9-13-2013

Framing the Legal Problems: Is a Holistic Strategy for Managing Stormwater, Flooding, and the Bay TMDL Possible or Advisable?

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Adaptive Planning for Flooding and Coastal Change in Virginia: Legal and Policy Issues for Local Government

September 13, 2013

Framing the Legal Problems: Is a Holistic Strategy for Managing Stormwater, Flooding, and the Bay TMDL Possible or Advisable?

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Overview

- Key factors
  - Stormwater
  - Relative sea level rise and recurrent flooding
  - Chesapeake Bay Total Maximum Daily Load ("TMDL")
- Underlying practical concerns
- Current legal framework
- Potential holistic strategy opportunities
  - Benefits
  - Challenges

Key Factors – Stormwater

- Federal
  - Evolving standards for stormwater discharges to Chesapeake Bay watershed
  - Changes in construction stormwater general permit
  - Stormwater and wastewater blending policy status
  - Federal jurisdictional waters controversy

Key Factors – Stormwater

- State
  - Merger of stormwater discharge permitting, compliance and enforcement programs into DEQ (7/1/13)
  - State delegation of construction stormwater program to localities
  - Evolving state stormwater program regulations and implementation roll-out

Key Factors – Stormwater

- Local
  - Delegation of construction stormwater program to localities
  - Integration and implementation of stormwater related programs (construction discharges, E&S Control, CBPA, and flood control)
    - "One-stop shopping" concept
  - Evolving Municipal Separate Storm Sewer System (MS4) status
  - Evolving MS4 permit obligations to meet new discharge standards

Key Factors – Sea Level Rise & Recurrent Flooding

- Importance of coastal/shoreline property:
  - Among most desirable, valuable & productive land
  - Among highest per acre source of tax revenue
  - Mix of uses: commercial, industrial, military, municipal, transportation, recreational, historical, and residential
  - Shoreline uses are – surprise! – often water dependent or heavily developed, so typically cannot be moved inland
  - Undeveloped shoreline (wetlands, dunes, and forests) offers key protective measures and natural habitat

Key Factors – Sea Level Rise & Recurrent Flooding

- Average tidal elevations increased; projected to continue
- Greater impacts being felt in coastal communities
  - Higher tides aggravate flooding and storm surges
  - Compromise engineered direction and rate of flow from stormwater discharge and wastewater discharge outfalls
  - Greater groundwater pressure leading to increased infiltration and inflow into sanitary sewers, compromising designed capacity

Key Factors – Chesapeake Bay TMDL

- TMDL Generally
  - When waters don't meet water quality standards, state has to develop plan to improve water quality – leads to TMDL
  - Accounts for loadings from point sources, non-point sources, nature and also margin of safety
  - Pollutant diet that gets translated into discharge permits
- Bay TMDL Rule
  - Issued by EPA in December 2010
  - Focuses on nutrients (Nitrogen and Phosphorous) and sediments
  - Applicable throughout Bay watershed (Virginia, five other states and District of Columbia)
  - Watershed Implementation Plan ("WIP"): compliance strategy

Key Factors – Chesapeake Bay TMDL

- Bay TMDL Purpose and Results
  - Achieve better water quality in Bay watershed, goals of Clean Water Act: good for aquatic life and human uses
  - Tougher permit limits for wastewater and stormwater discharges
  - Could impact surface water withdrawals: TMDL assumes certain flow levels in streams and rivers will be present to absorb effects of allowed discharges
  - Translation into wastewater and stormwater permitting programs and permits now underway at federal, state and local levels

Underlying Practical Concerns

- Stormwater
  - Localities' readiness and cost to implement construction stormwater discharge permit program - staffing and training
  - Localities' roles as the "permitter" (for construction activities) and the "permittee" (as a MS4) – potential for conflicts
  - Restricted availability of space to locate new or larger stormwater controls (especially for urbanized areas)
  - Evolution of nutrient credit program
  - Funding at local level

Underlying Practical Concerns

- Sea level rise and recurrent flooding
  - Causes and projections: uncertainty and controversy
  - Shoreline and flood risk assessment reliability
    - Quality of baseline data: detailed and accurate elevation maps
    - Overlaying accurate elation with land use maps
    - Shoreline impact data and modeling evolving
    - Risk assessments methodology evolving
    - Land subsidence in some areas as added complication/factor

Underlying Practical Concerns

- Sea level rise and recurrent flooding (cont.)
  - Insurance cost and availability for shoreline property
  - Transportation routes and emergency services access
  - Utility infrastructure risk and service feasibility: electricity, gas, water, sewer, cable, telephone
  - Cost of defensive or adaptive measures
    - Capital
    - Ongoing maintenance
  - Shoreline property marketability and value
  - Potential for displacement/loss of current shoreline uses and tax base

Underlying Practical Concerns

- Sea level rise and recurrent flooding (cont.)
  - Two horns of the dilemma:
    - Can localities (and others) afford to be wrong?
      - Costs and risks of not addressing the problem could be substantial, of not overwhelming, depending on exposure
    - But can localities (and others) afford to be right?
      - The cost to address sea level rise itself could be beyond reach: protection v. adaptation v. relinquishment
  - In the end: a question of risk tolerance
    - But if neighboring localities have different risk tolerances, what does that mean for the region and watershed?

Underlying Practical Concerns

- Chesapeake Bay TMDL
  - Positive effects – Bay and tributaries should have better water quality, which in turn should result in:
    - Easier raw water treatment for public water supplies and industrial users
    - Improved aquatic life and habitats
    - Safer recreational uses
    - Associated economic benefits with improved fisheries, recreation and tourism

Underlying Practical Concerns

- Chesapeake Bay TMDL (cont.)
  - Concerns –
    - Greater costs of compliance with wastewater permits
      - Still greater nutrient reduction or pay for nutrient credits
    - More difficult and expensive for MS4's to comply with permits
      - Greater MS4 stormwater controls or pay for nutrient credits
    - More stringent standards for those discharging into MS4's
      - More extensive construction and post-development controls

Underlying Practical Concerns

- Chesapeake Bay TMDL (cont.)
  - Concerns (cont.) –
    - Negative impacts on new growth and redevelopment projects
      - More costly to develop and operate due to stricter standards
      - Need for more space to achieve controls to meet standards
      - Push them to "greenfield" sites or areas not subject to Bay TMDL?
    - Under Virginia WIP, other programs for agriculture
      - Keep livestock out of streams: alternative water sources?
      - Manage field runoff with buffers and other practices: reduces productive crop acreage?

Underlying Practical Concerns

- General concerns
  - Economic development impacts due to loss of commercially productive real estate due to more extensive stormwater controls and sea level rise
  - Aging water and sewer systems: substantial infrastructure needs and costs area already looming
  - Availability and costs of qualified engineers and technical assistance within DEQ, localities and consulting firms
  - Potential for disruption within community when addressing hard choices and costs
  - Public education about issues, risks, needs, costs and revenue options (taxes, fees, etc.)
  - Existing financial stress felt by localities and tax bases

Current Legal Framework

- Stormwater
  - Well developed legal and regulatory framework, but also still evolving in scope and program administration
  - Authority to control stormwater discharge quality from point sources exists, but has limits and nuances
    - Dictating land use not allowed
    - Federal v. state jurisdictional regulated waters
  - Authority to control stormwater quality from non-point sources largely incentive-based
  - Authority to control stormwater volume exists - mainly a local function

Current Legal Framework

- Sea Level Rise and Recurrent Flooding
  - Virginia Comprehensive Flood Control Program
    - Va. Code § 10.1-658. State interest in flood control.
    - Va. Code § 10.1-659. Flood protection programs; coordination

Current Legal Framework

- Sea Level Rise and Recurrent Flooding (cont.)
  - Virginia Comprehensive Flood Control Program (cont.)
    - Va. Code § 10.1-659 (cont.)
      - Specific elements of flood control program coordination to include:
        - Flood prevention, flood plain management, small watershed protection, dam safety, soil conservation, stormwater management and erosion and sediment control programs;
        - The construction activities of the Department of Transportation which result in hydrologic modification of rivers, streams and flood plains;
        - The water quality and other water management programs of the State Water Control Board;
        - Forested watershed management programs of the Department of Forestry;
        - The statewide building code and other land use control programs of the Department of Housing and Community Development;
        - The habitat management programs of the Virginia Marine Resources Commission;
        - The hazard mitigation planning and disaster response programs of the Department of Emergency Management;
        - The fish habitat protection programs of the Department of Game and Inland Fisheries; the mineral extraction regulatory program of the Department of Mines, Minerals and Energy; and
        - The flood plain restrictions of the Department of Waste Management.

Current Legal Framework

- Sea Level Rise and Recurrent Flooding
  - Police power – is sea level rise a threat to public health and welfare?
  - Land use/zoning and site plan controls – can a planning regime be developed to manage these issues strategically?
  - Best form of public entity – is there a need for special governmental entity to address some of these issues?
  - Public finance mechanisms – are there sufficient means of revenue generation to pay for sea level rise management activities?
  - Dillon Rule always lurking for localities
  - VIMS study to inform General Assembly

Current Legal Framework

- Bay TMDL
  - As with stormwater, integrated into federal, state and – soon – local law and regulation
  - Implemented through wastewater and stormwater discharge permitting and other Clean Water Act associated programs

Holistic Strategy Factors

- Synergistic Relationships
  - Stormwater and Bay TMDL
    - Stormwater program already incorporating Bay TMDL
    - EPA efforts encourage (mandating?) green design
  - Stormwater and Sea Level Rise/Recurrent Flooding
    - Excessive stormwater flow aggravates sea level rise and recurrent flooding: some areas getting it from both directions
  - TMDL and Sea Level Rise/Recurrent Flooding (?)
    - Reduction of nutrient and sediment loadings into tidal flooding should help when tides/floodwaters recede

Holistic Strategy Factors

- Process of Integrating Issues and Actions
  - Stormwater and Bay TMDL aspects
    - Already underway with legal frameworks and timelines
    - Will move forward irrespective of seal level and recurrent flooding issues due to current legal mandate
  - Relative Sea Level Rise and Recurrent Flooding
    - Newer issues, so not as far along
      - Localities and planning districts seeking to address
      - Legal and informational gaps
      - Policy development

Holistic Strategy Factors

- First Point to Address: What, if anything, should be done about sea level rise and recurrent flooding impacts?
  - Why this first?
    - Biggest unknowns in terms of potential impacts, costs, physical disruption to community, and legal authority needs
    - Long lead time in one sense, but the response would be long-term as well
    - Stormwater and TMDL already have established programmatic frameworks, objectives and legal parameters
    - Stormwater and TMDL could complement a sea level rise response strategy but only if a strategy has been developed

Holistic Strategy Factors

- First Point: (cont.)
  - Impact assessment and analysis –
    - Scope/Nature of Threat
      - What areas are being affected and will be affected?
      - How are they being and to be affected?
    - Timetable for problem unfolding yields timetable for necessary responses
  - Alternatives Analysis –
    - Options for response: defend v. adapt v. relinquish
    - Options for use of impacted land/improvements

Holistic Strategy Factors

- First Point: (cont.)
  - Response decision-making: risk analysis and tolerance
    - Which areas warrant protection/defense, adaptation or alternative use, or even relinquishment to a submerged or unused state?
    - Are there feasible alternative uses of property based on projected impacts that would help overall strategy?
    - What are the relative costs and impacts of implementing protection, adaptation or relinquishment measures?
    - Who should bear the costs and how?
    - How is the private market responding and acting (e.g., insurance, lending, and enterprise and utility investment/relocation)

Holistic Strategy Factors

- Leveraging available synergies
  - How would onsite post-development stormwater control measures best serve sea level rise response for the community?
  - How could natural features be restored or constructed on public land or within MS4's to best serve sea level rise response?
  - How could stormwater measures complement transportation and emergency access for areas to be protected – what dual use options exist?
  - How could comprehensive planning and easements for stormwater management needs incorporate sea level rise defensive and adaptive measures?

Holistic Strategy Factors

- Potential Supporting Legal Mechanisms
  - Specific charter powers granted by General Assembly
  - Comprehensive Planning (Va. Code §§ 15.2-2223 *et seq.*)
  - Zoning (Va. Code §§ 15.2-2280 *et seq.*)
    - Overlay districts to ensure sea level rise and stormwater management strategies implemented in any site development
  - Subdivision and site plan approval (Va. Code §§ 15.2-2240 *et seq.*)
  - Authority to require removal, repair, etc., of wharves, piers, pilings, bulkheads, vessels or abandoned, obstructing or hazardous property (Va. Code § 15.2-909)

Holistic Strategy Factors

- Potential Supporting Legal Mechanisms (cont.)
  - Service districts (Va. Code §§ 15.2-2400 – 15.2-2413)
  - Public-Private Partnerships
    - Urban Public-Private Partnership Redevelopment Fund (Va. Code § 15.2-2415)
    - The Public-Private Education Facilities and Infrastructure Act of 2002 (Va. Code §§ 56-575.1 *et seq.*)

Holistic Strategy Factors

- Potential Supporting Legal Mechanisms (cont.)
  - Purchase of real estate (Va. Code § 15.2-1800)
  - Joint exercise of powers by political subdivisions. (Va. Code § 15.2-1300)
  - Regional Competitiveness Act. (Va. Code §§ 15.2-1306 – 15.2-1310)
  - Participation in certain federal development programs granting funds for housing, community development or economic development purposes (Va. Code § 15.2-956)
  - When floodwaters may be captured and stored by riparian owners (Va. Code § 62.1-104 *et seq.*)

Holistic Strategy Factors

- Potential Supporting Legal Mechanisms (cont.)
  - Eminent Domain (Va. Code §§ 15.2-1900 - 15.2-1907.1)
    - Allowed "public uses" for eminent domain (Va. Code § 1-219.1):
      - "Ownership, occupation, and enjoyment of property by the public or a public corporation"
      - "Construction, maintenance, or operation of public facilities by public corporations or by private entities provided that there is a written agreement with a public corporation providing for use of the facility by the public"
      - "Elimination of blight provided that the property itself is a blighted property"
      - "Property is in a redevelopment or conservation area and is abandoned"

Holistic Strategy Factors

- Potential Supporting Legal Mechanisms (cont.)
  - Eminent Domain (cont.)
    - "Public facilities" includes (per Va. Code § 1-219.1):
      - “Flood control, bank and shore protection, watershed protection, and dams,”
      - “Parks so designated by the Commonwealth or by the locality in its comprehensive plan;”
      - “Stormwater facilities;”
      - “Transportation facilities including highways, roads, streets, and bridges, traffic signals, related easements and rights-of-way, mass transit, ports, and any components of federal, state, or local transportation facilities;” and
      - “Such other facilities that are necessary to the construction, maintenance, or operation of a public facility as [noted above].”

Holistic Strategy Factors

- Potential Supporting Legal Mechanisms (cont.)
  - Cautionary points
    - Dillon Rule
    - Takings and Inverse Condemnation

Holistic Strategy Factors

- Better to take holistic approach?
  - Any one of the stormwater, Bay TMDL or sea level rise/recurrent flooding topics is already sizeable and costly
  - Synergies probably exist, but each community should evaluate extent and compare to risks
  - Integrated approaches may reduce overall costs or produce greater value for community, region and state
  - Stakeholders, partnership options, and regional perspective
  - Risk analysis should drive trajectory of action and spending
  - Costs, funding and expertise availability key factors for feasibility and potential success

Holistic Strategy Framework

- Evaluate current and likely legal requirements and related deadlines, lead times to accomplish
  - Stormwater regulation changes
  - Program delegation to localities
  - MS4 status evolution
  - Bay TMDL implementation
  - Expected EPA rule-making on post-development stormwater discharge standards
- Assess likely impacts and risks posed by sea level rise and recurrent flooding
- Assess market forces at work or to be expected
- Ultimately hangs on level of risk tolerance and what that would mean for community

Questions?

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