Modern environmental law and regulation evolved from the core governmental function of protecting public health. Virginia’s earliest efforts to regulate sewage disposal, water supplies and solid waste were grounded in the prevention of disease. Decades ago, all regulation of air pollution, water pollution and solid waste in Virginia was performed by the Virginia Department of Health (VDH).\(^1\) New agencies, such as the Department of Environmental Quality (1993), the Department of Waste Management (1986), and the State Water Control Board (1946), took over some of these responsibilities. But components of that history still remain in the legislative and common law of Virginia. The VDH, its board, and local health departments\(^2\) continue to implement environmental health programs listed in the sidebar at right.

### Public Water Supplies

The drinking water program is perhaps the most easily recognizable environmental regulatory program for traditional practitioners of environmental law. It has all the elements of the “big” traditional environmental programs: a federal statute of national application administered by EPA, voluntary election by states to execute the federal program, uniform national standards, high-dollar civil penalties for noncompliance, criminal enforcement for knowing violations, and citizen suit enforcement capability.

In 1974, Congress passed the Safe Drinking Water Act\(^3\) to set national standards\(^4\) for contaminants in a public water supply (PWS). EPA was required to promulgate primary drinking water standards. These have been embodied in either maximum contaminant levels (MCLs) or water treatment techniques. States were authorized to implement the program within their boundaries. A

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**Areas Implemented by the VDH, its Board and Local Health Departments**

- public water supplies
- private well construction
- sewage disposal
  - septic systems and other on-site sewage disposal systems
  - regulation of sewage treatment plants
- river closure
- common law nuisance litigation
- lead poisoning prevention in children
- sanitation requirements
  - shellfish
  - milk
  - restaurants
  - tourist facilities
  - marinas
  - migrant labor camps
  - public gathering places
- toxic substances information
- radiation control
- epidemiology
  - outbreak investigations
  - cancer registry
  - vaccination programs
- mosquito control
- support for DEQ and other agencies’ programs affecting environmental health
- public health information related to environmental risk factors
state that exercises this authority is said to have “primacy.” Virginia carries out the SDWA through the VDH. The VDH has an extensive regulatory program it applies to public water supplies. The VDH Waterworks Regulations, which substantially predate the SDWA, are the primary regulatory vehicle. A waterworks subject to regulation is defined—in both the Virginia statute and the VDH regulations—as a system that provides water through piping for human consumption to serve the public, any 25 people for at least 60 days each year, or to at least 15 service connections. A PWS can be community (such as towns), non-transient community (such as factories or schools), or transient community (such as rest stops and restaurants) that have their own water supply. It is the responsibility of the PWS to monitor and verify that the levels of contaminants present in drinking water do not exceed the MCL. If a waterworks does not monitor and verify these levels, a monitoring violation is reported to the VDH.

**Sewage Disposal**

One of Virginia’s oldest regulatory programs governs septic tanks and drainfields. As everyone with country property knows, land that does not “perc” has little value, because a house cannot be built on it. The VDH Sewage Handling and Disposal Regulations govern the permitting, soil and site evaluation, location and approval criteria for septic systems and other on-site sewage disposal systems not requiring a VPDES permit. The regulations also cover the pumping and hauling of sewage and the handling and management of septage. Special permits may be obtained for experimental methods, processes and equipment. The General Assembly created the Sewage Handling and Disposal Review Board to hear appeals of denials by the VDH of septic tank permits.

This board has been the subject of an appellate level case. An applicant for a permit sought to show that similarly situated applicants were permitted to install on-site sewage disposal systems in the same kinds of soils that he had. The applicant subpoenaed for VDH records he thought would support his position. The board quashed the subpoena. The court of appeals upheld a circuit court opinion requiring the board to issue the subpoena in a pending administrative appeal.

Denial of a septic system license was the precipitating factor for a significant, early administrative law case decided by the Supreme Court. In *State Board of Health v. Godfrey*, an application for a septic tank permit was denied initially by the local sanitarian in Culpeper County. The soil assessment of the local sanitarian was then reviewed by his supervising district sanitarian, a regional sanitarian and, finally, by the Virginia Tech soil scientist who served as final arbiter on all such denials based on soil analyses. A formal hearing under the Administrative Process Act (APA) was held. Afterward the state health commissioner denied the permit. The decision was appealed to the Culpeper Circuit Court. Evidence at trial showed personal animosity between the applicant and the local sanitarian, but not with the district and regional sanitarians, or the soil scientist. The court set aside the decision of the commissioner, ruling it arbitrary and capricious, and ordered the issuance of the permit.

The Supreme Court reversed. It found that the final rejection of the sites at issue was based on substantial and conclusive evidence. The Court stated:

> There is no evidence that anyone other than [a named sanitarian] acted arbitrarily toward [plaintiffs], and the evidence shows that [the other sanitarians] examined the proposed sites and made separate reports listing problems that required rejection of the applications. There is a presumption that these public officials acted correctly, and there is no evidence to the contrary. We hold that the court’s finding of arbitrary and capricious action by the agency was plainly wrong.

This was one of the first Supreme Court cases to analyze the Virginia APA. The Court established several principles that remain relevant today. Regarding issues of fact, the court’s role is to determine whether there was substantial evidence in the agency record to support the agency decision. A court cannot use its review of an agency’s procedures as a pretext for substituting its judgment for that of the agency on the factual issues decided by the agency. And a court reviewing an agency case decision can admit testimony and evidence beyond the hearing record to support an allegation that an agency decided a case arbitrarily or in bad faith.

The VDH also has a role in regulating sewage treatment plants—publicly owned treatment works (POTWs). The Virginia Sewerage Regulations are jointly promulgated by and enforceable by the State Water Control Board and the State Board of Health. The plans for construction of a POTW are reviewed in detail and approved by a VDH engineer prior to construction.

**A court cannot use its review of an agency’s procedures as a pretext for substituting its judgment for that of the agency on the factual issues decided by the agency.**

Biosolids are also regulated by the VDH. The issue in this program is the spreading of treated sludge from a sewage treatment plant on agricultural fields. The VDH regulations provide for pathogen and vector control; sludge sampling, testing, record keeping and reporting, maximum application rates, groundwater monitoring wells, controls over transportation, storage, stabilization, and treatment, as well as construction and operation permits. The spreading of sewage sludge on farmland is a contentious issue in many Virginia counties. Farmers often want the sludge as a soil conditioner and nutrient. Neighbors object. Where the locality allows the land application of sludge, conformance with the VDH biosolids regulations is also required. But the ability of a locality to prohibit the land application of sludge is limited. Amelia County adopted two ordinances banning the spreading of sludge. This year, the Supreme Court ruled in *Blanton v.*
Amelia County that the county could not impose conditions more stringent than those promulgated by the VDH and invalidated the local ordinance.

River Closures

Many Virginia rivers have been closed for varying periods of time because of chemical spills, the most notable being the 1970s era kepone closure. The earliest closures were based on the emergency powers of the commissioner and were done without explicit statutory authority. The General Assembly explicitly authorized such closures when it recodified the health laws in 1979. Section 32.1-248 of the Code authorizes the board to adopt regulations or orders closing rivers and other bodies of water to fishing, boating and swimming if the board finds a toxic substance is present in the body of water “in such manner as to constitute a present threat to public health and welfare.” Interestingly, the board may revoke such closures without complying with the time consuming procedures of the APA. The only river closed at this writing is the North Holston, which is closed for the taking of fish for consumption, but not for boating or “take and return” fishing. The regulation notes that FDA has established a 0.5 mg/kg allowable mercury limit in fish and that 88% of fish collected were above that limit. Several other rivers are, however, the subject of advisories, including the Potomac, James, Dan, and Roanoke. For an extensive discussion and history of the kepone related river closures in the James River, see 29 University of Richmond Law Review 493 (1995). The entire issue consists of a lengthy discussion of the events leading up to the closure of the river and its policy consequences.

Closely related to the river closure issue is a statute that requires the VDH to identify hazardous levels of chemical contaminants in fish and to issue fish consumption advisories to the public related to those levels. The specific chemicals addressed by the statute are PCB’s, mercury, dioxin, and kepone. The department is also required to publish written criteria in support of the levels of concern it establishes.

Nuisance Litigation

The health department, when litigating as a plaintiff against private parties alleged to be in violation of its regulations, routinely includes a count of common law nuisance in its pleadings. The law of nuisance is both old and well-developed in the Commonwealth. And well before the advent of modern environmental regulation, it was routinely used to resolve the kinds of environmental problems now addressed through detailed regulatory regimens. The Health Department has routinely included in its cases testimony by a public health physician, often testifying in tandem with a public health engineer or sanitarian, that the activities of a particular defendant endanger the health and safety of the community. ‘The term ‘nuisance’ embraces everything that endangers life or health, or obstructs the reasonable and comfortable use of property.’

An activity can actually be a lawful activity and still constitute a nuisance. “(When) a business, although lawful in itself, becomes obnoxious to neighboring dwellings and renders their enjoyment uncomfortable, whether by smoke, cinders, noise, offensive odors, noxious gases, or otherwise, the carrying on of such business is a nuisance...”. Thus the inclusion of a nuisance count in an equity action for an injunction can become important. The court may have difficulty filtering the competing claims between the Commonwealth and a defendant on the applicability of a complex set of regulations to the defendant’s specific conduct. But the court can bypass those issues if it finds defendant’s actions constitute a public nuisance. For a good example of this concept, see Environmental Defense Fund v. Lamphier.

Lead Poisoning Prevention Programs

The VDH participates with the local health departments and the Virginia Department of Housing and Community Development in coordinating childhood lead poisoning prevention efforts throughout the Commonwealth. Lead poisoning is the most significant environmental health hazard facing children in the United States. The federal statute governing lead poisoning, commonly referred to as Title X, includes a public health component, along with numerous other program elements. At the local level, about six local health departments operate an active lead inspection and investigation program. The VDH maintains an infrastructure of lead-related activities. These activities include:

- A database of lead poisoned children, including location and blood level of lead;
- training programs for local health department personnel doing lead investigations; and
- the provision of educational materials for both citizens & lead service providers

Local health department personnel perform inspections for lead-based paint hazards in many counties and cities. Some localities have appointed their health department lead staff as local building officials, with responsibility for enforcing the lead paint abatement provisions found in the Uniform Statewide Building Code.

Sanitation Requirements

By statute, the VDH is empowered to adopt basic sanitation requirements for a broad array of facilities used by the public. These include restaurants, campgrounds, migrant labor camps, swimming pools, summer camps and marinas. These are addressed individually below.
Restaurants

The regulations governing restaurants\textsuperscript{25} are designed to provide optimal sanitation and preparation of food. Restaurants are inspected at least annually by the VDH. In addition, food may be examined or sampled by the department as often as necessary to ensure enforcement of the restaurant regulations.

Hotels

VDH sanitation requirements\textsuperscript{26} govern any establishment offering lodging or sleeping accommodations to transient guests for pay. These requirements are comprehensive and include sewage disposal and toilet facilities; water supply, premises to be kept clean and have vermin, insect and rodent control; elimination of possibility of asphyxiation, fire prevention; and examination of employees for communicable disease.

Migrant Labor Camps

Migrant labor camps and migrant workers are regulated\textsuperscript{27} in the health code. The purpose of the regulations is to insure safe and healthy living conditions for migrant workers and their families while they are employed and living in the Commonwealth. The rules establish standards and procedures for issuance of permits to construct or operate a migrant labor camp. They deal with the provision of potable water, sewage and garbage disposal and adopt by reference Virginia’s OSHA requirements. VDH is authorized to inspect the facilities subject to these regulations.

Milk

The regulation of milk in Virginia is a joint responsibility of the Department of Health and the Department of Agriculture and Consumer Services.\textsuperscript{28} Milk and milk products, used or served, must be pasteurized and meet the Grade A quality standards established in the regulations.\textsuperscript{29} Dry milk and dry milk products are also required to be made from pasteurized milk and milk products. The State Health Commissioner issues permits to plants that process and distribute milk and milk products. Both departments participate in the implementation and enforcement of the regulations.

It took the VDH twenty years of effort against a determined farmer to gain control of the sale of pasteurized goat milk in Virginia. Ms. Christine Solem, owner of Satyrfield in Albemarle County, raised goats, “rented” them to her clients, and transferred their unpasteurized milk to customers on her farm and at a local health food store. The regulations cited above required pasteurization of milk sold to the public. Alleging her to be in violation of that regulation, the departments filed an injunction against the court to enjoin her from selling unpasteurized milk. The Albemarle County Circuit Court declined to do so, generating Solem \textsuperscript{10} before the Supreme Court. The Supreme Court reversed and remanded, stating that the transfer of the milk satisfied the statutory definition of a sale, triggering applicability of the regulations. After the conclusion of her first Supreme Court case, Ms. Solem changed her mode of operation. She sold undivided 24% interests in the goats on her farm to her customers. Clients were entitled to a gallon of milk per day per goat from their goats. Ms. Solem filed a declaratory judgment action against the two departments, seeking the court’s approval of her goat milk delivery system. She won. In Solem II,\textsuperscript{31} the Supreme Court reversed the circuit court for a second time and closed this interesting chapter of civil disobedience in the Commonwealth. The Court, stating it would “look to the substance of this transaction and not to its formal trappings,” called Ms. Solem's arrangement a sham, and entered final judgment prohibiting her from distributing goat milk in violation of the pasteurization regulation.

Shellfish

Shellfish are a fragile foodstuff, and are a vector for the spread of disease—oysters, particularly, when eaten raw. If they become contaminated, they can become the source of significant food poisoning outbreaks. VDH regulations apply to the sanitary control of storing, processing, packing or repacking of oysters, clams and other shellfish.\textsuperscript{32} A “Certificate of Inspection” issued by the commissioner is required for the operation of an establishment for the storing, processing, packing or repacking of oysters, clams and other shellfish.

Related to the shellfish regulations are the VDH regulations\textsuperscript{33} requiring pump-out facilities at marinas for the removal of sewage from holding tanks on boats. These regulations are aimed at the prevention of fecal contamination of oysters in the Chesapeake Bay estuary. The theory is that boaters will comply with a companion SWCB regulation establishing no discharge areas in estuarine waters where shellfish grow. It is unlawful for boaters to discharge sewage in these no-discharge areas. The sewage generated on boats plying these no-discharge shellfish areas is to be contained in holding tanks or treated in a Coast Guard approved marine sanitation device. If contained in a holding tank, it is to be removed at pump-out facilities located at marinas.

Swimming Pools

The regulations\textsuperscript{34} cover such issues as disinfection and disinfection equipment, chemical feeding equipment, chemical testing equipment, filtration, water clarity, hair and lint catchers, alkalinity, lifeguards and operating records.

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The VCR is a partner in statewide activities to promote cancer prevention, early detection, and successful treatments for cancer.
Radiation

The board is authorized by statute to regulate\textsuperscript{55} and license radiation sources, provide for the registration of persons possessing radioactive materials, register, inspect, and certify X-ray machines, develop radiation emergency programs, and provide a radon educational and technical assistance program. The board promulgated its Radiation Regulations\textsuperscript{50} in 1988 and administers them through the Bureau of Radiation Health in the VDH. One important environmental impact of these regulations on environmental services professionals in Virginia is the requirement that X-ray fluorescence spectrometers (XRF machines), widely used in lead paint inspections, be VDH licensed.

Epidemiology

Epidemiology,\textsuperscript{57} the basic science of public health, has been defined as the study of the distribution and determinants of specific health-related episodes or events and the application of that study to the control of health problems.\textsuperscript{58}

Disease surveillance is an important aspect of VDH epidemiology programs. The VDH collects information on 65 diseases, with 16 of these diseases accompanied by mandatory reporting.\textsuperscript{39} Some of the reportable diseases include AIDS, chickenpox, e. coli 0157:H7, measles, HIV infection, and tuberculosis. In addition, outbreak investigations are conducted by the VDH. Outbreaks are defined as the occurrence of more cases of a disease than expected. Outbreak investigations are conducted as a result of suspected foodborne, nosocomial, toxic substance-related and waterborne diseases.\textsuperscript{40}

The Virginia Cancer Registry (VCR) collects demographic, diagnostic and treatment information regarding the occurrence of cancer in Virginia.\textsuperscript{41} By obtaining this information, the VDH is able to study the trends and patterns of cancer in Virginia. Hospitals, pathology labs, clinics and certain physicians are required to report case incidence data to the VDH.\textsuperscript{42} The VCR is a partner in statewide activities to promote cancer prevention, early detection, and successful treatments for cancer. This data can help identify possible sources of cancer and evaluate possible solutions. Recent studies focus on age, race, sex and geographic groups who get certain cancers at higher rates; treatments used for the different kinds of cancer; and survival patterns. The information collected may be used for program planning, education, and to address citizen concerns about cancer. Since identifying information is imperative for the collection of this data, the VCR protects the confidentiality of the data.\textsuperscript{43} Patient and provider information in the registry is not subject to the Freedom of Information Act and can only be released by the authority of the commissioner for approved surveillance or research and may never be published in a form that identifies individual cancer victims.\textsuperscript{44}

Immunization against disease may be seen as a form of environmental health regulation. Every child in Virginia must be immunized against the following diseases: Diphtheria, Tetanus, Pertussis; Poliomyelitis, Measles (rubeola), Rubella (German measles), Mumps, flu, and Hepatitis B.\textsuperscript{45} Other aspects of the immunization program include: vaccine preventable disease surveill\textsuperscript{veillance, the Virginia Vaccines for Children program (VVFC), assessments, state immunization information systems, adult and adolescent immunization, the VDH immunization action plan, the vaccine adverse events reporting system, the provision of international travel vaccine information, and the perinatal Hepatitis B program.\textsuperscript{46} Designed to raise immunization rates in the United States, Virginia established its program in 1994. In Virginia, more than 200,000 children benefit from this program.\textsuperscript{47}

Public Health Information Related to Environmental Risk Factors

The VDH also supports an extensive public information program on environmental health issues. These include VDH health alerts.\textsuperscript{48} Health alerts on the VDH Web site (at the time of this writing) include such contemporary environmental issues as West Nile virus, pfiesteria, equine encephalitis, rabies, mosquito control, fish advisories for various rivers, red tides and fish kills, E. coli 0157:H7, and various investigations of outbreaks and fish kills.

Enforcement Powers

The board may enforce its regulations through the usual tools exercised by other Virginia and federal environmental agencies. It can inspect, test and collect samples.\textsuperscript{49} It may issue orders.\textsuperscript{50} It can impose civil penalties. A court may ask a court to issue an injunction compelling compliance.\textsuperscript{51} Under some circumstances, it can impose civil penalties. A court can impose civil penalties for either violating an injunction entered to compel compliance; or, in limited cases, for violating the regulations themselves. And, willful violations are a Class I misdemeanor, punishable by criminal penalties.\textsuperscript{52}

Endnotes are available on the following page.
Local health departments, in all but a few localities, operate as a branch of the VDH, rather than as a unit of local government. Most local health department staff are employees of the Commonwealth, not employees of local government.

2. 40 CFR Part 140 et seq. and related sections.
4. 12 VAC 5-590.
5. 12 VAC 5-610.

River closures and advisories are in a state of flux over time. They are posted at http://www.vdh.state.va.us/HHControl/fishing_advisories.htm

13. 9 VAC 25-60.
14. 12 VAC 5-585.
15. 12 VAC 5-590.
42. Va. Code § 32.1-248.01.
44. Va. Code § 32.1-248.01.