Buffer would improve water quality; and 2) existing residential areas where new development or redevelopment is unlikely to occur, but where urban forestry or education programs could be used to improve the habitat and water quality characteristics of the Buffer area.

Generally, most jurisdictions were reluctant to seek Buffer exemptions because they perceived that exempting such areas would weaken the effectiveness of their Programs or would be subject to public criticism. The Commission, on the other hand, saw exemptions as a positive measure that would enable the upgrading of Buffer areas which are already developed.

In the Program review process, the Commission encouraged the local jurisdictions to seek Buffer exemptions, where appropriate, and several kinds of such programs eventually emerged. In Baltimore City and Havre de Grace, development and redevelopment in the Buffer is permitted, but an offset fee is charged based on the area disturbed and the type of development proposed. The offset fee is then used for other purposes germane to the local Program.

In certain other jurisdictions, such as Cecil and Queen Anne's Counties and the Towns of Oxford and St. Michaels, a set of rules was proposed for development and redevelopment in the exemption area. Generally, these rules addressed development on shallow grandfathered lots of record. Such lots were allowed to be built upon by the criteria, but if the Buffer regulations were observed, there was insufficient area available for the actual development (usually a residential unit) to occur. The exemption rules specified conditions

under which such units could be built, while complying with the Buffer requirements to the extent possible. The rules also addressed the expansion of homes or other kinds of existing development.

The Commission has granted some Buffer exemptions in most of the jurisdiction programs approved to date. All such areas are shown on the local jurisdiction maps. Several programs also provide for the identification of future Buffer exemption areas, but if these were not included on the approved maps, they would need subsequent Commission approval through the program amendment process.

EXCLUSIONS

The Critical Area Law allows the exclusion of certain lands from the Program which are: 1) part of a developed urban area where, in view of existing applicable laws and regulations, the imposition of a Critical Area Program would not significantly improve water quality or habitats, and if the portion of the urban area to be excluded is at least 50% developed and is not less than approximately 60 acres; or 2) are located 1,000 feet or more from open water and separated from the water by wetlands. In order to receive an exclusion, the jurisdiction would need to submit certain findings to the Commission.

Several exclusions were approved by the Commission as follows:
Pocomoke City - Excluded based on the area possessing the urban exclusion characteristics and the City's submission of future redevelopment plans and ordinance requirements, which were found to be consistent with the criteria requirements for IDAs.
Chesapeake Beach - A specific parcel ("Stinnet Farm") was excluded based on separation from open water and presence of wetlands, and by

firm agreement to undertake certain other mitigating actions (i.e., development set-backs)

Cambridge - Excluded certain urban waterfront areas on the same basis as Pocomoke City.

Brookview, Church Creek, Eldorado, Galestown - These small Dorchester County towns were excluded because of their lack of any significant development in recent times; the probability that because of their being built out and unsewered, future development would be unlikely; and their agreement that if development was to occur, it would be consistent with the Dorchester County Critical Area Program.

OTHER PROGRAM ISSUES

As noted earlier, the Commission addressed a number of issues in the local programs that are not discussed in detail in this report. Persons seeking a complete record of such matters should consult the index of Commission meetings in Appendix B and the Commission files for the various jurisdictions. Issues that may be of special interest would include the following:

1. Queen Anne's County - The County initially proposed an RCA density criterion of one dwelling unit per five acres with requirements for clustering, 300-foot shoreline setbacks, and other mitigating factors. The Commission did not accept this proposal and insisted the County use the density criterion contained in the criteria.
2. Local Jurisdictions Role in Agriculture - Some jurisdictions (i.e., Cecil County) encountered difficulty in assigning responsibility for implementing the criteria requirements for

agriculture. Generally, the jurisdictions sought to encourage compliance through the use of incentives and education programs provided by the local Soil Conservation District. However, the criteria required that agricultural activities would have to be consistent with the local programs. Thus, the Commission concluded that the jurisdictions needed to have provisions in their local ordinances ensuring that agriculture was conducted according to the criteria; a voluntary approach would not be acceptable.

3. Timber Harvesting in Non-Tidal Wetlands - The criteria require the Buffer to be expanded landward to include sensitive areas, such as hydric soils, whose disturbance may impact streams, wetlands or other aquatic environments. In a number of the local programs, the question was raised as to whether timber harvesting would be permitted in an area comprising a non-tidal wetland that would be included in an expanded Buffer. It was noted that timber harvesting in the basic 100-foot Buffer would be prohibited to occur in a Habitat Protection Area including non-tidal wetlands. The Commission resolved the matter by allowing timber harvesting in such expanded Buffer areas with a showing of "no disturbance" as described in the Commission's guidance Paper No. 4 (forthcoming).

CHAPTER 5

REGULATIONS FOR STATE AND LOCAL AGENCY PROGRAMS

In addition to developing criteria for local Critical Area Programs, the Critical Area Law also required the Commission to establish regulations for development undertaken by State and local agencies (Section 8-1814). These regulations would apply to any such development which was not subject to approval by a local jurisdiction under an approved local Critical Area program. Examples of projects cited in the Law included buildings, roads, treatment plants and airports. The Commission was required to promulgate these regulations by September 1, 1987 after consulting with affected State and local agencies. This process was begun in early 1986 with the appointment of a Subcommittee of the Commission. In addition, State development agencies not directly represented on the Commission (i.e., Department of Transportation, Maryland Port Adminstration), were invited to participate. The following is a summary of the criteria development process.

SCOPE OF REGULATIONS

The initial meetings of the Subcommittee were concerned with defining the kinds of applicable development, and the nature of State agency actions that should be covered by the regulations. In regard to development, the Subcommittee's overriding concern was to ensure that the regulations applied to all activities in the Critical Area that would not otherwise be subject to evaluation and approval under a

local Critical Area Program. Thus, in reviewing the examples of development to be covered by the regulations, the Subcommittee determined that the definition stated in the Law was not inclusive. In regard to the Commission's role, it was clear that development on State-owned lands should be within the scope of the Commission's authority since such development was not subject to local approval. Further, all such development should be subject to Commission approval in the same way that these activities (i.e., timber harvesting, shore erosion protection, agriculture) were regulated under local programs. Thus, State agency actions on State-owned lands should be treated similarly to the requirements imposed on private property by local programs.

Development on private lands was seen, for the most part, as subject to the local jurisdiction's approval under existing regulations. However, some exceptions were noted. It was not clear, for example, that a public housing project or prison complex proposed in the Critical Area on land leased by the State would be subject to approval by a local jurisdiction. Another example was an intensive public use recreation area proposed by a local park and recreation agency. If no mechanism exists to review and approve the project by the local Critical Area agency, then such development should come before the Commission.

Another issue raised was that State permitting procedures would allow development (i.e., bulkheading) that, although provided for by the criteria, would not ordinarily be subject to local approval. As a result of considering these issues, an initial staff draft of proposed regulations was prepared in April of 1986 (dated April 3, 1986). The

draft proposed that two classes of development be considered: 1) that which occurs on State-owned lands; and 2) that which occurs on private lands and is not subject to approval under a local Critical Area Program.

In regard to the appropriate scope of coverage, this first draft included a wide range of State agency actions in the regulations. These were direct development actions, such as construction of a building, or others such as permitting, licensing, cost sharing, technical assistance, or the award of grants which cause, or allow to occur, new development on lands that are not State-owned. These actions were based on a list prepared by the staff of State programs promoting development (i.e., Maryland Industrial and Commercial Development Fund, Maryland Rural Development Program, Office of Tourist Development) or permitting development (i.e., surface mining permits, land-fill permits, waterway construction permits, airport siting approvals). The Subcommittee later observed that most of the development promoted or permitted by these actions would ultimately be regulated by a local jurisdiction. Also, State permitting procedures were expressly designed to cover most of the environment issues contained in the criteria. Thus, direct Commission involvement in these activities would either be redundant or inappropriate. Therefore, later drafts limited the definition of State agency actions to those which directly caused development to occur, and where the resulting development was not subject to local approval. Two specific examples of permitting actions were cited which clearly did not involve local approval. They were issuance of a Certificate of Public Convenience and Necessity by the Maryland Public Service Commission

for power plant construction and issuance of a Certificate of Public Necessity by the Maryland Hazardous Waste Facilities Siting Board.

Although the effect of these revisions would appear to limit the Commission's coverage of State agency actions, the Subcommittee was aware that other actions specifically required by the criteria for local programs (COMAR 14.15) should receive mention. These were Soil Conservation and Water Quality Plans prepared for farms and Forest Management Plans for timber harvesting. In each case, the plans would lead to "development" as defined in the Critical Area Law, but would not be subject to local review. Thus, Chapter 2 mentions that such plans would need Commission approval and the Subcommittee also added language to indicate that other limited types of State assistance (i.e., shore erosion protection) should likewise be subject to Commission review under the General Approval regulations of Chapter 3.

The initial draft criteria only contained mention of State agency programs although the Law also refers to development undertaken by local agencies. It was assumed at the time that local agency development would always be subject to approval by the designated local Critical Area approving authority. Later, it was noted that this may not be the case in all jurisdictions. In some instances, projects of a Department of Public Works or of a Parks and Recreation Department may not receive review and approval by the Office of Planning & Zoning or other agency authorized to make Critical Area approvals. As a result of this determination, specific reference was made to "local agency actions" in the criteria for development on private lands or on lands owned by the local jurisdiction.

FORM OF REGULATIONS

As previously discussed, the Subcommittee made a distinction between development on State-owned lands and development on private lands or lands owned by the local jurisdiction. Clearly, development in the former case would need Commission approval because local governments had no jurisdiction. In the latter case, the Commission would have an approval role, but only in those relatively infrequent cases where the local jurisdiction had no approval authority. These two classes of regulations are discussed below.

DEVELOPMENT ON PRIVATE LANDS AND LANDS OWNED BY LOCAL JURISDICTIONS - Regulations for these lands are contained in Chapters 2, 3, and 4 of the criteria although, in early drafts, Chapter 3 on General Approvals was not included. The intent of the initial criteria was to distinguish between development activities that would be of minor or major significance and to provide different standards of review for each. The Subcommittee spent considerable time attempting to derive a quantitative distinction between major and minor development, but decided that this should generally be done on a case-by-case basis. Thus, it was provided that certain projects (i.e., airports, power plants) would clearly be considered major and they are listed in the definition section of Chapter 4. However, in Chapter 2, the Commission is authorized to determine if a given project is "minor" or "major" and if the latter, to consider the project under Chapter 4 requirements.

In regard to standards of review, the first criteria draft provided that a minor project would be submitted to, and evaluated by, the local jurisdiction to determine if it was consistent with the

local program. Major projects would be submitted to the Commission and evaluated on the basis of water quality and habitat protection standards and effects on the local jurisdiction's Critical Area Program. This was later modified to provide that the Commission would also seek comments on the project from the affected local jurisdiction. In the final revisions, the Commission strengthened the role of the local jurisdictions by requiring the applicant to make findings showing the extent to which the project is consistent with the local program. These findings then would be one of the bases on which the Commission would evaluate the project. An additional change was also made concerning growth allocation. The Subcommittee was concerned that in approving a project located in an RCA, the Commission would be reducing the jurisdiction's growth allocation acreage. Thus, Section .02F was added to provide that in such a circumstance, the acreage of the project would, in effect, continue to be counted as RCA and, therefore, would not diminish growth allocation available to the jurisdiction.

In summary, the regulations in Chapters 2 and 4 provide that for minor projects, those with only minimal minor on-site impacts and which do not affect the local jurisdiction's growth allocation, approval would be gained by obtaining a consistency certification from the jurisdiction and submitting such to the Commission. Major projects would require direct submission to, and approval by, the Commission. The Commission's decision on such projects would be based, in large part, on findings showing the extent of consistency with the local program. However, the Commission could approve projects that are not wholly consistent with a local program.

Although the conditions for such an approval are not stated, they could include approving a facility in an RCA where the jurisdiction has already used up its growth allocation allotment.

After reviewing the initial criteria drafts, the Subcommittee recognized that some projects of minor significance may occur with great frequency and could be better considered on a collective or programmatic basis, rather than individually. Examples were Forest Management Plans and Soil Conservation and Water Quality Plans although others such as shore erosion protection works could also fall under this category. For these projects, which generally flow from State agency programs, the Subcommittee derived the concept of general approval whereby the Commission could approve classes of development activities. Such approvals would be based on a request from the agency sponsoring the class of activities or programs showing that the programs would result in development that would be consistent with the criteria for local programs (e.g., COMAR 14.15). Thus, instead of reviewing all individual Forest Management Plans in the Critical Area, the Commission would be able to give a General Approval to the Maryland Forest, Park and Wildlife Service that would state the criteria requirements for such plans. The provisions for General Approval were added as Chapter 3.

DEVELOPMENT ON STATE-OWNED LANDS - In its initial discussion of development on State-owned lands, the Subcommittee considered treating such lands in the same manner as the criteria for local Programs contained in COMAR 14.15. This would require each agency owning or administering State lands to prepare a Critical Area Program and submit the program for approval to the Commission. Thereafter, any

development activity proposed would be submitted to the Commission together with a statement that the project was consistent with the approved program.

This approach, which was reflected in the initial criteria drafts, was later reconsidered for several reasons. First, it was noted that the portion of the Critical Area Law directing the Commission to adopt these regulations contained no reference to program development. Second, no funds had been provided to the agencies for this purpose. Third, the frequency of development on most State lands is relatively low and the effort involved in developing programs for all lands may not be worthwhile. Finally, the Subcommittee concluded that in those cases where development frequency on a site is high, a general approval process could be provided that would have the effect of a Critical Area Program for that site. As a result of these considerations, the initial criteria drafts were revised to provide that the regulations for State lands would address specific development proposals to be reviewed and approved by the Commission.

Generally, the Subcommittee sought to ensure that regulations for development on State owned lands are the same as those for private lands. However, several issues arose which are unique to State lands and programs. These are discussed below.

1. Project Planning - The Subcommittee wished to ensure that agencies were aware of the requirements of the regulations in the project planning process. Therefore, provisions were made in Section .01B that the agency should consider the effects of the criteria on the planned development; these

considerations are listed in that section. In addition, the agencies are required to consult with the Commission at an early stage in the project planning process to determine how the criteria might affect the development. Although this early consultation is required, the comments of the Commission would not prevent the agency from submitting the project for funding approval (i.e., to the General Assembly, or to the Board of Public Works). This latter provision was added so that the Commission's comments would be made known to both the sponsoring agency and to the funding institutions as the overall merits of the project were being considered. Moreover, both parties would be aware that Commission objections may result in later Commission disapproval of the project.

2. Land Acquisition and Disposal - Although the disposal and acquisition of State lands is not considered development, per se, the Subcommittee anticipated that such actions should be addressed in the criteria. The Subcommittee reasoned that an agency may plan to acquire private property for a new facility (i.e., a prison or State Park), but that facility would be prevented by the criteria. Similarly, State lands may be proposed for sale to a private developer, but once the land reverts to private use, it could not be developed under the regulations of the local Critical Area Program. These provisions were thus added in Section .01 D and E wherein the agency would be required to consult with the Commission on any land acquisition or disposal proposal. Commission

comments on the proposal would not prevent the agency from proceeding with the sale or disposal action. However, the agency would be on notice that development on such lands may not be permitted by the criteria.

3. Growth Allocation - Most of the local jurisdictions mapped State land according to use (e.g., IDA, LDA or RCA) and included the acreage of these lands in their programs. While the local program regulations would not apply, State land designated as RCA could be used as a basis for calculating growth allocation. The Subcommittee believed that Commission approval of development in an area designated RCA, should not affect the RCA acreage of the jurisdiction. Such a provision was made in Section .01F.

4. Timing of Project Submissions - As noted above, agencies are required to consult with the Commission when they are planning development. However, actual approval of the development is also required. The Subcommittee was then confronted with the matter of determining when the development should be submitted to the Commission. It was noted that many capital projects were conceived, proposed in the Governor's budget, and finally approved by the General Assembly through a process that may take several years or more. Similarly, State highway construction may take 10 years from initial planning to final construction. Conversely, an agency might undertake a small project in a matter of several months. In order to address this issue, requirements for submission to the Commission were provided

in Section .02B.

The overall intent of the Section is to ensure that Commission review would not occur when the project planning or design was so advanced that any adverse Commission comments could not readily be adopted by the proposing agency. The Section provides that a non-transportation project shall be submitted to the Commission prior to the issuance of requests for proposals for site design, development, or engineering. Where more than one of these stages occurs, the project is to be submitted before the earliest stage. However, where none of these stages occurs, the project is to be submitted before construction. This latter provision mainly addresses smaller projects that are often designed and constructed "in-house" where no outside design or construction services are needed.

In regard to major transportation projects, the Subcommittee considered the matter of an appropriate submission stage. It recognized that the planning and design stage for these projects is lengthy and complex. Typically, a number of alternatives are proposed and modified through the design and public hearing process. The Subcommittee ultimately selected a point in this process called the "final project planning phase", a specific stage described in the Transportation Article of the Annotated Code of Maryland [§8-610(i)]. Generally, this provides that the Commission review would occur after the principal project components are proposed (i.e., specific road alignments), but before the final

detailed site design of a specific alignment. It should be noted that the Subcommittee intended this requirement to refer to projects in the final project planning phase. Thus, projects which moved beyond this phase prior to the effective date of the criteria (June 11, 1988) would be grandfathered. Those that were still in this phase as of that date would need Commission review and approval.

5. General Approvals - Provisions for approving programs or classes of activities that would result in frequent or continuing development on State lands were added to the criteria in Section .02F, G and H. The Subcommittee rationale was the same as that for general approvals on private land; that these kinds of development could best be considered on a collective or programmatic basis. In addition, it was brought to the Subcommittee's attention that on some sites, such as a Maryland Port Administration facility, development occurs almost continually. In such cases general approvals would provide the sponsoring agency with an opportunity to prepare a site plan whereby development occurring over time could receive Commission approval. This would obviate the need for Commission involvement in the day-to-day operation of the facility.

6. Development Criteria - The criteria regulating development on State lands are generally the same as those for private lands as described in COMAR 14.15.02.

   One difference is the designation of land management categories (e.g., IDA, LDA, and RCA). It was observed that

while there are State lands that would be classified as Resource Conservation Areas, it is unlikely that such lands would be developed for residential purposes. Thus, the 1 du/ 20 acres density criterion used in COMAR 14.15.02 would not be applicable. The Subcommittee resolved this matter by requiring agencies to identify "Areas of Intense Development" using the same criteria as the local jurisdictions would use to map IDAs. Projects proposed for such areas would need to conform to the IDA criteria. All other lands would be "not in Areas of Intense Development" [see Section .02B(3)], and development would be conducted under the LDA criteria. Thus, except for the "one per 20" criterion, development on State lands would be conducted under the same criteria as for private lands. However, unlike the local Programs, no provisions were made for the creation of new Areas of Intense Development; that is, there is no equivalent to "growth allocation" on State lands.

Another aspect of the development criteria should be noted. In Section .02B(5), the State agency is required to address any adverse off-site impacts on private lands that would affect a local Critical Area Program. This provision was added to account for a situation where new development, such as an intense State recreation facility, would create pressures for ancillary off-site development in the form of roads, motels, and the like. Such development may not be consistent with a local program and the Subcommittee wished to have the agency address this fact in their submission to

the Commission.

7. Conditional Approvals - The Commission decided to include in the criteria provisions for the granting of variances by local jurisdictions. The Subcommittee believed that the Commission should similarly be empowered to grant the equivalent of a local variance for State and local agency projects. Such a provision was made in Chapter 6, Conditional Approval of State and Local Agency Programs. Generally, the conditions for granting such approvals are similar to those for variances in local programs. However, two additional requirements are imposed on State and local agencies. One is that mitigation is required where provisions of the regulations cannot be met. The second is that the agency must show the Commission that substantial public benefits will accrue to the overall Critical Area Program if the project is allowed to proceed as proposed. These conditions were made part of the criteria to ensure that conditional approvals would only be made in exceptional circumstances where a project would otherwise have demonstrable beneficial effects in the Critical Area.

8. Commission Review Process - Chapter 7 describes the process and procedures to be used by the Commission in reviewing proposals for development. No particular issues were raised by this Chapter.

Following initial publication of the Regulations in April of 1987, comments were received from State agencies and local jurisdictions. These comments were considered by the Commission, and

several changes were agreed upon and published in the Maryland Register in October of 1987. They included:

- Clarification that Commission approval of development in an RCA does not affect a jurisdiction's growth allocation (14.19.04.02.F).
- Provisions requiring the Commission to seek comments from the affected local jurisdictions(s) on development proposed on State-owned lands, on requests for General Approval, and on appeals from Commission disapprovals.
- Addition of criteria for marinas and other water-dependent commercial maritime facilities and for fisheries facilities. (It had earlier been thought that no such facilities existed on State-owned lands, but this was not so).
- A provision enabling the Commission and the Public Service Commission to hold joint hearings for purposes of reviewing applications for power plants.

CHAPTER 6

OTHER COMMISSION ACTIVITIES

In addition to the criteria development and program review activities of the Commission over this period, a number of other actions were undertaken. Some were mandated by the Critical Area Law, others were adopted by the Commission in support of the Program. These are discussed in this Chapter.

REGULATIONS FOR PROJECT NOTICE

In Section 8-1811 of the Critical Area Law (Project Approval), the Commission is directed to adopt regulations identifying those classes of applications for local project approval of which it wishes to receive notice. Once such regulations are adopted, applications for development in such classes would be sent to the Commission. Before the close of business of the day following receipt of the application, the Commission would send written notice of receipt to the applicant and the local approving authority. The local jurisdiction could not process such applications until it had received the Commission's notice. If the Commission failed to acknowledge the application, the jurisdiction could proceed with its review and approval process.

In March of 1987, the Commission appointed a Subcommittee to begin drafting the regulations for project notice. The initial draft, loosely based on development review procedures used by the New Jersey Pinelands Commission, was prepared by staff and reviewed at the first Subcommittee meeting on March 6, 1987. The draft noted that the

Commission was limited by the Critical Area Law (Section 8-1802) to reviewing only the following project approval activities: subdivision plats, site plans, inclusion of areas within floating zones, issuance of variances, special exceptions, conditional use permits, and issuance of zoning permits.

The draft then suggested that all of these site plans and applications should be subject to Commission review, but with some exceptions. These included: the construction, expansion, or reconstruction of a single family dwelling unit, or an accessory structure thereto, except when the structure would occur in the Buffer or other Habitat Protection Areas; clearing of less than 5000 square feet of land for non-agricultural purposes not in the Buffer or in other Habitat Protection Areas; and the clearing of land for agriculture when done pursuant to an approved Soil Conservation and Water Quality Plan. The kinds of approvals that would have to be submitted to the Commission were then listed for each of the three development areas. For example, it was proposed that subdivisions of five lots or less in LDAs need not be reviewed by the Commission. A concluding section listed the kinds of information that would be required for all applications.

The Subcommittee, after reviewing the initial staff draft, made several changes. They felt that the list of information to be submitted with the application was too lengthy and detailed. This section was revised so that the Commission would only be furnished details sufficient to enable a determination of interest. If the circumstances of the project warranted, then the Commission could then seek additional information.

A second major change was to add a new section requiring each jurisdiction to submit to the Commission, on a quarterly basis, a detailed summary of applications which had been approved for development or subdivision within the Critical Area, including those exempted from individual review as noted above. The intent of this provision was for the Commission to have an overall sense of the rate and form of development in the Critical Area.

In addition to these, the Subcommittee added rezoning to the list of reviewable activities; placed minimum limits on areas of disturbance or the number of lots to be created in a subdivision (such limits varied in the IDA, LDA, or RCA categories) where Commission review would not be required; and excluded land clearing associated with forestry operations.

The proposed regulations were revised by the Subcommittee to incorporate these changes, and approved by the Commission on May 6, 1987. They were then published in the Maryland Register on July 17, 1987. Prior to, and following publications, a number of objections to the proposed regulations were raised by the State of Maryland Institute of Home Builders and other organizations. As a result, the Commission Chairman was notified by the Chairman of the General Assembly's Joint Committee of Administrative, Executive and Legislative Review (AELR), that the Commmittee would hold a public hearing to hear comments and requested the Commission postpone final adoption. Subsequently, at a meeting of the House of Delegate's Environmental Matters Committee on September 1, 1987, the specific objections were discussed. They included: concern about the detail required to be supplied by the jurisdiction, particularly for the

quarterly reports; the perception that the Commission appeared to be intervening in local matters; and the frequency (quarterly) with which the Commission was requesting information. The overall thrust of the comments was, as Delegate Thomas Rymer indicated in a September 15, 1987 letter to Chairman Liss, concern that the Commission would become "permanently entangled in local decisions". He stated that once the Commission is satisfied that local authorities are complying with and enforcing the Critical Area Law, these authorities should be trusted to then implement their program with minimal Commission oversight.

Although the Commission did not directly address these general concerns, several changes were made to the regulations originally proposed and reviewed by the Commission on November 17, 1987. Principal changes included: reporting requirements reduced from quarterly to semi-annually; "development" was defined as only applying to those activities that materially affect the condition or use of dry land or land under water (e.g., language contained in the Critical Area Law); enabled jurisdictions to telephone the Commission to verify receipt of an application (this would help to expedite local project review); and clarified the information to be required about the use of growth allocation.

These proposed changes were submitted to the AELR Committee late in 1987. The Home Builders Institute indicated that they had no additional changes to suggest aside from clarification that building permits would be exempted from the regulations. However, prior to the January 26, 1988 meeting on the revised regulations, the Institute indicated further concerns as did the Maryland Farm Bureau. These issues were resolved in March of 1988 at a meeting of the Commission's

Subcommittee. They included: revising the definition of "development" to exclude agricultural structures and activities; excluding subdivisions of 4 lots or fewer in LDAs; excluding accessory uses to single family dwellings; and removing the name and address of the property owner on those developments to be submitted in the semi-annual report.

The revisions, although apparently acceptable to the Commission, have not yet formally been finally published. Such action is expected later in 1989.

THE CRITICAL AREA CRITERIA AND FEDERAL CONSISTENCY

In the Coastal Zone Management Act of 1972, Congress declared that it is the national policy to preserve, protect, develop, and where possible, to restore and enhance the Nation's coastal zone. To achieve this objective, Congress entrusted the coastal states with the primary responsibility for developing and administering coastal zone management programs. Maryland's Coastal Zone Management Program (MCZMP) was approved by the Secretary of Commerce in 1978. This action made the State eligible for administrative grants to support the Program and also provided that certain actions of Federal agencies would have to be consistent with the Program.

A state may amend its management program after it has been approved by the Secretary of Commerce. In August of 1984, the State of Maryland submitted the Critical Area Protection Act and the criteria to the Department of Commerce as an amendment to the State's Program. The proposed amendment was rejected as untimely since legislative approval of the criteria had not been obtained. However,

following such approval in May of 1986, the State resubmitted the amendment request in December, 1986.

In order for the amendment to be approved, the Office of Coastal Resources Management in the Department of Commerce had to make a preliminary determination that certain procedural requirements of the Coastal Zone Management Act were observed and that the State's CZMP, as amended, would still constitute an approvable Program. Such a determination was made on May 12, 1987. Earlier, an Environmental Assessment was made to determine if an Environmental Impact Statement was needed on the amendment. It was determined that the amendment would not have a significant (adverse) effect on the human environment and, therefore, no statement was required.

On July 24, 1987, the Department of Commerce gave final approval to the amendment in a notice entitled "Approval of the Proposed Amendment to Incorporate the Chesapeake Bay Critical Area Protection Program Act and Amending Regulations into the MCZMP." This notice was published in the Federal Register on July 29, 1987 (52 Federal Register 28325). The approval of this amendment activates the responsibility of Federal agencies, and persons applying for Federal licenses and financial assistance for activities affecting the Maryland Coastal Zone (and occurring in the Critical Area), to be consistent with the Critical Area Law and criteria pursuant to the Federal Consistency provisions of the CZMA. This means, for example, that if a permit for a new marina is submitted to the Corps of Engineers, and the marina is to be located in an RCA, that permit should be not be approved because it would not be allowed under the provisions of the approved local Critical Area Program. This denial

should be made even if the marina would otherwise be approvable under the provisions of Section 8 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

There are several aspects of Federal consistency that should be noted. The first is that Federal permitting actions must comply with the Maryland CZMP, and thus, the criteria, unless the Secretary of Commerce finds that the action is otherwise consistent with the objectives of the CZMA, or is necessary in the interest of national security. This means generally, that if the action affects development on private lands, or lands owned by a local jurisdiction, the development would have to be consistent with the local Critical Area Program. The review of Federal permitting and licensing for consistency is being conducted by the State's Tidewater Administration in the Power Plant and Environmental Review Division.

The second is that development on Federal lands are exempt from the provisions of the CZMA unless the impact of an activity extends beyond the boundary of the Federal property (i.e., a wastewater outfall). However, under the Chesapeake Bay Agreement, Federal agencies have agreed that activities on their lands would be conducted, to the maximum extent feasible, consistently with the criteria. In addition, in the past, several agencies have voluntarily complied with the CZMA.

GUIDANCE PAPERS - During the final stages of criteria development in late 1985, the Commission staff became aware of public concern about understanding and interpreting the criteria. To some extent, this concern related to the legal phraseology used in the criteria, but also, to the need to understand various sections that might have

more than one interpretation. In order to address these concerns, the staff proposed to prepare a guide to the criteria for use by the general public and by local planners and consultants. The Commission agreed and the document was prepared under supervision of a Commission Subcommittee. It was finally reviewed and approved by the Commission in May of 1986 and widely disseminated as a companion document to the criteria.

In addition to the general overall information provided in this document, some specific subjects in the criteria were in need of clarification or explanation in more detail than was possible in the guide. As noted earlier, some members of the Commission requested further details on the section of the criteria relating to forest-interior dwelling birds. In the course of assembling this information, the staff proposed that a "guidance paper" be prepared so that it would be available to the public. The Chairman agreed and a series of these papers were prepared by the staff and reviewed and approved by the Commission. A brief summary of each follows.

Guidance Paper No. 1 (A Guide to the Conservation of Forest Interior Dwelling Birds in the Critical Area) - This paper was prepared with the assistance of scientists from the Smithsonian Institution, the U.S. Fish and Wildlife Service, and the Maryland Forest, Park and Wildlife Service. It lists the species considered to be "forest-interior dwelling", outlines survey methods to determine their presence in a forest, and suggests protection measures. The list was derived by reviewing data on the frequency of occurrence of forest-dwelling species in habitats of various size, and by identifying those which required the type of forests described in the

criteria. Guidance was also given on the number of species that would need to be present for the forest to be considered a high quality habitat area. Survey methods were included to explain the criteria requirement for a forest to be a "documented" breeding area in order to qualify for protection.

Guidance Paper No. 2 (Transferable Development Rights: An Analysis of Programs and Case Law) - This paper was prepared under the direction of the Office of the Attorney General, Department of Natural Resources. It reviews various transferable development rights (TDRs) programs presently in effect and contains suggestions about how this information may be useful for implementing local Critical Area programs. The paper is intended to be of use to local jurisdictions which may contemplate the use of TDRs in addressing the criteria suggestions for the use of such instruments in protecting RCA lands.

Guidance Paper No. 3 (Guidelines for Protecting Non-tidal Wetlands in the Critical Area) - This paper was prepared in cooperation with the Non-Tidal Wetlands Division in the Department of Natural Resources, and assisted by persons representing the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and the Environmental Protection Agency. It explains how non-tidal wetlands are to be identified and protected; how a local jurisdiction should determine if a proposed wetland alteration is permissable under the criteria; and how alterations could be mitigated. The purpose of the paper was to explain and clarify various sections of the criteria (i.e., "necessary and unavoidable impacts") and to assist the local jurisdictions in administering this very complex section of the regulations.

Guidance Paper No. 4 (A Guide to the Conservation and Management of Forest Resources in the Critical Area) - This paper was written with the assistance of the Maryland Forest, Park and Wildlife Service, the Non-Tidal Wetlands Division, and other agencies in the Department of Natural Resources. It discusses: preparation of Forest Preservation Plans by the local jurisdictions; requirements and review procedures for Forest Management Plans; habitat protection requirements for timber harvesting activities; urban forestry programs; and development site review procedures to be followed in LDAs and RCAs. The Paper is expected to be published later in 1989.

Guidance Paper No. 5 (A Framework for Evaluating Compliance with the 10% Rule in the Chesapeake Bay Critical Area) - This paper was prepared by the Metropolitan Washington Council of Governments in cooperation with the Maryland Department of the Environment. It is intended to assist local jurisdictions and developers in meeting the criteria requirements for achieving a 10% improvement in water quality for development in IDAs. The report specifies a process for evaluating compliance and developing off-set programs.

It should be noted that these papers do not have the force of regulation. They are intended to assist local jurisdictions in implementing the various criteria requirements and are suggestive of the interpretation the Commission would place on the intent of these criteria. They are also intended to be of assistance to land owners, developers, and the interested public in understanding and interpreting the criteria requirements.

ECONOMIC BASELINE STUDY - Following adoption of the criteria, considerable concern was expressed about their effect on land values. Some in the development community believed that values in RCAs would drop sharply; others feared sharply escalating values and assessments would result in higher taxes for existing residents. In order to address this issue, the Commission issued a Request for Proposals for a study to establish a baseline for land values prior to the Program. This baseline would then be re-examined in future years (perhaps five-year intervals) to determine changes in the value of land in the Critical Area relative to outside properties. The contract for this work was awarded in October of 1986, to the Center for Urban Policy Research at Rutgers University. Publications from the study, including an analysis for the Critical Area and a related comparison of the New Jersey Pinelands Reserve, were completed and published in 1988. Copies are available at the Commission.

REPORT ON PUBLIC ACCESS AND REFORESTATION - Section 8-1816 of the Critical Area Law required the Commission to prepare, by January 1, 1987, a report to the Governor and General Assembly recommending State policy and goals for: 1) the provision of public access along the shoreline of the Bay and its tributaries; and 2) the reforestation of land within the Critical Area and the preservation of forested lands.

In order to carry-out this assignment, a Chesapeake Bay Access and Reforestation Task Force was established by the Commission to determine the State's present role in the provision of shorefront access, and existing State programs, regulations, and laws regarding reforestation. The Task Force was comprised of representatives various interest groups, and a number of agencies and their programs

within State government.

An inventory was made of State, county, and municipally-owned properties within the Chesapeake Bay Critical Area that presently provide public access to the Bay and its tributaries. Information for this inventory was obtained from the Department of State Planning, various State publications, and representatives from local agencies involved in planning acquiring, and managing open space and recreational lands.

A questionnaire was developed to generate public opinion and input on issues regarding access and reforestation. Approximately 2,600 were distributed. Half were mailed to randomly selected Maryland residents and half were sent to targeted groups. A response rate of 21% was obtained. The questionnaires were statistically analyzed by Salisbury State College's Department of Sociology and Anthropology.

Results of the questionnaire were discussed at a public workshop held in November of 1986. The final report for the project sets forth recommendations regarding access and reforestation that were suggested at the workshop or were derived from the supporting information compiled for the project noted above. Some recommendations include: designating the Department of Natural Resources (DNR) as the coordinator for Bay access; developing an inventory of all shorefront access areas; developing a land-based access guide; assessing access needs locally and regionally; educating Bay users on the resource; reducing the forest acreage eligibility requirement to utilize State tax incentives, and developing regional model forestry demonstration projects.

Many of the recommendations have been met since publication of the report. In 1989, the General Assembly passed House Bill 620 which designated DNR as coordinator for Bay access. The Bill requires DNR to designate areas for public access, coordinate with local and State agencies in identifying and managing access areas, and serve as a repository for access information and inventories. In March of 1989, a Bay and River Access Guide was published by the Department of Natural Resources. In addition to providing information on public access, the guide serves to educate its readers on the Chesapeake Bay.

CHAPTER 7

SUMMARY AND CONCLUSIONS

PROGRAM ACCOMPLISHMENTS

From a procedural point of view, the Commission's task during these four years was to prepare and promulgate the criteria, present them to the General Assembly, and to help develop and approve the local Programs. Each of these tasks were accompanied by deadlines imposed by the Critical Area Law. In addition, the Commission was directed to publish regulations for approval of State and local agency development and for project notice, and to publish a report on shoreline access and reforestation. All of these required tasks were completed according to the requirements of the Law, although a number of the local Programs were not approved by the June, 1988 deadline.

In regard to substantive matters, the Commission's primary charge was to adopt criteria that would address the goals of the Law. In doing so, it had to recognize the fundamental basis of the Law---that the Critical Area had special values that needed protection and existing regulations and programs were inadequate for this purpose. This mandate of the Law lead the Commission to conclude that better enforcement of current programs would not satisfy the Law; the criteria needed to go beyond these regulations and programs.

A second aspect of the criteria related to growth management. In contrast to most zoning or land-use planning strategies, the criteria are based upon water quality and habitat protection goals, not on economic efficiency, economic development, aesthetics, or community character issues associated with growth. Indeed, the Law specifically

notes that growth has adverse environmental impacts, even if pollution is controlled. Thus, the Commission saw its role as accommodating growth only to the extent that these basic program goals could be met. In doing so, it attempted to establish a comprehensive approach to the regulation of land use on a regional scale.

The issue of scale is significant because the Commission determined that many of the values it hoped to achieve could not be accomplished solely by the use of prescriptive or performance standards on individual development sites. Such standards needed to be supplemented by local planning and management programs (i.e., programs for protecting non-tidal wetlands or for urban forestry) addressing resource protection and enhancement throughout the Critical Area. Given these perspectives of the Commission on the overall basis of the criteria, a number of accomplishments can be stated as specifically intended by the Commission. For most, these represent the first time such actions have been adopted in Maryland. For some (i.e., protection of forest-interior dwelling birds), they are unique in the United States. These accomplishments include the following:

Development

- Adopted a comprehensive land-use management strategy based on the intensity of existing uses.
- Focussed or contained new development in or adjacent to existing developed areas.
- Limited the extent of new development in areas presently in low intensity uses.
- Recognized variations in water quality protection associated with different land uses; adopted measures to maintain and

expand forested areas for their water quality protection benefits.

- Rejected sole reliance on on-site stormwater management and sediment control measures for non-point source pollution abatement; specified other means to accomplish this purpose by limiting impervious surfaces, protecting forest lands, avoiding development altogether in sensitive areas, and by encouraging various other programs such as urban forestry.
- Provided for programs and measures to address non-point source pollution in urban areas.
- Limited new development that could occur directly on the shoreline to that which is water-dependent, and mandated setbacks or buffers for other forms of development.
- Generally limited the location of new intense water-dependent facilities to areas already intensely developed.
- Recognized the importance of naturally vegetated buffers in protecting aquatic habitats from the adverse effects of adjacent development.

Agriculture

- Adopted growth management policies specifically directed at maintaining lands in agriculture.
- Addressed non-point source pollution problems associated with agriculture by requiring the preparation of Soil Conservation Plans and the adoption of BMPs for all farms in the Critical Area.
- Specified, as a required BMP, that certain setbacks would be required for various agricultural activities.

- Limited disturbances to important habitat areas that may be caused by agricultural activities.

Foresty

- Mandated the preparation of Forest Management Plans for all significant timber harvesting activities.
- Required timber harvesting operations to address both water quality and habitat protection measures.
- Specified setback requirements to prevent adverse effects on aquatic habitats from timber harvesting.

Surface Mining

- Required new mining operations to avoid areas of important habitat, and to observe the minimum 100-foot Buffer

Shore Erosion

- Discouraged the installation of erosion control devices where no significant erosion occurs.
- Promoted the use of non-structural erosion control measures where they are practical and effective.

Habitat Protection

- Provided regulations and other measures whereby local jurisdictions are enabled to identify and protect important habitat areas; incorporated these features into local land-use ordinances.
- Recognized the importance of natural buffers adjacent to tidal waters and tidal wetlands for maintaining transitional and riparian habitats.
- Enabled protection of non-tidal wetlands from activities that would cause direct or indirect impacts to the wetland.

- Protected the habitats of threatened and endangered species and species in need of conservation, and forest-interior dwelling birds.
- Protected the aquatic staging and concentration areas of waterfowl.
- Protected designated Natural Heritage Areas.
- Enabled jurisdictions to protect habitats of local significance.
- Enabled the designation and protection of 60 specific habitats of threatened or endangered species or species in need of conservation; 23 Natural Heritage Areas, and 11 habitats of local significance.
- Established a means for local jurisdictions to address habitat protection on a broader geographical basis than the individual parcel of land.

Public Lands

- Required the same degree of water quality and habitat protection and growth management on public lands as that required on private lands.
- Ensured that State and local agency programs are conducted in a manner consistent with the criteria for private actions.

CONTRIBUTING FACTORS

A number of factors have contributed to the Commission's ability to achieve the accomplishments noted above. Clearly one of the most important was widespread public awareness of the declining condition of the Chesapeake Bay and support of the State's clean-up initiatives

that were approved by the General Assembly in 1984. Even in those public hearings conducted by the Commission where there was considerable opposition to the criteria, there was also serious concern expressed about the Bay's future. Thus, although there were a number of specific objections to the Commission's program, there was also widespread agreement that such a program was needed. Certainly the Commission's approach to its criteria development deliberations was strongly influenced by its belief that the public would support an agressive program of water quality improvement, habitat protection, and growth management.

A second major influence in the first several years of the Program was the support of Governor Hughes. In additon to his expressed unwillingness to approve any significant weakening of the criteria, his staff, particularly Ellen Fraites, was closely involved in and knowledgeable about, the Commission's activities. The Governor's Cabinet Secretaries represented on the Commission were actively involved in the Commission's work and William Eichbaum contributed the original conceptual framework for the development criteria. Also, the Secretaries generally adopted a uniform position on most key decisions. This was particularly significant in the role of the Secretary of Agriculture, Wayne Cawley. Secretary Cawley was willing to consider and support actions of the Commission that were perceived as placing limitations on agriculture and that were often opposed in the agriculture community. However, such limitations were seen by others as giving equal treatment to both development and agriculture, an important Commission objective.

A third factor was the operation of the Commission itself and the leadership provided by the Chairman, Judge Solomon Liss. The composition of the Commission was such that most important political geographic and economic interests were represented. These diverse members were able to function in a generally harmonious manner through the efforts of the individual Commission members and Judge Liss. Moreover, participation by the members was very high considering their voluntary status, and the intense meeting and public hearing schedule required.

A fourth factor was the provision of State funds sufficient to enable the jurisdictions to develop their local programs. There is little doubt that, absent these funds, few of the jurisdictions would have been willing or able to participate in the Program.

A fifth factor was the wealth of information available to the Commission in support of its criteria development activities. Many of the criteria ultimately proposed could not have even been considered unless the requisite maps, inventories, and studies were accessible to the Commission or could be made available to the local jurisdictions. These included the habitat inventories and maps in the Department of Natural Resources (i.e., the National Wetlands Inventory Maps, identifications of anadromous fish spawning streams, the information base contained in the Maryland Natural Heritage Program); various studies of the relationship between land use and water quality; and land use trends in the Critical Area compiled by the Department of State Planning.

In addition to the above, a number of other events or circumstances were important over this period. These included:

- Organizational and/or staff support from a number of groups particularly the Chesapeake Bay Foundation, the Maryland Conservation Council, and many others.
- The decision of Baltimore Mayor William Donald Schaefer to not seek an exemption for the City and to prepare a Critical Area Program
- The contributions made by the private consulting community who prepared many of the local programs and were often the key organizations involved in providing information and education about the Program to local publics. (For an example, see "A Reference Manual and Guide for Local Program Development" by Redman/Johnston Associates, Easton, MD, 1986).

CRITICISMS OF THE PROGRAM

The Critical Area Law was met with a number of objections during the General Assembly Session in 1984, and many of these remained after its passage. To a large extent, most of the criticisms directed at the Commission's criteria development and Program approval efforts stemmed from these perceived limitations or inequities in the Law.

A fundamental objection was related to State involvement in local land-use decisions and the fear that the Commission would become a "super zoning board". This objection, in part philosophical, had been raised when the original Critical Area bill was first introduced. It was addressed by limiting the decision-making role of the Commission after local program approval and by ensuring local government representation on the Commission. However, such concerns persisted as a strong undercurrent in opposition to both the Law and to the

Commission's program.

The most common specific objection related to the limited extent of the Critical Area. If, as shown in the EPA Chesapeake Bay Study, a significant portion of the Bay's pollution can be attributed to land run-off, should not the Program include the entire Bay drainage area in Maryland? Why should the urban areas in metropolitan Washington and Baltimore, which are major sources of pollutants, be excluded? What about the large expanse of agricultural lands outside of the Critical Area which contribute heavy nutrient loadings to the Bay?

It is clear that the framers of the initial Critical Area Bill were aware of these objections. As George Liebmann has pointed out in his article about the evolution of the Law (Liebmann, 1985), the initial Bill drafts did envision a broader program, extending along all of the Bay's tributary streams in Maryland. As the Bill evolved, this was seen as "an intrusion upon local autonomy", and "an excessive geographical reach". As a result of this concern, the scope of the Critical Area was reduced to the somewhat arbitrary 1,000-foot reach provided in the Law. Thus, while a broader program was originally contemplated, it was thought by the drafters to be politically infeasible. However, the drafters also believed that with the Critical Area extending to the head of tide (and 1,000 feet upstream), significant protection would be afforded to many of the Bay's important finfish that spawned in these areas.

There was also some concern on the part of supporters of the original Bill that a State-wide program of the scale and complexity proposed would require funding and staffing substantially in excess of that likely to be provided by the General Assembly. Moreover, the

authority and responsibility of the Commission would be enormous in regard to local land-use decisions. These supporters saw a more limited program as a way to establish a State/local partnership for regulating land-use for water quality and habitat protection purposes. If this partnership, and the resulting relationships and operating procedures proved to be sucessful in the 1000-foot Critical Area, then some insight would be gained as to the conditions and circumstances whereby a broader program could be considered.

A second and related objection was that the incidence of the Law would tend to fall primarily on the rural counties of Southern Maryland and the Eastern Shore--those jurisdictions with the greatest proportion of their lands in the Critical Area. Also, a Section of the Law (8-1807) allowed the exclusion of developed urban areas from the program. This Section, originally sought by the Baltimore City administration, was seen by rural interests as potentially excluding from regulation those areas which are major sources of pollution to the Bay. This criticism was frequently raised at the Commission's initial public hearings in the Fall of 1984. Later, in 1985, Baltimore Mayor William Donald Schaefer issued a statement that the City would not seek an exclusion and would proceed to prepare a Critical Area Program. To a large extent, the statement diffused criticism of this provision of the Law. Nevertheless, concern about the program's apparent bias against rural areas persisted throughout this period.

A final objection related to a Section in the Law (8-1801) that describes agriculture as a "protective land use". Many observers noted that this characterization of agriculture was counter to the

findings of the EPA study which attributed a significant portion of the nutrient loadings to the Bay as originating from agricultural lands. The Commission was well aware of this objection, and it was frequently discussed during the criteria development process. It was finally concluded that if Soil Conservation and Water Quality Plans were prepared and implemented for farms in the Critical Area, it was possible that such sources of pollution could be reduced. In addition, farms would be subject to the same habitat protection requirements as other activities. The Commission believed that these measures would address concerns about agricultural activities to a degree unique in Maryland, or in any other state.

Other concerns raised during this period related to the program itself, not on limitations perceived in the Law. Many of these were discussed earlier in this report and addressed by the Commission in the criteria development and program review process. Some of the major objections are discussed in the following section.

Extent of Development Allowed - Public perception of the Program has been that very little new development would be allowed to occur in the future in the Critical Area. However, this is not the case, and some observers have noted that far more development will be permitted than originally anticipated (Hillyer, 1988). This will occur in undeveloped areas mapped as LDA by virtue of adjacent water and sewer lines; through the use of growth allocation and intrafamily conveyances; by some uncertainty about the Commission's future decisions on growth allocation debiting; and, to a significant degree, by development on grandfathered lots. In addition, possible future actions by the General Assembly to increase the RCA density criterion,

or, more likely, to raise the 5% ceiling on growth allocation, could substantially increase development potential in the Critical Area. Finally, greater shoreline or waterfront development might occur if landowners are successful in expanding the Critical Area boundary inland, increasing the amount of property in the Critical Area and, thereby, generating additional dwelling units. (As noted earlier, instances have already occurred on the Langford Farm property in Kent County and on one parcel in Cecil County.)

Generally, the Commission has been aware of these circumstances. In fact, estimates of new development permitted by the criteria were made by the staff and the Chesapeake Bay Foundation early in the program (1985), and used to counter concern in the General Assembly about the effect of the RCA density criterion on future growth. There are, however two areas of Commission concern. One is the magnitude of grandfathered lots. In only one jurisdiction, Talbot County, is there information about such lots, and it is believed that nearly 1600 grandfathered parcels exist in the County's Critical Area. The second involves growth allocation. As noted earlier, the Commission has allowed growth allocation to be awarded for a one-year trial period in Cecil County, in a manner somewhat different than the Commission's informal guidelines. It is not clear how some other jurisdictions will seek to debit growth allocation acreage. Moreover, the Commission's guidelines do not have the force of regulation, and it remains to be seen what legal actions will arise in the future to challenge the guidelines.

Patterns of Development - Some comments have been directed to the patterns of development envisioned by the criteria (Perkel, 1988). It

is noted that the criteria are intended to concentrate new development near areas of existing development; that is, to reduce sprawl along the shoreline. To some extent, this involves developing in-fill areas. But such areas often are not developed because they are environmentally sensitive or prohibitively expensive for some kinds of residential building. Also, market preferences for large lot residential properties run counter to the clustered or concentrated form of development favored in the criteria, as do the septic limitations for many areas of the Eastern Shore. In addition, new development adjacent to existing developed areas may be resisted by nearby residents or may be technically infeasible because infrastructure (i.e., sewer capacity), is unavailable or inadequate.

To some extent, these criticisms can be made towards any proposal that seeks to curb sprawl development. However, the overall problem of growth and development in Maryland is of serious concern, as evidenced in the report "Population Growth and Development in the Chesapeake Bay Watershed to the Year 2020", recently published by the Chesapeake Executive Council. In fact, it was concluded in that report that current procedures for managing growth are inadequate. A more concentrated growth pattern is recommended, an objective specifically sought by the Commission in the development criteria.

Public Participation - During the criteria development process, some concern was expressed about the limited extent of public participation in the Commission's activities. The Critical Area Law did mandate a degree of involvement in the public hearings to be held before and after the criteria were developed and published. Moreover, the composition of the Commission, as specified in the Law, was such

that a wide range of geographical and special interests were represented among its members. However, undertaking a comprehensive and intensive public participation process, while theoretically desirable, would have been impossible given the time requirements of the Law.

Chairman Liss recognized these limitations in the Law, and sought to involve a number of interest groups in the criteria development process. He did this by establishing an open door policy for subcommittee meetings and by enabling and encouraging public participation in the subcommittees' deliberations. A roster of individuals and organizations was compiled as a result of the initial public hearings. An invitation to participate in the meetings was extended to those listed, and a meeting schedule was also provided. While many individuals and organizations did participate, in reality, the frequency of meetings (typically, three different committee meetings each week for two and one-half months) was such that it was difficult to maintain continual attendance. Nevertheless, it is probably fair to say that the Commission heard all substantive positions and suggestions on the criteria, either during the subcommittee meetings, or later at the second round of public hearings as a result of written and oral statements. Indeed, a conscientious effort was made by the staff to assemble all relevant comments on each section of the criteria, and to provide this information to the Commission when criteria revisions were being considered in July and August of 1985.

One aspect of the Commission's procedural rules, while not strictly a public participation function, did have the effect of

ensuring consideration of minority views. This was the voting rule adopted at the Commission's initial meeting in October, 1984. The rule required that a Commission action needed a vote of one more than the majority of the members, not a majority of those present (assuming a quorum). Thus, an action needed fourteen votes, regardless of the number of Commissioners present. Absent such a rule, an action would need just eight votes if only a quorum were present. In practice, the rule resulted in a number of situations where a given action could not be taken because of three or four dissenting votes. Since such dissenting votes usually represented views of the rural jurisdictions, or of the real estate and development community, the interests of these groups tended to have a significant impact on the Commission's deliberations. The accommodation of these interests was an important factor in the Commission's achieving some degree of acceptance among groups initially opposed to the criteria. (Note: The Commission's voting rule was subsequently invalidated in an Opinion of the Attorney General on October 7, 1988).

CONCLUSIONS

The Critical Area Program was conceived as one of a number of initiatives undertaken by Maryland in 1984 to address the deterioration of the Chesapeake Bay. The Program should, therefore, be viewed in this context. It was not intended to address all of the Bay's ills or all of the sources of pollution that have adversely affected the Bay. Ultimately, the success of the Program should be judged on the extent to which it achieves the water quality and habitat protection goals set forth in the Law. To some extent,

however, these goals relate to reducing the impact of future development on water quality. Present sources of pollution are not directly addressed, except in those sections of the criteria that relate to development and redevelopment in urban areas, and to agriculture. However, other programs in the State's Bay initiatives do deal with existing pollution sources including the upgrading of sewage treatment plants, reducing toxic discharges from industrial sources, and limiting nutrient run-off from agricultural lands by adoption of Best Management Practices.

In reality, the Program's direct effects will be to prevent further deterioration in near-shore waters and tidal tributaries. It is clear that, in the past, intense shoreline development has lead to elevated nutrient concentrations in adjacent waters; high levels of coliform bacteria that limit shellfish harvesting; alteration of the natural features of the shoreline by cosmetic bulkheading, or the installation of piers and pilings; clearing of riparian forests and woodlands; and adverse effects on wildlife from human activities. The intended effect of the Program is to prevent such conditions from further proliferating along the Bay's shoreline. In this regard, the Program's effects will be difficult to measure because they will reduce the extent of adverse water quality conditions over that which would have occurred with unregulated development in the Critical Area.

On the other hand, the Program's impact on habitats are immediate and easily observable. Already, the Program has allowed the identification of important habitat areas and the incorporation of their protection in the local programs. This probably represents the

most comprehensive habitat protection program ever adopted at the local level of government in the United States. The success of this aspect of the Program will be the degree to which the extent and integrity of such habitats can be maintained in the future. This, in turn, will depend on: the diligence of local jurisdictions in following their program; the Commission's commitment to its oversight and enforcement role; and willingness of developers and other agents of land change to meet the habitat protection requirements.

Several other aspects of the Program should also be noted. One is whether this effort at regional growth management is effective, and if some or all of its elements should be considered for State-wide adoption. It is too early to make such an assessment since several local programs have not yet been approved and most are still in the early stages of implementation. However, as the State addresses the development of an overall growth management strategy, consideration needs to be given to the Critical Area Program, in whole or in part, as a relevant model. At the local level, it is known that some jurisdictions are considering adopting some of the criteria on lands outside of their Critical Area.

Another aspect of the Program to be followed is its effect on the quality of development proposed for the Critical Area. It has clearly been the expectation of some Commission members, that the net effect of the criteria would be to encourage site design and development in a manner harmonious with the natural features and values of a given area. These members viewed the criteria, in part, as providing a set of guidelines and tools. These could be used by developers, land planning consultants, and local officials to enhance the quality of

subdivisions and other forms of development. It remains to be seen if these expectations are borne out in the future. Some jurisdictions (i.e., Anne Arundel County) have already reported a significant improvement in the quality of development plans in the Critical Area.

As a final point, some of the lessons learned from other similar programs (i.e., Oregon), should be kept in mind in assessing implementation of the Critical Area Program. It has been noted that public support of such efforts is usually high during the period when a program is conceived and adopted. Thereafter, implementation activities are not directly concerned with "the big picture", but with the many local government decisions on individual development sites. It is the total cummulative effect of these decisions that ultimately will determine the success of the Program. Yet, such incremental decisions are the most difficult ones for the general public to evaluate. Perhaps this argues for a specific role for the Commission: to continually assess the effectiveness of the Program, and to make this assessment subject to widespread public awareness, understanding, and review. A high degree of internal consistency in the Commission and staff workings will be necessary to make such an assessment feasible.

APPENDICES

APPENDIX A

LEGAL ISSUES

Throughout the development stage of the Critical Area program, a number of legal matters arose for which advice of counsel or an opinion of the Attorney General were sought. Because many such advisements or opinions were significant to the Commission's deliberations, some are being listed here. Following, in alphabetical order, by subject, is a brief description of each. Unless otherwise noted, material attributed to L. Epstein represents advice of counsel to the Chairman, or to other persons on the Commission Staff, and not opinions of the Attorney General.

ANNEXATION, Commission review of (L. Epstein, two separate memoranda, March 1, 1988). Compliance with correct annexation procedures, particularly prior to program approval, is not itself, the province of Commission review.

BUFFERS, restrictions on agriculture (L. Epstein, April 30, 1985). It is within the scope of the Commission's authority to specify preferred or minimum BMPs for agriculture, specifically, the minimum 25-foot filter strip, and restrictions on grazing, feeding and watering of livestock within 100 feet of the shoreline.

BUFFER, requirements for (L. Epstein, March 29, 1985). Buffer areas must be established by the Commission as one of the mandatory requirements for local programs.

COMMISSION, attendance requirements at hearings and meetings (S. Sachs and J. Schwartz, Office of the Attorney General, Opinion of the Attorney General conveyed to Delegate Larry Young, April 2, 1986). Public hearings held by the Commission need not be counted as meetings with respect to statutory attendance requirements; non-attendance by some members at past Commission meetings does not affect the legality of the Commission's actions.

COMMISSION, authority of (L. Epstein, memorandum to Thomas Deming, January 11, 1985). Reviews the basis and extent of authority that was entrusted to the Commission by the General Assembly; concludes that the Commission has all the necessary power to accomplish the goals of the Act.

COMMISSION, authority to amend the Criteria (J. Curran and J. Schwartz, Office of the Attorney General, Opinion of the Attorney General conveyed to Delegate D. Long, March 10, 1987). The Commission does not have authority to adopt substantive amendments to the Criteria. The General Assembly may amend the statute, or direct the Commission to do so, but only by means of a statute.

COMMISSION, degree of discretion afforded to interpret the Criteria (J. Curran, T. Deming, and L. Epstein, Office of the Attorney General, Opinion of the Attorney General, Conveyed to S. Liss, January 5, 1988). Concludes the following: 1) mandatory criteria (e.g., those using terms like "shall" or "may not" must be applied by the Commission as written and adhered to without

variance by those to whom the criteria apply (e.g, COMAR 14.15.02.05C(4); 2) directory criteria (e.g., those using terms like "should" or "encourage") require local programs to at least consider this particular matter; and 3) where the Criteria admit to more than one construction, the Commssion has broad discretion to determine if a proposed program element is consistent with the underlying intent of the criteria.

COMMISSION, 90-day review period for local programs (L. Epstein, November 19,1987). A local program must be determined to be complete (e.g., meet the requirements of Section 8-1808(c) of the Act and COMAR 14.15.10) before the 90-day review period can begin.

COMMISSION, changes in membership (L. Epstein, December 17, 1986). Commission members who are elected or appointed local officials may only serve on the Commission while they hold local office. Once they no longer hold such office, their membership in the Commission must end and the Governor is mandated to appoint a successor within 30 days.

COMMISSION, role of panels in program reviews and approvals (L. Epstein, June 16, 1986). A Commission Panel's role is generally that of a hearing body. The Panel hears the presentation of a local program and any contrary view, and passes this information to the Commission which is ultimately and solely responsible for decision-making.

COMMISSION, conflicts of interest on panels (L. Epstein, August 26, 1986). No legal impediment appears to exist to local officials sitting on the hearing Panels for their own

jurisdictions. However, it is recommended that the Commission make a policy recommendation on the matter to avoid the appearance of conflicts. (Note: The Commission regulations for State and local projects expressly forbid a State agency Commissioner from sitting on a Panel considering a project submitted by that agency, or a local offical from sitting on a Panel considering a project from that person's jurisdiction, [see COMAR 14.19.07.03(d)]).

COMMISSION, authority to direct the action of another State agency (L. Epstein, March 5, 1985). The Commission's authority to direct the action of another State agency action is limited to the regulations it must adopt under Section 8-1814(a) of the Act.

COMMISSION, authority to direct the action of another State agency (L. Epstein, April 1, 1985). Proposes the use of memoranda of understanding between the Commission and other agencies to achieve common ends. (Note: This advice supplements that previously given on March 15, 1985).

COMMISSION, voting requirements (L. Epstein, April 3, 1986). The Commission may choose to have more strict voting requirements than might flow from the statute. (Note: The Attorney General's Opinion of October 7, 1988 overrules this advice).

COMMISSION, authority to adopt rules concerning voting (J. Curran and K. Rowe, Office of the Attorney General, Opinion of the Attorney General conveyed to Senator W. Baker, October 7, 1988). The Commission may not apply a voting requirement different from the requirement set out in the statute. (Note: this invalidates Article V of the Commission By-laws wherein a

majority of the 26 members entitled to vote (at least 14 votes) are necessary to approve an action).

CRITERIA, definition of (L. Epstein, December 11, 1984). Discussion of the meaning of "criteria for program development" as used in Section 8-1808(d) of the Act.

CRITERIA, meaning of LDA language concerning areas having public sewer or water (L. Epstein, May 22, 1987). The word "having" means that one of these two forms of infrastructure must be present in the ground, in order for the local jurisdiction to use this feature as a basis for LDA designation. (Note: See also Attorney General's Opinion of January 5, 1988 and L. Epstein memorandum for S. Liss of December 15, 1987, both cited below).

CRITERIA, meaning of LDA language concerning areas having public water or sewer (L. Epstein, memo to S. Liss, December 15, 1987). Discusses the likely conclusions to be reached by a forthcoming Attorney General Opinion on this subject (see following); explains that an LDA designation made by a local jurisdiction shall be consistent with the defining characteristics in the criteria, but that the Commission must apply discretion on a case-by-case basis, in deciding whether particular areas are ones "having public sewer or public water or both"; gives guidance on applying this discretionary authority.

CRITERIA, interpretation of the directives "should" and "shall" (L. Epstein, May 6, 1986). These words must be given meanings attributed to them by the Commission; that is, "should" has a directory significance, while "shall" connotes a mandate. (See also the Attorney General's Opinion of October 6, 1986).

CRITERIA, use of "should" and "shall" (S. Sachs and J. Schwartz, Office of the Attorney General, Opinion of the Attorney General conveyed to S. Liss, October 6, 1986). Concluded that the word "should", as used in the Commission's regulations, is directory, while "shall" is mandatory. (See also Attorney General's Opinion of January 5, 1988).

DREDGE AND FILL REGULATION (L. Epstein, February 7, 1985). Advises that no regulation of the Commission should be taken to impede or prevent the dredging of any waterway in the Critical Area.

EXCLUDED AREAS, further Commission authority under Section 8-1814(a) of the Act (L. Epstein, December 7, 1987). An excluded area is no longer considered to be in the Critical Area, and thus, not subject to Commission approval for projects conducted therein that would otherwise be regulated under Section 8-1814(a) of the Act.

EXCLUDED AREAS, defining "50 percent developed" (L. Epstein, March 28, 1985). Advises the Commission to interpret the "50 percent developed" provision of Section 8-1807(b) and include this interpretation in the criteria.

EXCLUDED AREAS, interpretation of Section 1807(b) of the Act (L. Epstein, October 18, 1984). An excluded area must be 50 percent developed and at least 60 acres in size or, in a small municipality, the entire initial planning area within the jurisdiction.

EXCLUDED AREAS, requirements for exclusion requests (L. Epstein, August 11, 1988). Reviews the standards by which an exclusion request is to be evaluated; discusses the extent to which the request for the City of Crisfield meets these standards.

EXEMPTIONS, local jurisdictions (L. Epstein, May 9, 1988). The Commission may not, on its own, exempt a local jurisdiction from submitting a local program.

GENERAL ASSEMBLY, affirmation of criteria by joint resolution (L. Epstein, January 21, 1985). Describes the nature and legislative process of the joint resolution of the General Assembly by which the Commission-promulgated criteria are affirmed.

GRANDFATHERING (L. Epstein, March 8, 1985). Outlines options for the Commission to consider in adopting regulations for grandfathering as described in Section 8-1808 (c)(3) of the Act.

GROWTH ALLOCATION, Commission review of such applications (L. Epstein, October 5, 1988). Reviews the legal basis for requiring the Commission to approve growth allocation requests; discusses the process and procedure for review and approval of such requests.

HAZARDOUS WASTE SITING BOARD, Commission authority over (P. Anderson memorandum to Bill Sloan, October 8, 1985). The Board may not issue a certificate of necessity for a hazardous waste disposal facility or a low-level nuclear waste disposal facility in an area where such a facility would be prohibited by the Commission's regulations.

INTERIM FINDINGS, applicability (L. Epstein, memo to file, January 9, 1985). Interprets Section 8-1813(d) of the Act in regard to when an application for development can be considered as filed with a local jurisdiction.

LOCAL CRITICAL AREA PROGRAMS, completeness standard (L. Epstein, March 4, 1987). A local program is not complete unless it includes the implementing ordinance provisions or at least a description of what those ordinances or regulations will contain in order to implement the program.

LOCAL CRITICAL AREA PROGRAM, conditional intent to submit a program (L. Epstein, August 4, 1986). The Commission is not empowered by the General Assembly to accept a conditioned (i.e., funding available) local program intent letter.

LOCAL CRITICAL AREA PROGRAMS, need to accommodate the Commission's grandfathering criteria (L. Epstein, August 21, 1987). Each local jurisdiction must construct grandfathering provisions that reflect the intent and spirit of COMAR 14.15.02.07.

POWER PLANT SITING PROGRAM, Commission authority over (L. Epstein memorandum to T. Deming, February 23, 1986). The Commission is meant to have approval authority over State projects in the Critical Area, including power plants, under Section 8-1814 of the Act.

REGULATIONS, changes requiring re-proposal (L. Epstein to T. Deming, October 3, 1985). Discusses the kinds of changes in a proposed regulation that would require republication in the Maryland Register.

RIPARIAN RIGHTS RE: PIERS, Commission authority over (L. Epstein, March 12, 1986). The Commission has authority to give guidance to local jurisdictions as to where slips and piers may be located, and, regulations over private piers in new subdivisions, do not interfere with riparian rights.

STREAMS, inclusion in the Critical Area (L. Epstein, November 29, 1984). Free flowing, freshwater streams are intended to be covered by the Law if they occur in the initial planning area described in Section 8-1807 of the Act.

SUPREME COURT, significance of the First Lutheran case for the Critical Area Program (R. Israel, Office of the Counsel to the General Assembly, Advise of Counsel to Hns. J. Astle, M. Bush, and D. Lamb, June 19, 1987). This case raises no new issues with respect to the Critical Area Law and related local zoning ordinances.

TAKINGS, relevance to criteria drafting (L. Epstein, March 4, 1985). If reasonable use continues in habitats of rare and threatened species, regulations protecting such habitats are likely to be upheld as valid.

TAKINGS, density limitations in Resource Conservation Area (L. Lamone, Attorney General's Office, letter to Senator Frderick Malkus, October 18, 1985). The one dwelling unit per 20 acres criterion, in general, is not an unconstitutional taking.

TAX CREDITS, use of for Program purposes (L. Epstein, March 4, 1985). Discusses the means by which local jurisdictions may grant tax credits for purposes of protecting valuable natural resource areas.

ZONING AMENDMENTS, "Change or mistake rule" (L. Epstein, January 31, 1985). Once a local Critical Area Program is approved, any subsequent change in zoning can be accomplished only if proof of a mistake is furnished. (Note: Such a change may also be made by the use of growth allocation.)

APPENDIX B

INDEX TO THE COMMISSION MEETINGS

Over the four-year period coverd in this report, the Commission discussed and voted on a wide variety of procedural and programmatic matters. This section provides an index to these Commission activities. It is arranged by subject and by the date(s) of the Commission Meeting(s) at which the subject was discussed, or voted, as described in the Minutes of the Meeting.

No listing is made here for the Commission's actions to return local Critical Area Programs to the jurisdictions for change, unless the action or discussion concerns major issues that would have particular relevance to the jurisdictions or to the Program in general. However, all final program approval actions are noted.

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APPENDIX C

PROGRAM STATISTICS

COMMISSION MEMBERSHIP

Chairman:

Solomon Liss (1984-88)
Robert Price, Jr. acting (1988-89)
John North, II (1989 - present)

Elected or Appointed Local Officials

Baltimore City:
Clarence "Du" Burns (1984-86)
Benjamin Brown (1986)
Ronald Karasic (1986-present)

Anne Arundel County:
Florence Kurdle (1984-87)
Thomas Osborne (1987-1989)

Baltimore County:
Donald Hutchinson (1984-85)
Ronald Hickernell (1985-present)

Prince George's County:
Parris Glendening (1984-present)

Caroline/Worcester Co's.:
John Logan (1984-85)
Thomas Jarvis (1985-present)

Cecil/Harford Co's.:
Robert Lynch (1984-86)
Victor Butanis (1986-present)

Dorchester/Talbot Co's.:
John Luthy (1984-86)
G. Steele Phillips (1986-present)

Kent/Queen Anne's Co's.:
Mary Roe Walkup (1984-86)
Wallace Miller (1986- 1989)

Somerset/Wicomico Co's.:
Lloyd Tyler, III (1984-87)
Ronald Adkins (1987- present)

Calvert/Charles/St. Mary's Co's.:
J. Frank Raley, Jr. (1984-present)
Harry Stine (1984-86)
Samuel Bowling (1986-present)

Representatives of Diverse Interests

William Bostian (1984-present)

Anne Sturgis Coates (1984-86)
Russell Blake (1986--present)

Barbara O'Neill (1984-87)
Kathryn Langner (1987-present)

Robert Price, Jr. (1984-present)

Samuel Turner (1984-1988)
William Corkran (1988- present)

Albert Zahniser (1984-present)

James E. Gutman (1984-present) At large - Western Shore

Shepard Krech (1984-present) At large - Eastern Shore

Cabinet Officers

Agriculture
Wayne Cawley (1984-present)

Housing and Community Development
Ardath Cade (1984-present)

Natural Resources
Torrey Brown (1984-present)

Planning
Constance Lieder (1984-89)
Ronald Kreitner (1989-present)

Health and Mental Hygiene (Environment)
William Eichbaum (1984-87)
Robert Perciasepe (1987-present)

Economic and Employment Development
Robert Schoeplein (1987-present)

COMMISSION STAFF

Executive Director: Sarah Taylor (1984-present)

Scientific Advisor: J. Kevin Sullivan (1984-88)

Assistant Attorney General: Lee Epstein (1984-present)

Senior Planner: Charles Davis (1985-89)

Regional Planners:	Anthony Redman	(1985-86)
	Marcus Pollock	(1985-88)
	Carolyn Watson	(1985-87)
	Edward Phillips	(1986-88)
	Lewis Waters	(1987-88)
	P. Ren Serey	(1988-present)
Project Planners:	Dawnn McCleary	(1985-present)
	Anne Hairston	(1988-present)
	Pat Pudelkewicz	(1988-present)
	Abi Rome	(1988-present)
	Thomas Ventre	(1988-present)

Cartographic Specialists: Oluwole Alade (1987-present)
Kenneth Feldman (1989-present)

Office Manager: Veronica Nicholls (1986-present)

Secretary to the Commission: Jennifer Delve (1985-present)

Secretaries: Madeline Larmore (1988-present)
Tera Harnish (1987-present)

COMMISSION BUDGETS

FISCAL YEAR		Appropriated($)	Expended($)
1985	Total	319,600	384,600
1986	Total	616,500	622,800
	Commission	346,500	584,800
	Grants	270,000	38,000
1987	Total	2,567,400	2,691,200
	Commission	417,400	573,400
	Grants	2,150,000	2,117,800
1988	Total	2,594,500	2,578,300
	Commission	474,300	773,800
	Grants	2,120,200	1,804,500
1989	Total	2,597,900	Not
	Commission	697,100	available
	Grants	1,900,800	
1990	Total	1,515,100	Not
	Commission	865,100	available
	Grants	950,000	

CRITICAL AREA

JURISDICTIONS AND ACREAGES

REGION/JURISDICTION	TOTAL ACRES	IDA	LDA	RCA	GROWTH ALLOCATION TOTAL	GROWTH ALLOCATION USED
UPPER WESTERN SHORE						
ANNE ARUNDEL CO.	48,869	5,133	20,929	22,807	918	758
Annapolis	1,729	915	589	225		
Highland Beach	(included in County Program)	-	-	-		
BALTIMORE CITY	5,192	4,102	224	448	22	0
BALTIMORE CO.	23,606	5,980	7,039	10,587	461	110
HARFORD CO.	8,205	926	1,242	6,037	278	b
Have de Grace	590	443	0	147		
LOWER WESTERN SHORE						
CALVERT CO.	24,771	2,086	4,037	18,648	757	285
Chesapeake Beach	952	307	254	387		
North Beach	149	102	16	31		
CHARLES CO.	30,424	269	2,206	27,949	1,130	0
Indian Head	164					
Port Tobacco	(included in County Program)					
PRINCE GEORGE'S CO.	15,727	693	1,438	13,596	328	134
ST. MARY'S CO.	43,754	1,614[a]	7,660[a]	34,480[a]	1,724[a]	0
Leonardtown	277	38	157	82		

REGION/JURISDICTION	TOTAL ACRES	IDA	LDA	RCA	GROWTH ALLOCATION TOTAL	GROWTH ALLOCATION USED
UPPER EASTERN SHORE						
CAROLINE CO.	15,940	0[a]	2,675[a]	13,265[a]	650[c]	b
Denton	206	59	147	0		
Federalsburg	397	249	148	0		
Greensboro	130	117	-	13		
Hillsboro	61	0	26	35		
CECIL CO.	25,428	487	5,082	19,859	960	0
Charlestown	175	80	95	-		
Chesapeake City	214	22	194	-		
Elkton	1,179	228	268	683		
North East	244	115	129	-		
Perryville	587	102	391	39		
Port Deposit	213	110	28	93		
KENT CO.	35,699	16	3,200	32,453	1,405	0
Betterton	166	32	62	72		
Chestertown	348	190	26	132		
Millington	113	47	36	30		
Rock Hall	492	336	156	-		
QUEEN ANNE'S CO.	39,981	725	8,755	30,501	1,528	153
Centreville	343	116	186	41		
Church Hill	41	0	30	11		
Queen Anne	52	36	0	16		
Queenstown	165	27	b	b		
LOWER EASTERN SHORE						
DORCHESTER CO.	176,600	102	9,690	166,808	2,900	200[c]
Brookview	Excluded	-	-	-		
Cambridge	917	502	415	0		
Church Creek	Excluded	-	-	-		
Eldorado	Excluded	-	-	-		
Galestown	Excluded	-	-	-		
Secretary	131	69	62	0		
Vienna	64	28	36	0		

REGION/JURISDICTION	TOTAL ACRES	IDA	LDA	RCA	GROWTH ALLOCATION TOTAL	GROWTH ALLOCATION USED
SOMERSET CO.	37,343	313	6,960	30,070	1,503	25
Crisfield	763	347	148	268		
Princess Anne	445	250	177	18		
TALBOT CO.	65,689	772	7,419	57,498	2,554	0
Easton	336	96	16	224		
Oxford	184	141	44	0		
St. Michaels	321	199	24	98		
WICOMICO CO.	21,286[a]	282[a]	2,916[a]	18,088[a]	909[a]	b
Fuitland	38	b	b	b		
Mardella Springs	126	0[a]	126[a]	0[a]		
Salisbury	844	669[a]	175[a]	0[a]		
Sharptown	96	57[a]	39[a]	0[a]9		
WORCESTER CO.	9,600	33[a]	97[a]	9,470[a]	473[a]	63[a]
Pocomoke City	Excluded	-	-	-		
Snow Hill	229	103[a]	66[a]	60[a]		
TOTALS (APPROXIMATE)	641,613	29,665	95,835	515,269	18,495	

Notes:

Excluded - All or part of the jurisdiction has received an exclusion from the Critical Area Program.

a - Jurisdiction's Program not approved; acreage subject to change.

b - Information not yet available

c - Estimated acreage

APPENDIX D

PUBLICATIONS

A number of papers and publications have been produced or sponsored by the Commission and its staff in the process of preparing the criteria and developing the local Programs. Some of these are formal publications, such as the Guidance Papers; others were sponsored and funded by the Commission, but prepared by outside organizations (i.e., the Economic Baseline Studies of Rutgers University). In addition to these, several internal unpublished papers were prepared by staff that would be of interest to persons seeking to understand the Commission's actions over this period. A list of all of these papers and publications is contained in the section below under "Commission Publications". Each are available from the Commission.

Other papers and articles have appeared in the published literature or other media that were authored by staff persons or other observers of the Program. These are listed in the section below, under "Publications About the Critical Area Program".

COMMISSION PUBLICATIONS AND PAPERS

Regulations

"Chesapeake Bay Critical Area Commission: Amendments to Law as Passed 1986, Law 1984, Criteria as Passed 1986", no date (1986), 16 pp.

"Chesapeake Bay Critical Area Commission, Subtitle 19, Regulations for Development in the Critical Area Resulting from State and Local Agency Programs", April, 1988, 12 pp.

Guidance Papers

"A Guide to the Chesapeake Bay Critical Area Criteria", May 1986, 73 pp.

"A Guide to the Conservation of Forest Interior Dwelling Birds in the Critical Area", Guidance Paper No. 1, July, 1986, 15 pp.

"Transferable Development Rights: An Analysis of Programs and Case Law", Guidance Paper No. 2, December, 1986, 76 pp.

"Guidelines for Protecting Non-Tidal Wetlands in the Critical Area", Guidance Paper No. 3, July, 1988 (Rev.), 64 pp.

"A Framework for Evaluating Compliance with the Ten Percent Rule in the Chesapeake Bay Critical Area", Guidance Paper No. 5, October, 1987, 81 pp.

Reports

"A Report to the Governor and General Assembly Recommending State Policies and Goals for Chesapeake Bay Shorefront Access and Reforestation and Forest Preservation Within the Critical Area", 58 pp., 1986.

Sponsored Publications

Beaton, W. P. "The Cost of Government Regulations, Vol. I: Impact of Rural Open Space Zoning on Property Values in the New Jersey Pinelands", Chesapeake Bay Critical Area Commission, August, 1988, 148 pp.

Beaton, W. P. "The Cost of Government Regulations, Vol. II: A Baseline Study for the Chesapeake Bay Critical Area", Chesapeake Bay Critical Area Commission, August, 1988, 219 pp.

Feitelson, E., "The Spatial Effects of Land Use Controls: The Chesapeake Bay Critical Area", Chesapeake Bay Critical Area Commission, April, 1988, 13 pp.

Nguyen, L. Q., "The Changes in the Value and Geographic Origin of the Commercial Landing in Finfish and Shellfish in Chesapeake Bay and Associated River Systems (1975-1986)", Rutgers University, Center for Urban Policy Research, January, 1988, 24 pp.

Staff and Commission Papers and Memoranda

Bley, M., "Report on the Needs of Local Jurisdictions for Information and Technical Assistance Relating to Water Quality Impacts Within the Chesapeake Bay Critical Area", Maryland Department of the Environment, Baltimore, MD , Oct., 1986, 29 pp.

Chesapeake Bay Critical Area Commission, "Consideration of Alternative Criteria Concerning Land Development in the Chesapeake Bay Critical Area", unpublished staff paper, Aug., 1985, approx. 20 pp.

---, "Considerations for Reviewing A Local Jurisdiction's Critical Area Maps", unpublished staff paper, no date (1987), 13 pp.

---, "Guidelines for the Counting of Growth Allocation, Critical Area Commission, unpublished paper, Feb., 1988, 7 pp.

---, "Rationale for 20 Acre Density Requirement in Resource Conservation Areas of the Chesapeake Bay Critical Area", unpublished paper, no date (1986), 18 pp.

---, "Suggestions for the Implementation of the Panel Hearing Procedure", unpublished, no date (1987), 4 pp.

Deming, T. "An Explanation of Grandfathering in Relation to the Proposed Chesapeake Bay Critical Area Criteria", unpublished paper, Maryland Department of Natural Resources, Oct., 1985, 21 pp.

Eichbaum, W., "Land Use Policies for the Chesapeake Bay Critical Area (CBCAC)", Memorandum to the File, Maryland Department of Health and Mental Hygiene, Baltimore, MD, Feb. 11, 1985, 3 pp.

PUBLICATIONS ABOUT THE PROGRAM

Beaton, W. P., "Living by the Shore: The Impact of Zoning on Housing Costs:, Maryland Policy Studies No. 1, Chesapeake Bay Policy, School of Public Affairs, University of Maryland, pp. 57-66, August, 1988.

Bunker, S., "The Maryland Critical Area Program: A Comprehensive Land Management Approach, National Wetlands Newsletter, Vo. 9, No. 1, p. 10.

---, "Maryland Chesapeake Bay Critical Area Program: An Analysis of the Impacts on Housing Availability and Local Economy", unpublished report, Chesapeake Bay Foundation, Annapolis, MD, 1986, 11 pp.

---, "Controlling a Critical Area: The Chesapeake Bay", Maryland Bar Journal, Vo. 21, No. 2, pp. 1-11, 1988.

Chesapeake Bay Critical Area Commission, "The Prospects and Problems of Economic Instruments as Complements to the Chesapeake Bay Critical Area Program", Proceedings of a Workshop, August, 1987, 88 pp.

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Davis, C. A., " A Strategy to Save the Chesapeake Shoreline", Journal of Soil and Water Conservation, Vol. 42, No. 2, pp 72-75, March-April, 1987.

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Gray, R. J., "The Role of the State in Protecting the Chesapeake Bay", Maryland Policy Studies, op. cit., pp. 15-22.

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Kusler, J., "Critical Area and the Taking of Private Property: Recent Developments in the Law", Maryland Policy Studies, op cit., pp. 61-74.

Liberty, R. L., "The Oregon Planning Experience: Repeating the Success and Avoiding the Mistakes", Maryland Policy Studies, op. cit., pp. 45-56.

Liebmann, G. W., "The Chesapeake Bay Critical Area Act: Evolution of a Statute", The Daily Record, Baltimore, MD, April 20, 1985.

Liss, S., "The Work of the Critical Area Commission", Maryland Policy Studies, op. cit., pp.5-6.

Liss, S., and L. R. Epstein, "The Chesapeake Bay Critical Area Commission Regulations: Process of Enactment and Effect on Private Property Interests", University of Baltimore Law Review, Vol. 16, No. 1, pp. 54 - 80, 1986.

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