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Calming Troubled Waters: Local Solutions¹

John R. Nolon

Abstract

In 1861, the Ohio Supreme Court adopted the Absolute Use Rule to govern groundwater, essentially allowing landowners its unencumbered use. The opinion noted that the behavior of subterranean water was “occult and mysterious” and that it was beyond the competence of judges to determine its appropriate use. The Ohio court reversed course in 1984 and adopted the Reasonable Use Rule. By then, scientific knowledge had advanced to the point that the interconnected movement of water was more readily discoverable. The court noted that a primary goal of water law should be to conform to hydrologic fact. This Article explores the advance of scientific knowledge related to water pollution, which reveals the clear relationship between land use and water quality. It examines the Clean Water Act and concludes that, despite advances in scientific knowledge, federal law does not conform to scientific fact but remains mysteriously incapable of addressing much of the nation’s severe water pollution. Non-navigable waters, groundwater, and nonpoint sources, with minor exceptions, all fall outside the Clean Water Act’s regulatory scope, as currently interpreted.

State governments, however, may use their reserved police powers to protect natural resources, including watersheds. Most state legislatures have delegated broad power to local governments to mitigate water pollution through the adoption of land use plans, zoning laws, and land use and public nuisance regulations. The Article describes a host of local government gap-filling strategies that protect water quality and explores a number of intermunicipal and intergovernmental collaborations that defy the many critics who warn against relying on localism to solve natural resource problems. It analyzes the principle of subsidiarity, which holds that responsibility for dealing with problems should be delegated to the most decentralized institution capable of addressing them. There is general agreement among most critics that, despite their limitations, local governments must play a key role in resource conservation, but that they need assistance. To accommodate the diversity of situations and the need for flexibility in approach, the Article constructs, explains, and recommends the Principle of Collaborative Subsidiarity as a strategic path for rectifying the fragmented nature of the nation’s system of water law.

I. Introduction

A. A Watershed Moment

¹ John R. Nolon is Distinguished Professor and Counsel to the Land Use Law Center at the Elisabeth Haub School of Law at Pace University. He is indebted to the fifteen students who worked on his Calming Troubled Waters project, particularly to Haley Brescia who served as his research assistant. Ms. Brescia is the President of the Environmental Law Society at the Haub School of Law. Grants to support the work of these students from the Rocky Mountain Mineral Law Foundation, the Haub School of Law, and Vermont Law School are gratefully acknowledged.

The event was a local land use leadership training program in the upstate New York Sawkill Watershed on controlling the alarming risks of water pollution. Local land use board members and elected officials gathered to learn how to prevent public health and ecosystem harms caused by the effects of land use and development on local water quality.² After we covered the local land use strategies suitable to the task, we asked for questions. Margaret, a local planning board chair, whose family member had been diagnosed with cancer attributed to drinking contaminated water, raised her hand. She asked us to explain this country's water law system and why, despite federal and state environmental laws, she and her fellow local leaders had to use their municipal land use authority to prevent water pollution. This seemingly simple question, which we were unable to answer to her satisfaction, led to the Land Use Law Center's two-year water law project and was the impetus for this Article.³

Margaret's question cuts through all of the nuanced jurisprudential and ideological rhetoric and analysis that characterizes so many law school water law colloquia and legal scholarship. It goes directly to the heart of the issue. If we can't explain clearly how the legal system actually works and how to solve present problems, then we lose credibility in discussions in city halls, courtrooms, and the classroom. Instead of expressing an opinion about a pending federal rule change or a U.S. Supreme Court decision regarding some nuance of federal water law, Margaret's question requires that we explain water law so she can decide what to do to address her community's water problem. Should she lobby Congress, EPA, the state legislature, one or more state agencies, or her city council or town board? If the legal system it is not logical, we need to explain why and offer some solutions that can be employed now for Margaret, her family, and her watershed.

B. The "Occult" Origins of Water Law

In 1861, the Ohio Supreme Court decided *Frazier v. Brown* in which it adopted the Absolute Use Rule of groundwater use.⁴ The doctrine stood until 1984, when, in *Cline v. American Aggregates*, the court reversed course and adopted the Restatement's Reasonable Use Rule.⁵ The *Frazier* court held that "...the law recognizes no correlative rights in respect to underground waters percolating, oozing or filtrating through the earth....Because the existence, origin, movement and course of such waters, and the causes which govern and direct their movement are so secret, occult and concealed, any

² The Land Use Law Center regularly conducts multi-day Land Use Leadership Training Programs for local officials from the 250 municipalities in the Hudson River Valley. Haub students conduct research on the land use issues that the leaders raise in these training initiatives.

³ This Article was developed by the author in conjunction with delivering the 15th Annual Distinguished Norman Williams Lecture at Vermont Law School in the spring of 2019. Among many of his accomplishments, Professor Williams maintained a two-volume casebook on American Land Planning Law. The final sentence of his Introduction to the casebook reads as follows: "If experience in this field teaches anything, it suggests that not all wisdom is derived from reported appellate opinions. Life in the real world is quite different, and those facets which are really important in understanding the actual problem often do not filter through the legal process. In a word, read, mark, and inwardly ponder these materials – but don't believe a word of it."

⁴ *Frazier v. Brown*, 12 Ohio St. 294 (1861).

⁵ *Cline v. Am. Aggregates Corp.*, 474 N.E.2d 324 (Ohio 1984).

attempt to administer a set of legal rules in respect to them would be involved in hopeless uncertainty, and would be, therefore, practically impossible.”⁶ This rendered neighbors who share the use of a groundwater aquifer nearly impotent; the unreasonable-use of their shared resource was *damnum sine injuria*: a wrong without a remedy.

In Cline, the court reversed course, noting that “...a primary goal of water law should be that the legal system conforms to hydrologic fact. Scientific knowledge in the field of hydrology has advanced in the past decade to the point that water tables and sources are more readily discoverable. With notable exceptions, it is now possible for land use professionals to trace the impact of pumping groundwater to serve one parcel on the quality and quality of groundwater underlying neighboring properties. Thus, liability can now be fairly adjudicated with these advances which were solely lacking when this court decided Frazier more than a century ago.”⁷

What science now reveals is the extraordinary close relationship between land use and development and the quality of water and health of watersheds. Part II of this Article explores the advance of scientific knowledge related to water pollution and, based on that knowledge, describes the clear relationship between land use and water pollution. Land development increases impervious surface area, compacts soils, removes vegetation, and alters the flow of water above and below ground. If not carefully engineered, development can severely diminish the quality of water. Uncontrolled development increases the volume and rapidity of stormwater runoff, decreases infiltration, exacerbates flooding, and causes soil erosion and sedimentation. Runoff moving across developed surfaces picks up pollutants and sediments and carries them, unfiltered, into surface waters. We call this non-point source pollution (NPS), defined as “runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification.”⁸ It comes from many diffuse sources and is considered the leading source of domestic water quality problems. State governments report that 40% of all their impaired waters are contaminated solely by NPS.⁹

C. Fragmentation of Water Law: Troubled Waters

Part III reveals the unfortunate fact that federal law, despite these advances in scientific knowledge does not conform to hydrologic fact but remains “occult,” that is, mysterious and of limited help to local officials searching for practical solutions for their water problems. It goes on to sketch the plenary powers of state governments to use their reserved police powers to protect natural resources, such as watersheds, and the

⁶ Frazier, 12 Ohio St. at 311; See also *Chatfield v. Wilson*, 28 Vt. 49, 53 (1855), where the court held that it is best to allow groundwater to be “enjoyed absolutely by the owner of the land,” recognized no correlative right to groundwater between adjoining proprietors of land and refused to regulate it due to practical uncertainties.

⁷ Cline, 474 N.E.2d at 328.

⁸ *Basic Information about Nonpoint Source (NPS) Pollution*, EPA (2018), <https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution> (last visited Dec 29, 2018).

⁹ *Introduction to the Clean Water Act*, U.S. EPA WATERSHED ACAD. WEB.

https://cfpub.epa.gov/watertrain/moduleFrame.cfm?parent_object_id=2788 (last visited Dec 29, 2018).

delegation of that power to local governments through the authority to adopt land use plans, zoning laws, and land use regulations.

The drinking water serving most homes in Margaret's community comes from groundwater wells and much of the surface water pollution in her community is due to non-point source pollution, caused by surrounding development and land uses. She was surprised to learn that the Clean Water Act (CWA) effectively regulates neither of these. It is limited in its reach. Non-navigable waters,¹⁰ groundwater,¹¹ and nonpoint sources¹² all fall outside the statute's regulatory scope. Federal authority can therefore only go so far, leaving many gaps to be filled by the states and the municipalities to which they delegate power to regulate land use. State and local regulations can go beyond the limits of the CWA,¹³ reaching isolated wetlands and intrastate waters,¹⁴ groundwater, and the sources of non-point source pollution.¹⁵

Because of statutory, regulatory, and constitutional disconnections, the waters of the United States are troubled. Calming them, and answering Margaret's question, may depend on where one stands and where one observes the water law system. An apt metaphor is provided by Benjamin Franklin who described what happened when he dropped a cruet of oil on the rough waters of Clapham pond and watched "it spread itself with surprising swiftness upon the surface; but the effect of smoothing the waves was not produced; for I had applied it first on the leeward side of the pond, where the waves were largest, and the wind drove my oil back upon the shore. I then went to the windward side where they [the waves] began to form; and the oil, though not more than a teaspoonful, produced an instant calm over a space of several yards square, which spread amazingly and extended itself gradually till it reached the lee side, making all that quarter of the pond, perhaps half an acre, as smooth as a looking glass."¹⁶

¹⁰ 33 U.S.C. § 1311(a) (2012) (prohibiting "the discharge of any pollutant by any person"); *id.* § 1362(12) (defining discharge as "any addition of any pollutant to navigable waters from any point source").

¹¹ See 40 CFR Part 230.3(o)(2) (2015) (exempting groundwater from the definition of waters of the United States); ARMY CORPS OF ENG'RS & EPA, EPA-HQ-OW-2018-0149, REVISED DEFINITION OF "WATERS OF THE UNITED STATES, REVISED DEFINITION OF "WATERS OF THE UNITED STATES" 215 (Dec. 11, 2018) [hereinafter REVISED DEFINITION OF "WATERS OF THE UNITED STATES"], https://www.epa.gov/sites/production/files/2018-12/documents/wotus_2040-af75_nprm_fm_2018-12-11_prepublication2_1.pdf, (exempting groundwater from the pre-proposal redefinition of waters of the United States); see also *Washington Wilderness Coal. v. Hecla Min. Co.*, 870 F. Supp. 983, 990 (E.D. Wash. 1994) (finding that courts generally agree that the CWA "do[es] not include 'isolated/nontributary groundwater'" but that courts are split on "whether tributary groundwater . . . is subject to CWA regulation").

¹² 33 U.S.C. § 1311(a) (prohibiting "the discharge of any pollutant by any person"); *id.* § 1362(12) (defining discharge as "any addition of any pollutant to navigable waters from any point source").

¹³ See *Hess v. Port Auth. Trans-Hudson Corp.*, 513 U.S. 30, 44 (1994) ("[R]egulation of land use [is] a function traditionally performed by local governments.")

¹⁴ See Paul Edward Svensson, *The Supreme Court's New Federalism: The Authority of the U.S. Army Corps of Engineers Does Not Extend Over Isolated Intrastate Wetlands Under the Migratory Bird Rule*, 19 PACE ENVTL. L. REV. 165, 194 (2001) ("[O]nly a state possesses the authority to regulate land and water use in isolated, intrastate wetlands.").

¹⁵ 33 U.S.C. § 1329 (2012).

¹⁶ CHARLES TANFORD, BEN FRANKLIN STILLED THE WAVES: AN INFORMAL HISTORY OF POURING OIL ON WATER WITH REFLECTIONS ON THE UPS AND DOWNS OF SCIENTIFIC LIFE IN GENERAL 71 (1989)

This Article stands on the windward side of the waters, where the troubles begin. That is to say, it observes the problems where they first occur, on the lands around the local ponds, lakes, streams, wetlands, and rivers, and above groundwater aquifers. Water pollution is a local phenomenon; it affects local people and engages, as if by instinct, local legal powers. It is critical that we understand the authority that resides in this windward space and to learn how to use it collaboratively to fill the significant gaps in state and federal water law.

D. Local Solutions

In Part IV, the Article describes a host of local government gap-filling strategies that protect water quality and promote water conservation. These include aquifer and watershed overlay zoning, open space provisions in land use plans, urban growth boundaries, designated priority areas for growth, designated water conservation areas, creation of rain gardens and sedimentation ponds, cluster development requirements to avoid development in vulnerable watershed areas, sedimentation controls of surface mining operations, special limitations on water use in subdivisions that exceed recharge levels, density bonuses for water conserving features in residences, aquifer protection districts, required wetland creation, use of pervious cover and detention ponds, adoption of EcoDistricts with provisions that lower per capita water consumption, use of a green building checklist including water conservation measures, adoption of tree preservation ordinances and Urban Tree Canopy goals, mandatory well testing provisions, stormwater management fees with incentives to reduce impervious coverage, local water conservation and permitting laws, and public nuisance laws.

These laws are adopted by local governments to fit the unique circumstances of each one, demonstrating the difficulty that a remote state or federal legislature might have in legislating to protect water quality and other public values. Many of the local solutions described in Part IV are not within the regulatory authority of the federal government and beyond the reach of the power that state legislatures have given their state water, health, and environmental conservation agencies.

E. Collaborative Subsidiarity

Critics of delegating land use authority to towns, villages, and cities cite several deficiencies in relying on such a parochial system of law. They push back against the principle of subsidiarity, the notion “which holds that responsibility for dealing with a problem should be delegated to the most decentralized institution capable of handling that problem.”¹⁷ The list of concerns includes the limited geographical jurisdiction of

¹⁷ ROBERT ELLICKSON, *LOSING GROUND: A NATION ON EDGE* 275 (John R. Nolon & Daniel B. Rodriguez eds., 2007); see also Graham R. Marshall, *Nesting, Subsidiarity, and Community-based Environmental Governance Beyond the Local Level*, 2 INT’L JOURNAL OF THE COMMONS 75, 80 (2008) (“Although various definitions of this principle exist, they generally share in common the implication that any particular task should be decentralized to the lowest level of governance with the capacity to conduct it satisfactorily.

municipal governments,¹⁸ their lack of technical capacity, inadequate financial resources, and resistance to mandates from state and federal agencies.¹⁹ Anti-localist scholars point to numerous additional reasons why untethered local control of land use is a bad idea. They cite a “race to the bottom” mentality, NIMBYism, inadequate information, and insufficient funding.²⁰

Part V identifies and discusses several approaches to addressing these local deficiencies and how states, often, and federal agencies, less frequently, act to help overcome local barriers to effective action.²¹ They include the provision of technical assistance, data, and model laws; state mandated environmental impact review; authority to collaborate with neighboring municipalities; intergovernmental watershed planning; integration of small water providers and waste water systems; and the creation of flexible regional networks. In Part VI, the Article concludes with an analysis of the many theorists who support grassroots efforts to solve land use problems.²² The literature is filled with theories such as the subsidiarity principle, complex adaptive systems, diffusion of innovation, and flexible regional networks, among others. The Part continues with a second look at, and further analysis of, the articles that are critical of reliance on local governments. The critics concede that local governments need to be involved in governmental systems to protect natural resources, even if such structures are to be assisted, initiated, or controlled by regional, state, or federal actors. There is disagreement among them as to which higher level of government should be the relevant actor. Some suggest state initiatives under a subfederal approach, others discuss federal-local structures with local officials acting as federal agents, some point to voluntary compacts with neighboring communities, and still others propose strong regional bodies.

This Article concludes that there is general agreement among many scholars that local governments must play a key role in land use regulation, but that municipal governments need assistance and that collaborative structures should be created where inter-jurisdictional issues are involved. The Article ends by proposing that the precise partnership needed depends on the problem being addressed, the circumstances of the situation, and the prevailing political culture. To accommodate the diversity of situations

This conviction implied that a higher level of organization should refrain from undertaking tasks that could be performed just as well by a grouping closer to the individual”).

¹⁸ See *Golden v. Planning Bd. of the Town of Ramapo*, 285 N.E.2d 291 (N.Y. 1972). The state's highest court stated that New York's "current zoning enabling legislation is burdened by the largely antiquated notion which deigns that the regulation of land use and development is uniquely a function of local government." *Id.* at 299. The court referenced criticisms of community autonomy finding that local land use control suffers from "pronounced insularism" and produces "distortions in metropolitan growth patterns." *Id.* It also noted that local control "crippl[es] efforts toward regional and State-wide problem solving, be it pollution, decent housing, or public transportation." *Id.*

¹⁹ See Rena I. Steinzor, *Unfunded Environmental Mandates and the "New Federalism": Devolution, Revolution, or Reform?*, 81 MINN. L. REV. 97, 174-75 (1996) (arguing that local regulations will often keep only their local interest in mind when federal regulation does not exist or apply).

²⁰ See *infra* notes 306-318 and accompanying text.

²¹ See *infra* Part V, for citations to the mechanisms mentioned in this paragraph.

²² See *infra* Part VI for citations to these theories.

and the need for flexibility in approach, it constructs, explains, and recommends that strategists embrace the Principle of Collaborative Subsidiarity.