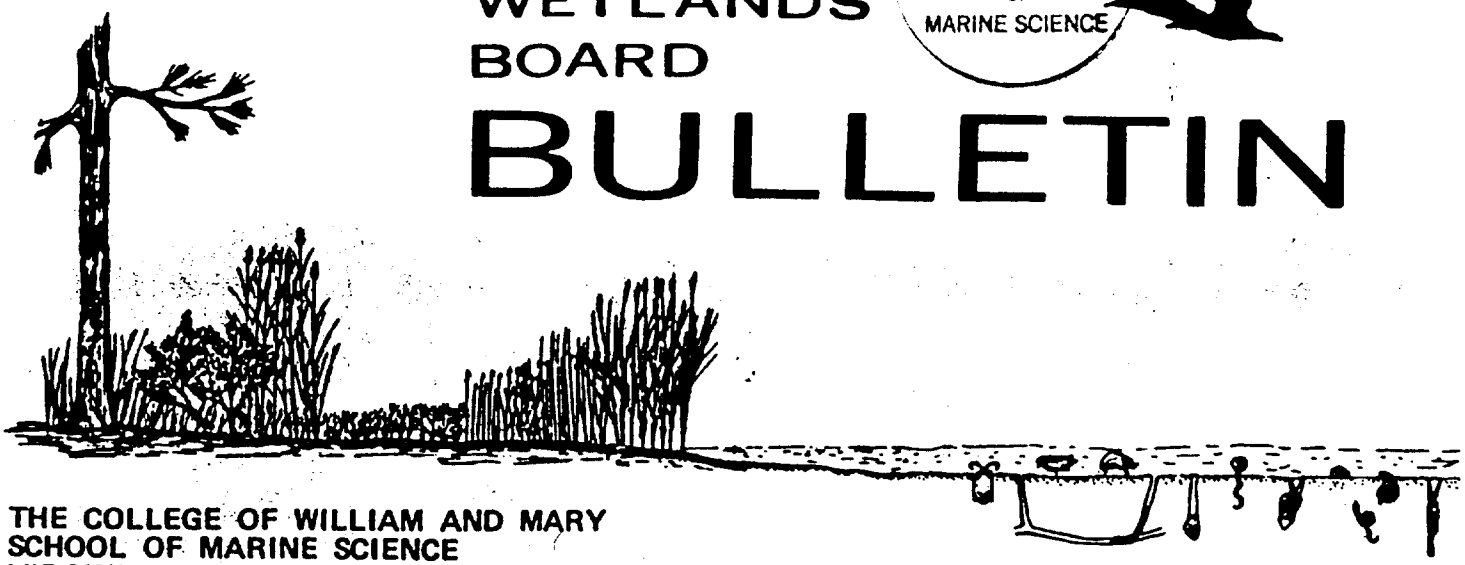
3-1-1986

Wetlands Board Bulletin Vol. I, No. 1

Virginia Institute of Marine Science

WETLANDS
BOARD
BULLETIN



THE COLLEGE OF WILLIAM AND MARY
SCHOOL OF MARINE SCIENCE
VIRGINIA INSTITUTE OF MARINE SCIENCE

Vol. 1 No. 1 Kirk J. Havens, Editor March 1986

ANALYSIS OF VIRGINIA'S LOCAL WETLANDS BOARDS

CARL HERSHNER*
THOMAS A. BARNARD*
N. BARTLETT THEBERGE*

ABSTRACT

THE COMMONWEALTH OF VIRGINIA'S SYSTEM OF MANAGING ITS WETLANDS RESOURCES THROUGH LOCAL WETLANDS BOARDS COMPRISED OF CITIZEN VOLUNTEERS IS REVIEWED. THE DIFFERENCES AMONG BOARDS IN TERMS OF JURISDICTION, MEMBERSHIP BACKGROUND AND EXPERIENCE IS ANALYZED. THE IMPACT OF THE IDENTIFIED DIFFERENCES IN ALL THREE AREAS IS ASSESSED IN LIGHT OF THE AUTHORS' EXPERIENCE WITH LOCAL BOARD OPERATIONS. THE ASSESSMENT INDICATES THE DIFFERENCES MAY HAVE A LESS SIGNIFICANT IMPACT ON MANAGEMENT DECISIONS THAN WAS ANTICIPATED AT THE INCEPTION OF THE SYSTEM.

INTRODUCTION

PASSAGE OF THE VIRGINIA WETLANDS ACT OF 1972 SAW THE ESTABLISHMENT OF A MANAGEMENT SYSTEM WHICH, TO OUR KNOWLEDGE, IS UNIQUE AMONG STATE COASTAL RESOURCE MANAGEMENT PROGRAMS. THE ACT VESTS WETLAND REGULATORY AUTHORITY WITH LOCAL GOVERNMENT. IT ESTABLISHES POLICIES AND STANDARDS FOR WETLANDS PRESERVATION, AN OVERSIGHT ROLE FOR THE VIRGINIA MARINE RESOURCES COMMISSION (A STATE AGENCY), AND MANDATES AMONG OTHER THINGS THE PREPARATION OF SPECIFIC DEVELOPMENT GUIDELINES. LOCALITIES (COUNTIES, CITIES AND TOWNS) ARE GIVEN THE OPTION OF ADOPTING THE MODEL ORDINANCE CONTAINED IN THE ACT AND ESTABLISHING INDIVIDUAL WETLANDS BOARDS TO REGULATE THE USE OR DEVELOPMENT OF WETLANDS WITHIN THEIR LOCAL BORDERS. WHERE LOCALITIES CHOOSE NOT TO EXERCISE THEIR OPTION THE MARINE RESOURCES COMMISSION ASSUMES THE PERMIT AUTHORITY ON BEHALF OF THE STATE. WHERE THE LOCALITY OPTS TO FORM A WETLANDS BOARD, IT ASSUMES ORIGINAL JURISDICTION OVER THE RESOURCE AND THE MARINE RESOURCES COMMISSION IS THE FIRST LEVEL OF APPEAL. APPEALS MAY BE ACCOMPLISHED BY AN AGGRIEVED APPLICANT OR BY PETITION OF TWENTY-FIVE FREEHOLDERS WITHIN THE LOCALITY. THE MARINE RESOURCES COMMISSION IS CHARGED WITH REVIEWING ALL DECISIONS OF THE LOCAL BOARDS WHETHER THEY ARE APPEALED OR NOT.

*SCHOOL OF MARINE SCIENCE, VIRGINIA INSTITUTE OF MARINE SCIENCE, THE COLLEGE OF WILLIAM AND MARY, GLOUCESTER POINT, VIRGINIA 23062

THE OPINIONS EXPRESSED IN THIS ARTICLE ARE THOSE OF THE AUTHORS AND DO NOT REFLECT AN OFFICIAL POSITION OF THE VIRGINIA INSTITUTE OF MARINE SCIENCE.

THE VIRGINIA APPROACH TO WETLANDS MANAGEMENT FOLLOWS THE LONG STANDING TRADITION OF MAINTAINING LAND-USE DECISIONS, AT LEAST WITHIN THE ZONING CONTEXT, IN THE HANDS OF THE LOCALITY. THIS APPROACH MAXIMIZES THE IMPACT OF LOCAL CONTROL OF MARINE RESOURCES WHILE RETAINING AT LEAST THE POSSIBILITY OF A BROADER BASED APPROACH TO RESOURCE MANAGEMENT. IN ADDITION TO THE MARINE RESOURCES COMMISSION OVERVIEW, LOCAL BOARDS CAN CALL ON THE RESEARCH, ADVISORY AND EDUCATIONAL MANDATE OF THE VIRGINIA INSTITUTE OF MARINE SCIENCE.

IN THE VIRGINIA SYSTEM, LOCAL BOARDS ARE FIVE OR SEVEN MEMBER BODIES COMPOSED OF CITIZEN VOLUNTEERS, GENERALLY NOT COMPENSATED FOR THEIR SERVICES. ONE OF THE QUESTIONS RAISED BY VIRGINIA'S MANAGEMENT SYSTEM IS, "HOW CONSISTENT IS WETLANDS RESOURCE MANAGEMENT THROUGH ALL SECTORS OF THE COMMONWEALTH'S COASTAL ZONE?" THE USE OF LOCAL CITIZEN BOARDS, WITH NO PRESCRIBED QUALIFICATIONS FOR MEMBERS, PRESENTS AT LEAST THE OPPORTUNITY FOR SELECTION OF BOARDS WHOSE COMPOSITION MAY VARY GREATLY IN BACKGROUND, EXPERIENCE AND PHILOSOPHY. THIS IN TURN CREATES A POTENTIAL FOR DEVELOPING SIGNIFICANTLY DIFFERENT MANAGEMENT DECISIONS AFFECTING A NATURAL RESOURCE THE VIRGINIA GENERAL ASSEMBLY DECLARED TO BE "...AN IRREPLACEABLE NATURAL RESOURCE WHICH, IN ITS NATURAL STATE, IS ESSENTIAL TO THE ECOLOGICAL SYSTEMS OF THE TIDAL RIVERS, BAYS AND ESTUARIES OF THE COMMONWEALTH." MANAGING AN ECOLOGICALLY COMPLEX NATURAL SYSTEM VIA CITIZEN BOARDS WOULD APPEAR TO PRESENT TOTALLY DIFFERENT PROBLEMS FROM THAT OF USING THE SAME APPROACH TO MANAGE OTHER GENERAL ZONING MATTERS WHICH DO NOT USUALLY REQUIRE A LEVEL OF SCIENTIFIC EXPERTISE. MAKING A VALUE JUDGEMENT REGARDING SINGLE FAMILY VS MULTI-FAMILY DESIGNATION OR COMMITMENT OF RURAL LAND TO COMMERCIAL DEVELOPMENT PRESENTS A DIFFERENT SET OF PROBLEMS TO A CITIZEN BOARD THAN DETERMINING OVERALL ADVERSE EFFECT OF DESTROYING A PORTION OF A LIMITED AQUATIC RESOURCE WHICH IS COMPLEXLY INTERWOVEN WITH OTHER MARINE COMMUNITIES.

THIS PAPER PRESENTS THE FIRST STEPS IN ANALYSIS OF THE VIRGINIA WETLANDS MANAGEMENT SYSTEM. HERE WE REVIEW SOME OF THE QUANTIFIABLE DIFFERENCES IN JURISDICTION, BACKGROUND AND EXPERIENCE AMONG THE BOARDS. SUBSEQUENT PUBLICATIONS WILL ADDRESS VARIATIONS IN MANAGEMENT PHILOSOPHY AND DECISION MAKING PROCESSES AMONG LOCAL BOARDS AS WELL AS THE EFFECT OF LOCAL INTERACTION WITH THE OTHER LEVELS OF GOVERNMENT WITHIN THE PERMIT PROGRAM.

METHODS

THE DATA CONSIDERED IN THIS PAPER WAS DRAWN FROM SEVERAL SOURCES. INFORMATION ON THE COMPOSITION AND ACTIVITIES OF LOCAL BOARDS WAS DRAWN FROM THE FILES OF THE VIRGINIA MARINE RESOURCE COMMISSION'S HABITAT MANAGEMENT DIVISION. ESTIMATES OF THE AERIAL EXTENT OF WETLANDS WITHIN LOCAL BOARDS' JURISDICTION WAS COLLECTED FROM WETLANDS INVENTORIES COMPLETED BY THE WETLANDS DEPARTMENT OF THE VIRGINIA INSTITUTE OF MARINE SCIENCE. INFORMATION ON WORK AND

EDUCATIONAL BACKGROUND OF LOCAL BOARD MEMBERS WAS COLLATED FROM INDIVIDUAL RESPONSES TO A QUESTIONNAIRE PREPARED BY THE AUTHORS AND SENT TO ALL WETLANDS BOARD MEMBERS IN THE COMMONWEALTH. THE DATA PRESENTED ARE BASED ON 124 QUESTIONNAIRES RETURNED FROM A TOTAL OF 159 ORIGINALLY DISTRIBUTED (78% RETURN). FINALLY, THE QUALITATIVE ASSESSMENTS PRESENTED ARE BASED ON THE AUTHORS COMBINED 29 YEARS EXPERIENCE WITH THE VIRGINIA WETLANDS ACT AND ITS IMPLEMENTATION.

RESULTS AND DISCUSSION

THE DATA COLLECTED FROM THE QUANTITATIVE SOURCES IDENTIFIED ABOVE IS DISPLAYED IN TABLE 1.

JURISDICTION: THE VIRGINIA WETLANDS ACT DEFINES VEGETATED WETLANDS WITHIN THE LOCAL BOARD'S JURISDICTION AS ALL THAT AREA BETWEEN MEAN LOW WATER AND AN ELEVATION ONE AND ONE HALF TIMES THE MEAN TIDE RANGE ABOVE MEAN LOW WATER WHICH SUPPORTS ANY OF A PRESCRIBED LIST OF PLANTS. THE ACREAGE OF WETLANDS ENCOMPASSED BY THIS DEFINITION VARIES GREATLY AMONG LOCALITIES FROM A LOW OF 24 ACRES IN THE CITY OF WILLIAMSBURG TO A HIGH OF 70,370 ACRES IN ACCOMACK COUNTY ON VIRGINIA'S EASTERN SHORE.

THE AREA OF MARSH EACH BOARD OVERSEES IS NOT CORRELATED WITH THE BOARD'S ACTIVITY, THAT IS, THOSE WITH LARGER AREAS DO NOT REVIEW THE GREATEST NUMBER OF PERMIT APPLICATIONS PER YEAR. THERE IS ALSO NO CORRELATION BETWEEN THE AREA OF MARSH FOR WHICH A BOARD IS RESPONSIBLE AND THE LEVEL OF FORMAL TRAINING OR EXPERIENCE IN WETLANDS ECOLOGY AMONG BOARD MEMBERS.

THE ONE AREA IN WHICH THE SIZE OF A BOARD'S JURISDICTION MAY BE A FACTOR IS THE TYPE OF DECISION RENDERED ON PROJECTS WHICH WILL DESTROY OR IMPACT MARSH. THE HYPOTHESIS THAT BOARD'S WITH LARGE AREAS OF MARSH WITHIN THEIR PURVIEW TEND TO BE MORE LENIENT IN PERMITTING ACTIVITIES IMPACTING WETLANDS CANNOT YET BE RIGOROUSLY TESTED BY OUR DATA BASE. THE QUALITATIVE EXPERIENCE OF THE AUTHORS IN WORKING WITH LOCAL BOARDS, INDICATES THIS HYPOTHESIS MAY NOT BE SUBSTANTIATED. THE TOTAL COMPLEMENT OF MARSH IN A LOCALITY IS NOT OFTEN CITED IN DECISION RATIONALES. RATHER LOCAL SETTINGS FOR PROJECTS APPEAR TO PLAY A GREATER ROLE IN DECISION MAKING AND BOARD MEMBERS' BACKGROUND AND PERSONAL MANAGEMENT PHILOSOPHIES MAY BE THE MOST SIGNIFICANT FACTOR. THIS IS AN AREA OF CONTINUING RESEARCH FOR THE AUTHORS.

BACKGROUND: ANALYSIS OF THE COMPOSITION OF LOCAL WETLANDS BOARDS BASED ON MEMBERS' PROFESSION INDICATED SOME INTERESTING DIFFERENCES AMONG BOARDS. A COMPARISON OF BOARDS IN RURAL AND URBAN AREAS YIELDED THE EXPECTED RESULT THAT MORE OF THE MEMBERSHIP IN RURAL AREAS CONSISTS OF FARMERS AND WATERMEN (COMMERCIAL FISHERMEN OR SEAFOOD PROCESSORS). TWENTY-SEVEN (27) PERCENT OF THE RURAL BOARDS' MEMBERSHIP FALLS IN THESE CATEGORIES WHILE ONLY FOUR (4) PERCENT OF THE URBAN BOARDS' MEMBERSHIP IS SIMILARLY EMPLOYED. CONVERSELY, AND SIMILARLY EXPECTED, THE PERCENTAGE OF "WHITE COLLAR" WORKERS (ENGINEERS, TEACHERS, LAWYERS, DOCTORS, PRIVATE BUSINESSMEN) IN RURAL AREAS WAS LESS THAN ONE HALF THAT IN URBAN AREAS (29% AND 61% RESPECTIVELY). BLUE COLLAR WORKERS WERE ABOUT EVENLY REPRESENTED ON BOTH RURAL (10%) AND URBAN BOARDS (7%).

THE UTILIZATION OF RETIRED INDIVIDUALS AND HOMEMAKERS AS BOARD MEMBERS DIFFERED SIGNIFICANTLY BETWEEN RURAL AND URBAN AREAS. TOGETHER THE TWO GROUPS CONSTITUTE ALMOST ONE THIRD OF THE TOTAL WETLANDS BOARD MEMBERSHIP IN THE COMMONWEALTH. RURAL BOARDS, HOWEVER, CONTAINED NO HOMEMAKERS WHILE 10% OF URBAN BOARDS' MEMBERSHIP WAS COMPRISED OF HOMEMAKERS (OR "PROFESSIONAL VOLUNTEERS" AS SOME CHARACTERIZE THEMSELVES). CONVERSELY ON RURAL BOARDS RETIRED INDIVIDUALS ARE THE PREDOMINANT CLASS OF MEMBERS (34%). ON URBAN BOARDS RETIRED INDIVIDUALS ARE ONLY ABOUT ONE HALF AS COMMON (18%). THE INFORMATION AVAILABLE SUGGESTS THE FORMER EMPLOYMENT OF RETIRED INDIVIDUALS WAS PREDOMINATELY "WHITE COLLAR" IN BOTH RURAL AND URBAN AREAS.

THE COMPOSITION OF LOCAL WETLANDS BOARDS IN TERMS OF EMPLOYMENT IS THEREFORE SEEN TO BE RELATIVELY VARIABLE. AT THE INDIVIDUAL BOARD LEVEL SOME ARE COMPOSED ENTIRELY OF FARMERS AND WATERMEN WHILE OTHERS ARE EXCLUSIVELY WHITE COLLAR WORKERS. IN GENERAL, THE COMPOSITION OF WETLANDS BOARDS SEEMS TO FAIRLY REPRESENT THE GENERAL DISTRIBUTION OF EMPLOYMENT IN EACH LOCALITY. WITHIN THE URBAN AND RURAL CLASSIFICATION OF BOARDS THERE ARE SOME SIGNIFICANT COMPOSITIONAL DIFFERENCES AS NOTED ABOVE. THE PERTINENT QUESTION HERE IS "HOW DOES THIS VARIABILITY AFFECT MANAGEMENT DECISIONS?" AGAIN OUR DATA BASE DOES NOT YET PERMIT QUANTIFICATION OF THE IMPORTANCE OF THIS FACTOR, BUT SOME QUALITATIVE OBSERVATIONS ARE RELEVANT.

ONE OF THE MAJOR OPERATIONAL DIFFERENCES BETWEEN URBAN AND RURAL WETLANDS BOARDS IN VIRGINIA IS THE AMOUNT OF PROFESSIONAL STAFF SUPPORT AVAILABLE TO A BOARD IN ITS ACTIVITIES. TYPICALLY, URBAN AREAS ARE ABLE TO PROVIDE NOT ONLY SECRETARIAL SUPPORT BUT ALSO PROFESSIONAL STAFF FOR SITE REVIEW AND PREPARATION OF RECOMMENDATIONS. IN SUCH CIRCUMSTANCES, THE TIME REQUIRED OF INDIVIDUAL WETLANDS BOARD MEMBERS TO RENDER INFORMED DECISIONS CAN BE REDUCED. RURAL BOARDS, BY CONTRAST, FREQUENTLY PLACE A PREMIUM ON MEMBERS WHO CAN SPEND TIME IN ADDITION TO MEETINGS, REVIEWING PROJECTS AND CONSIDERING THE MANY FACTORS INVOLVED IN PERMITTING WETLANDS DEVELOPMENT. IN THIS RESPECT, THE RURAL BOARDS LARGE COMPLEMENT OF RETIRED INDIVIDUALS AND OTHERS NOT ON FIXED WORK SCHEDULES MAY BE SEEN AS A MITIGATING FACTOR, HELPING TO MINIMIZE RATHER THAN EMPHASIZE DIFFERENCES BETWEEN BOARDS.

Special Feature

MIDDLESEX

The tidal wetlands of Middlesex County represent a rich floral and ecological resource. They span the entire spectrum of marsh types from the freshwater tidal marshes of Dragon Run and Mud and Parrots Creeks to the types more indicative of a saline environment in the lower portions of the county. The approximately 1675 acres of tidal wetlands are distributed along the county's approximately 135 miles of shoreline for an average of 12.5 acres of marsh per mile of shoreline.

These marshes serve a number of important ecological functions which contribute significantly to the productivity of the estuarine system and to the quality of man's experience on the water.

These contributions include being a source of detritus which supports substantial portion of the estuarine food web, productive habitat for waterfowl, furbearers and other wildlife, an effective buffer against shoreline erosion, a means of water quality control by filtering upland run off and cycling nutrients in the estuarine waters and a buffer against flooding by providing an undeveloped area which flood waters can occupy without affecting the fastland. By providing all of these services free of charge the tidal wetlands contribute significantly to fish and wildlife habitat, clean water, and many other qualities which man has always come down to the sea to enjoy.

They are, however, a finite resource which must be utilized very carefully and preserved whenever and wherever possible to ensure that futur generations will be as privileged as we are. It is the aim of this report to quantify and describe the qualities of the wetlands in Middlesex County so that wise decisions on their use and conservation can be made.

There are approximately 1240 acres along the Rappahannock River and it tributaries with the majority concentrated in the upper portions of the county. These include the extensive big cordgrass dominated creek marshes of Mud, Parrotts and Lagrange Creeks. The marshes of the lower portion of the county are predominately fringing and pocket marshes dominated by saltmarsh cordgrass and saltmeadow grasses. The Piankatank River from Stingray Point to Dragon Run contains 435 acres of marsh. The lower portio being similar to the marshes along the Rappahannock River and the upper portion dominated by extensive big cordgrass marshes which grade into the largest tidal freshwater marshes in the county located above My Lady's Swamp.

The wetlands of Middlesex County are dominated by three species of plants, big cordgrass Spartina cynosuroides, (322 acres), and saltmarsh cordgrass, Spartina alterniflora, (288 acres). The first is characteristic of brackish waters and the latter two of more saline waters. There are three subdominant species which include cattails, Typha spp., (201 acres), black needlerush, Juncus roemerianus, (180 acres), and saltbushes, Iva frutescens and Baccharis halimifolia, (178 acres). Cattails are the dominant species in the freshwater marshes while black needlerush and saltbushes are important components of the brackish and more saline marshes.

Next Issue: Westmoreland County

Q. Why is riprap preferred from an environmental viewpoint rather than bulkheads?

A. *If a bulkhead is constructed in the intertidal area and is backfilled, it permanently removes intertidal habitat from the estuarine system. Riprap, while it usually displaces more of the intertidal area, will become a rocky habitat of its own over time. The many crevices created by the multi-faceted surface of the stone provide shelter, attachment, and foraging space for many organisms. In addition, the rough surface and slope of riprap dissipates the force of waves as they move landward while bulkheads tend to reflect wave energy in all directions and may result in scouring of the area at the bulkhead toe. Also, sediment may be trapped and deposited in the riprap and subsequently become vegetated with marsh species. Finally, riprap generally has a design life of at least twice that of timber bulkheads and involves no treatment with toxic substances.*

Q. How does marsh grass act as an erosion barrier and trap sediment thus keeping pace with sea level rise?

A. *The grass stems and leaves act as a baffle to slow water movement and allow the settling out of heavier particles resulting in an accretion of sediment. Gleason et al. in their 1979 Estuaries paper entitled "Effects of stem density upon sediment retention by saltmarsh cordgrass" showed that as higher stem densities dissipate more wave energy, sediment deposition increases and the beach profile steepens. In addition, the dense root and rhizome mat of the marsh vegetation helps hold accreted sediment in place.*

Readers are asked to submit responsible questions concerning wetland ecology to Editor, Wetlands Board Bulletin, Virginia Institute of Marine Science, Department of Wetlands Ecology, Gloucester Point, VA 23062.

WITH RESPECT TO FORMAL TRAINING OR EDUCATION IN WETLANDS ECOLOGY OR RELATED FIELDS, VIRGINIA'S WETLAND BOARDS WERE INDIVIDUALLY DIFFERENT, BUT UNDER THE CLASSIFICATIONS OF URBAN AND RURAL BOARDS THERE WAS NO SIGNIFICANT DIFFERENCE. THERE WAS ALSO NO MEANINGFUL CORRELATION BETWEEN EXPERTISE AND EITHER JURISDICTION (IN TERMS OF AREA OF MARSH OVERSEEN) OR EMPLOYMENT BACKGROUND. IT HAS BEEN THE AUTHORS' EXPERIENCE THAT WETLANDS BOARDS ATTEMPT TO SUPPLEMENT THEIR OWN EXPERTISE BY RELIANCE ON OTHER AVAILABLE RESOURCES (NOTABLY THE STAFFS OF THE VIRGINIA INSTITUTE OF MARINE SCIENCE AND THE VIRGINIA MARINE RESOURCES COMMISSION). ALTHOUGH THE USE OF THESE OTHER RESOURCES IS NOT MANDATORY, AND AS A CONSEQUENCE IS NEITHER UNIFORM NOR CONSISTENT, IT IS OUR EVALUATION THAT THIS PRACTICE HAS DONE MUCH TO MITIGATE VARIABILITY AMONG BOARDS DUE TO DIFFERING LEVELS OF EXPERTISE. EFFORTS ARE UNDERWAY TO DOCUMENT THE USE OF SUPPLEMENTAL RESOURCES FOR DECISION-MAKING IN AN EFFORT TO BETTER UNDERSTAND THE IMPORTANCE OF WETLAND BOARD EXPERTISE. THE DATA PRESENTED HERE DOCUMENT THE ABSENCE OF ANY GENERAL PATTERNS AMONG BOARDS WITH RESPECT TO THIS FACTOR.

TABLE 1. VIRGINIA WETLAND BOARDS

BOARD	CLASS (A)	MARSH ACREAGE	# OF PERMITS (B)	TENURE IN YEARS (C)	% WITH TRAINING (D)
ACCOMACK	R	70370	26	4.3	67
CHARLES CITY	R	3890	0	3.0	0
CHESAPEAKE	U	2000	27	1.5	75
COLONIAL HEIGHTS	U	71	0	2.0	33
ESSEX	R	5214	3	5.0	50
FAIRFAX	U	920	0	1.2	50
GLOUCESTER	R	6329	35	3.5	50
HAMPTON	U	2221	20	2.8	20
HOPEWELL	U	50	0	2.2	25
ISLE OF WIGHT	R	5378	1	5.0	67
JAMES CITY	U	7015	5	2.8	50
KING GEORGE	R	2122	2	3.7	0
KING WILLIAM	R	8100	0	5.0	0
LANCASTER	R	1911	16	2.5	0
MATHEWS	R	2937	37	3.5	25
MIDDLESEX	R	1675	43	2.8	25
NEW KENT	R	5467	3	3.3	33
NORFOLK	U	610	24	2.7	33
NORTHAMPTON	R	37629	4	4.3	33
NORTHUMBERLAND	R	1560	14	2.7	0
POQUOSON	U	4998	16	3.4	20
PRINCE WILLIAM	U	9000	6	3.3	100
RICHMOND	R	3500	5	4.2	40
STAFFORD	R	1337	5	3.8	40
SUFFOLK	R	5622	4	4.6	60
VIRGINIA BEACH	U	1178	100	3.1	71
WESTMORELAND	R	2590	6	4.2	0
WEST POINT	U	91	1	4.5	0
WILLIAMSBURG	U	24	0	3.5	0
YORK	U	1993	22	4.5	25

(A) CLASS: U = URBAN R = RURAL
(B) AVERAGE YEARLY NUMBER OF PERMITS REVIEWED OVER THE LAST FOUR YEARS
(C) AVERAGE LENGTH OF SERVICE ON BOARD IN YEARS
(D) PERCENTAGE OF BOARD MEMBERS WITH FORMAL TRAINING, EDUCATION OR EXPERIENCE IN WETLANDS ECOLOGY OR RELATED FIELDS

EXPERIENCE: THE ACTIVITY LEVELS OF THE LOCAL BOARDS, IN TERMS OF AVERAGE NUMBERS OF PERMIT APPLICATIONS REVIEWED ANNUALLY, VARIES SIGNIFICANTLY. OVER ONE HALF (16 OF 28) OF THE BOARDS REVIEW FEWER THAN TEN APPLICATIONS A YEAR. THERE ARE NO MEANINGFUL CORRELATIONS BETWEEN AREA OF MARSH OVERSEEN AND NUMBER OF APPLICATIONS REVIEWED. INSTEAD, AS WOULD BE EXPECTED, THE NUMBER OF APPLICATIONS IS A CLEAR REFLECTION OF GROWTH PATTERNS IN THE VIRGINIA COASTAL ZONE.

THE IMPACT OF ACTIVITY LEVEL ON A LOCAL BOARD'S MANAGEMENT OF THE WETLANDS RESOURCE IS NOT EASILY QUANTIFIABLE. IN A QUALITATIVE ASSESSMENT (BASED ON THE AUTHORS EXPERIENCE) ACTIVITY LEVEL IS MOST CLOSELY CORRELATED WITH SOPHISTICATION OF A BOARD'S ACTIONS. AS WOULD BE EXPECTED, THOSE BOARDS WHICH MEET REGULARLY, HOLD NUMEROUS PUBLIC HEARINGS AND FREQUENTLY DEBATE COMPLEX QUESTIONS GENERALLY PERFORM THE MECHANICS OF THE REGULATORY PROCESS WITH LITTLE DIFFICULTY. BEYOND THE MECHANICAL ASPECTS OF THE PROCESS THE IMPACT OF ACTIVITY LEVEL IS MOST CLEARLY EVIDENT IN A BOARD'S COLLECTIVE UNDERSTANDING OF ITS JURISDICTION AND PREROGATIVES. ALTHOUGH THERE IS RARELY UNANIMITY ON CONTROVERSIAL PROJECTS, EXPERIENCED BOARDS ARE MUCH LESS LIKELY TO SPEND TIME CONSIDERING EXTRANEOUS ISSUES. THEY GENERALLY EXCELL AT IDENTIFYING CENTRAL ISSUES AND OFTEN DO WELL AT CLEARLY INCORPORATING THEIR ASSESSMENT OF THOSE ISSUES INTO FINAL DECISIONS. WHILE WE ARE NOT YET ABLE TO QUANTIFY THE IMPACT OF THIS EXPERIENCE, IT APPEARS FROM OUR OBSERVATIONS THAT MEMBERS OF WETLANDS BOARDS WITH GREATER ACTIVITY TEND TO CONSTRAIN THEIR PERSONAL DELIBERATIONS MORE NARROWLY THAN MEMBERS OF LESS EXPERIENCED BOARDS. WHETHER THIS RESULTS IN "BETTER" DECISIONS IS A QUESTION WHICH MAY NEVER BE AMENABLE TO ANALYSIS. NEVERTHELESS, IT DOES APPEAR TO RESULT IN MORE "EFFICIENT" DECISIONS. THIS IS NOT MEANT TO IMPLY SOME BOARDS, THROUGH EITHER EXPERIENCE OR THE LACK OF IT, FAIL TO CONSIDER ALL ASPECTS OF APPLICATIONS. OUR DATA BASE DOES NOT PRESENTLY PERMIT THAT ANALYSIS.

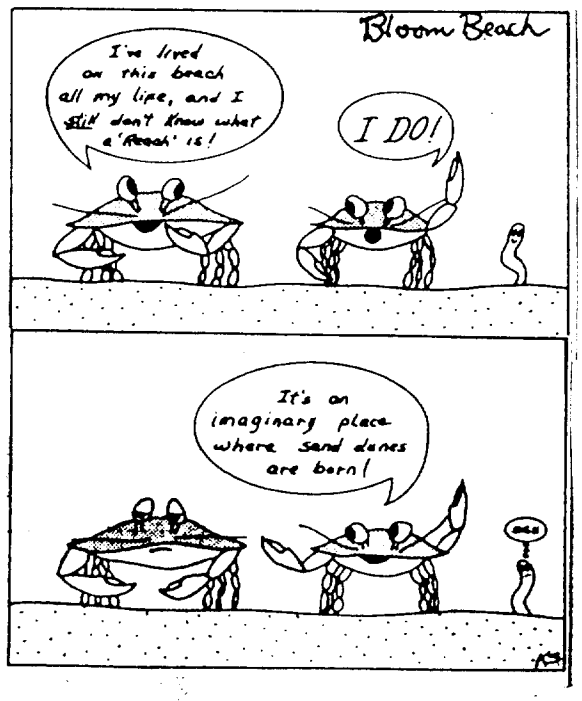
FINALLY, THE TENURE OF INDIVIDUAL MEMBERS OF WETLANDS BOARDS IS HIGHLY VARIABLE. RURAL BOARDS IN GENERAL TEND TO HAVE A GREATER PERCENTAGE OF LONG-TERM MEMBERS (60% WITH MORE THAN FOUR YEARS) THAN URBAN BOARDS (25% WITH MORE THAN FOUR YEARS). THE IMPACT THIS PRODUCES ON MANAGEMENT DECISIONS IS DEBATABLE. THE AUTHORS HAVE NOTED, HOWEVER, THAT IN MANY RURAL AREAS EXPERIENCED MEMBERSHIP IN SOME WAYS SEEMS TO MITIGATE FOR THE LACK OF SIGNIFICANT PROFESSIONAL STAFF INPUT. EXPERIENCED LEADERSHIP IS OFTEN ABLE TO SUPPLANT THE CONSISTENCY IN PROCEDURAL MATTERS ENGENDERED BY A PROFESSIONAL STAFF. THE IMPACT THIS HAS ON DECISION-MAKING IS AN AREA OF CONTINUING RESEARCH. IT IS NOTABLE HERE THAT NOT ALL RURAL BOARDS HAVE THE EXPERIENCED LEADERSHIP NOTED IN THE QUALITATIVE OBSERVATION ABOVE. THE MORE ACTIVE RURAL BOARDS DO HAVE THAT RESOURCE AND THEY ARE THE ONES FOR WHICH IT WOULD BE EXPECTED TO HAVE THE MOST SIGNIFICANT IMPACT.

IN MORE GENERAL TERMS, THE AVERAGE TENURE OF BOARD MEMBERS DOES NOT CORRELATE WELL WITH BOARD ACTIVITY. THERE IS A VERY GENERAL TREND FOR THE RELATIVELY INACTIVE BOARDS (THOSE WITH LESS THAN TEN APPLICATIONS PER YEAR) TO HAVE A LONGER AVERAGE TENURE (3.9 YEARS) THAN MORE ACTIVE BOARDS (3.1 YEARS). WE ARE NOT CONFIDENT THIS OBSERVATION HAS ANY SIGNIFICANCE IN TERMS OF MANAGEMENT DECISIONS.

CONCLUSIONS

ALTHOUGH THE VIRGINIA WETLANDS BOARDS ARE ALL ESTABLISHED TO PERFORM THE SAME FUNCTION, MANAGEMENT OF THE COMMONWEALTH'S WETLAND RESOURCES, THE BOARDS DIFFER IN A NUMBER OF RESPECTS. IN THIS PAPER, WE HAVE REVIEWED THE LOCAL BOARDS' JURISDICTION, MEMBERSHIP BACKGROUND AND EXPERIENCE. QUANTITATIVELY THE JURISDICTION OF THE BOARDS (IN TERMS OF AREA OF MARSH) DIFFERS GREATLY. EXPERIENCE INDICATES, HOWEVER, THAT THE IMPACT OF THIS FACTOR ON MANAGEMENT DECISIONS IS PROBABLY MINIMAL OR NONEXISTENT, SINCE IT DOES NOT APPEAR TO ENTER INTO BOARDS CONSIDERATION OF INDIVIDUAL PERMIT APPLICATIONS. THE BACKGROUND OF WETLANDS BOARD MEMBERSHIPS ALSO VARY IN TERMS OF BOTH PROFESSION AND TRAINING. IN THE CASE OF PROFESSION, BOARDS TEND TO REFLECT THE EMPLOYMENT PATTERNS OF THEIR RESPECTIVE LOCALITIES. THE VARIATIONS ARE VIEWED AS MITIGATING OTHER DIFFERENCES RATHER THAN EXACERBATING THEM. SPECIFICALLY, RURAL BOARDS GENERALLY HAVE INDIVIDUALS WITH GREATER TIME TO DEVOTE TO BOARD ACTIVITIES COMPENSATING FOR THE LACK OF PROFESSIONAL STAFF SUPPORT. ALTHOUGH THERE IS SIGNIFICANT VARIATION AMONG BOARDS IN LEVEL OF EXPERTISE IN WETLANDS ECOLOGY, EXPERIENCE INDICATES THE DIFFERENTIAL USE OF OTHER RESOURCES OF EXPERTISE TENDS TO OFFSET THIS FACTOR. WITH RESPECT TO THE YEARLY LEVEL OF ACTIVITY, VIRGINIA'S WETLANDS BOARDS SPAN A LARGE RANGE. THE EFFECT OF THIS EXPERIENCE IS APPARENT IN THE RELATIVE SOPHISTICATION OF INDIVIDUAL BOARDS IN PROCEDURAL MATTERS. THE IMPACT ON MANAGEMENT DECISIONS IS NOT OBVIOUS AND CANNOT PRESENTLY BE QUANTIFIED. THERE ARE ALSO SOME DIFFERENCES IN AVERAGE MEMBERS' TENURE AMONG LOCAL BOARDS. WHILE TENURE MAY INFLUENCE BOARD OPERATIONS, EXPERIENCE INDICATES THE DISTRIBUTION OF TENURE AMONG BOARDS HAS TENDED TO OFFSET SOME OF THE OTHER VARIATIONS, MOST NOTABLY LACK OF PROFESSIONAL STAFF SUPPORT FOR ACTIVE RURAL BOARDS.

IN SUMMARY, THE DATA AND EXPERIENCE REVIEWED HERE INDICATE THAT SOME OF THE POTENTIAL DIFFERENCES AMONG LOCAL WETLANDS BOARDS IN VIRGINIA MAY NOT BE AS SIGNIFICANT AN INFLUENCE ON BOARD DECISIONS AS ORIGINALLY ANTICIPATED. INDEED, SEVERAL OF THE DIFFERENCES INHERENT IN LOCAL BOARDS SPREAD OVER A GEOGRAPHICALLY AND SOCIALLY HETEROGENEOUS REGION, ACTUALLY MAY SERVE TO FACILITATE UNIFORM DECISION MAKING.



WETLANDS BOARDS

Accomack
W. Samuel Nelson, III, Chairman
Contact: C. M. Powell, Secretary, 804/787-4069

Charles City
A. N. Hofmeyer, Jr., Chairman
Contact: Lloyd O. Jones, County Administrator, 804/829-2401, ext. 201

Chesapeake
Luke H. Brown, Chairman
Contact: Max S. Taback, Secretary, 804/547-6176

Colonial Heights
Walter G. Parker, Jr., Chairman
Contact: Stephen M. Manster, 804/526-8869

Essex
Fred L. Garrett, III, Chairman
Contact: James F. Moore, County Administrator, 804/443-4331

Fairfax
Elizabeth S. Hartwell, Chairman
Contact: Bill Swietlik, 703/691-4335

Gloucester
David D. Penny, Chairman
Contact: Peggy G. Sheppard, 804/693-4040

Hampton
Harold Broudy, Chairman
Contact: Thomas D. Schreck, Staff Coordinator, 804/727-6140

Hopewell
Curtis W. Harris, Chairman
Contact: Martin Martin, Secretary, 804/541-2267

Isle of Wight
Wilson E. Holland, Chairman
Contact: Juanita L. Byrum, Secretary, 804/357-3191

James City
Virginia Carey, Chairman
Contact: Carolyn A. Owens, Assistant Planner, 804/220-1122

King George
Wesley W. Meyers, Chairman
Contact: Chester F. Mack, Jr., Secretary, 703/775-5281

King William
J. F. Townsend, Jr., Chairman
Contact: Dale R. Burton, Secretary, 804/769-4927

Lancaster
Robert J. Bloxsom, Chairman
Contact: Robert J. Bloxsom, 804/462-5220

Mathews
John Lee Machen, Jr., Chairman
Contact: Sandra H. Diggs, Secretary, 804/725-7171

Middlesex
Sherman T. Holmes, Chairman
Contact: Orneida J. Bull, Secretary, 804/758-5449

New Kent
C. B. Penzkofer, Chairman
Contact: Al Rivtort, 804/966-9861

Norfolk
Carvel Blair, Chairman
Contact: Lee Rosenburg, Assistant Manager, 804/441-2152

Northampton
Edward C. Warren, Chairman
Contact: John L. Humphrey, Secretary, 804/678-5872

Northumberland
Wallace E. Lewis, Chairman
Contact: Kenneth D. Eades, Zoning Administrator, 804/580-7666

Poquoson
Robert S. Forrest, Chairman
Contact: Sherry Harless, Clerk, 804/868-7151, ext. 25

Richmond
Thomas J. Boswell, Chairman
Contact: Stephen K. Whiteway, County Administrator, 804/333-3415

Stafford
Charles W. Dean, Chairman
Contact: Maurice Keys, 703/659-8668

Suffolk
W. E. Ashley, Jr., Chairman
Contact: Robert L. Barnett, Building Official, 804/934-3111

Virginia Beach
C. H. Dorchester, Chairman
Contact: Wayne Couch, 804/427-4131

Westmoreland
Preston C. Hodges, Chairman
Contact: Howard W. Woodhead, Secretary, 804/493-8911, ext. 211

West Point
Stuart Petke, Chairman
Contact: Stuart Petke, 804/843-2348

Williamsburg
Thaddeus Tate, Chairman
Contact: William A. Mettler, Planning Director, 804/229-8511

York
John K. Kane, II, Chairman
Contact: H. Swanson Grizzard, Secretary, 804/898-0080

Note From the Editor

This is the first issue of the bi-monthly Wetlands Board Bulletin. Upcoming issues will contain questions and letters to the Editor from responsible readers. The editors reserve the right to modify articles for tastefulness and clarity.