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**The Role of Municipalities in Regulating the
Land Application of Sewage
Sludges and Septage**

by

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The Role of Municipalities in Regulating the Land Application of Sewage Sludges and Septage

ABSTRACT

Application of sewage sludges to agricultural lands is increasing. This use represents an economical disposal option and provides the benefit of recycling the nutrients and organic matter sludges contain. The practice, however, raises a number of concerns. Although the combination of federal and state regulatory requirements is significant in forming the initial base for sewage sludge management decisions, local regulations also play a part in seeking to protect the health, safety, and welfare of citizens, who may object to land application. The primary legal constraints that localities face are constitutional Commerce Clause challenges and conflicts with right-to-farm statutes.

The authority of a municipality varies from state to state. This article focuses on New York State, which has granted strong home rule to its municipalities. Examples of local ordinances and how they address particular concerns are described. Local ordinances vary widely in the issues and the level of detail they address. Issues addressed in local ordinances include human health risks, animal health risks, water quality, nuisance issues such as odor, liability and uncertainty, monitoring, and enforcement. They may impose restrictions on the type, amount, quality, or source of sludge. Some specify management practices, notification requirements, and additional monitoring beyond that required by federal or state rules. As a result of concern over the inability of state and federal agencies to provide consistent enforcement of rules due to staffing shortages, local ordinances frequently supply enforcement provisions. Local ordinances may also include fees to cover municipal costs.

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I. INTRODUCTION

I.A. The National and New York State Regulatory Context

As modern societies grow and change, they must deal with increasingly severe problems associated with this growth. One such problem facing municipalities across the United States, and indeed the world, is how to handle increasing quantities of sewage sludge¹ and septage² produced by our growing populations and our demand for cleaner water. Decisions made by governments are one of the most important factors in determining how society addresses these critical choices.

In the United States, our federal system establishes a particular hierarchy governing the powers of federal, state, and local governments. The U.S. Constitution grants specific powers to the federal government, but then reserves the balance of the powers to the states.³ The states, then, determine individually what powers to grant to municipalities within their borders. When a state gives an extensive grant of powers to localities it is commonly referred to as a "home rule" state. The extent to which states have granted powers to municipalities determines the amount of latitude localities have to govern local affairs. Thus, this hierarchy determines the breadth of power of each unit and how conflicts between them will be resolved. Municipalities are subject to state control, and the states themselves are subject to federal law pursuant to the Supremacy Clause of the U.S. Constitution.⁴

New York State has strong provisions for home rule, granting substantial authority to localities to govern their own affairs.⁵ This is a

1. In this article, the term "sewage sludge" will be used. This term will replace other names, such as "biosolids." This measure is being taken to avoid confusion over terminological differences. Additionally, the term "sewage sludge" is used in the major federal regulations on the topic. "Part 503 defines sewage sludge as a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works." OFFICE OF WASTEWATER MGMT., U.S. ENVTL. PROTECTION AGENCY, EPA/832/R-93/003, A PLAIN ENGLISH GUIDE TO THE EPA PART 503 BIOSOLIDS RULE 4-5 (1994). "Part 503" refers to the major federal regulations pertaining to sewage sludge and septage.

2. "Domestic septage is defined in the Part 503 regulations as the liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or a similar system that receives only domestic sewage.... domestic septage may include household septage as well as septage from establishments such as schools, restaurants, and motels, as long as this septage does not contain other types of wastes than those listed above." OFFICE OF RESEARCH & DEV., U.S. ENVTL. PROTECTION AGENCY, EPA/625/R-95/001, PROCESS DESIGN MANUAL: LAND APPLICATION OF SEWAGE SLUDGE AND DOMESTIC SEPTAGE 129 (1995).

3. See U.S. CONST. art. I, § 8, art. II, § 2, art. III, § 2, and amend. X.

4. See *id.* at art. VI, cl. 2.

5. See N.Y. CONST. art. IX, § 1.

critical issue for localities wishing to regulate the land application⁶ of sewage sludges and septage. Several states with lesser home rule allowances have denied municipalities full authority in this arena.⁷ Some states have adopted laws that, in effect, preclude municipalities from exceeding state standards.⁸ However, a question that remains is the right of a municipality to regulate specific areas that state rules do not address. The answer to this question is highly dependent upon the extent of state law in the general topic area. If the topic area is substantially addressed by state law, even if the specific provision is not included, some courts have determined that the state scheme implicitly preempts the local regulation.⁹ So, for example, if state rules do not explicitly address inspection requirements, whether a municipality could adopt rules pertaining to municipal inspection is quite dependent upon the extent of state regulation and the manner in which the courts interpret this regulatory backdrop. While there are some issues germane to all municipalities, the differences between states make it infeasible to generalize. This article focuses on New York State.

The initial questions might then be the following: What is sewage sludge? and Why is it a problem? Sewage sludge is essentially what is left over after treatment of wastewater. When wastes from homes, businesses, industries, and streets are discharged into sewer systems, those systems transport the wastes to a treatment plant. During the purification process for the effluent water, sewage sludge is produced containing the materials processed out of the water. As our society has demanded cleaner water, the quantity of sludge produced has increased.

As the United States moves through periods of regulation and deregulation, its decisions shape sewage sludge and septage disposal choices. Land application represents the most common method of sludge management in the United States. Application of sewage sludges to agricultural lands is increasing. This use represents an economical disposal option and provides the benefit of recycling the nutrients and organic

6. "Land application is the application of [sewage sludge] to land to either condition the soil or to fertilize crops or other vegetation grown in the soil." OFFICE OF WASTEWATER MGMT., *supra* note 1, at 25. The same definition applies to septage. The USEPA guidelines specify that sewage sludge and septage is to be applied at rates consistent with the nitrogen needs of the crops grown on the land.

7. See *Franklin County v. Fieldale Farms Corp.*, 507 S.E.2d 460 (Ga. 1998); *County of Grundy v. Soil Enrichment Materials Corp.*, 292 N.E.2d 755 (Ill. App. Ct. 1973); *Perry v. Providence Township*, 578 N.E.2d 886 (Ohio Ct. App. 1991); *Talbott County, Md. v. Skipper*, 620 A.2d 880 (Md. 1993).

8. See William Goldfarb et al., *Unsafe Sewage Sludge or Beneficial Biosolids?: Liability, Planning, and Management Issues Regarding the Land Application of Sewage Treatment Residuals*, 26 B.C. ENVTL. AFF. L. REV. 687, 713-17 (1999).

9. See *id.*

matter sludges contain. Since 1988, land application of sewage sludges has increased from 33 percent of all sewage sludges generated to 59 percent today. As of 1998, approximately 1,000 dry tons of sewage sludges are produced per day in New York State.¹⁰ The majority (51 percent) of the sludges generated are "beneficially used" (i.e., composted, heat dried, chemically stabilized, or directly land applied).¹¹ This represents an increase from just five percent in 1989.¹² While some sewage sludges and sludge-derived products are shipped out of state,¹³ the practice of land application of sewage sludges and sludge products is increasing in New York.¹⁴

Although the combination of federal and state regulatory requirements is the initial base for sewage sludge management decisions, local regulations may also play a part. For individuals, the local regulatory scheme may be the most important, because it is often local regulations that most significantly impact those elements critical to neighbors of land application sites.

I.B. The Challenge for Local Governments

Local governments are faced with critical choices regarding how to manage the land application of sewage sludges and septage in the face of an uncertain scientific, legal, and policy framework and the often vigorous citizen concern due in part to nuisance and health issues. The choices made by a locality can seriously affect both the quality of life for residents and the farming practices within the community. Municipalities may be involved both as entities responsible for the disposal of sewage sludges produced at municipal waste water treatment plants and also as entities seeking to protect the health, safety, and welfare of their citizens who may object to land application of sewage sludges and septage, especially if imported from another area.

Given the significant federal and state regulations regarding sewage sludge and septage land application, what is the role of local regulation in this context? "Increased participation by local government in the environmental arena can enhance environmental protection by tailoring federal and state programs to fit local needs and concerns."¹⁵ Since land application involves decisions made about the local environment, municipalities have a legitimate role in evaluating federal and state policies

10. See DIV. OF SOLID & HAZARDOUS WASTE, NY DEP'T OF ENVTL. CONSERVATION, BIOSOLIDS MANAGEMENT IN NEW YORK STATE 1 (1998).

11. See *id.* at 5, 23.

12. See *id.* at 21.

13. Note also that New York State imports sludge from other states.

14. See DIV. OF SOLID & HAZARDOUS WASTE, *supra* note 10, at 10.

15. Goldfarb et al., *supra* note 8, at 711-12.

in the light of the environmental and social conditions in their area. For example, practices appropriate for agricultural lands on Long Island, New York, may not be appropriate for the land use patterns, soils, or water conditions in upstate New York. "In fact, municipalities are authorized to regulate facilities more vigorously than the state and can even ban facilities outright."¹⁶

Additionally, societal groups may come down on different sides of this issue. Many farmers do not want requirements imposed upon them by localities. This observation does not apply to all farmers; in fact, some farmers support limitations on the use of sewage sludges and septage on farmlands because of concerns about contamination of soils, water, and crops or concern about the public perception of such contamination. Some municipalities have looked upon the problem of a potential loss of confidence in the locality's agricultural products as a justification for local regulation.¹⁷ On the other hand, sometimes farm organizations have a different position. For example, the California Farm Bureau adopted a policy in 1999 that stated their support for "the use of site-specific environmental assessment which [sic] carefully considers among other things, the levels of heavy metals in the soils and water supply in the area."¹⁸ Residents and especially close neighbors often have serious concerns about sewage sludge and septage land application in their area. Local governments are the most accessible arenas in which concerned parties can seek assistance to address their concerns.

I.C. Purpose of this Article and Outline of Structure

The purpose of this article is to help municipalities address the role they might play in the regulation of sewage sludge and septage land application by examining existing local laws. As noted above, municipal powers vary among the states. While many of the points raised herein may be widely applicable, the focus of this article is on New York State. New York municipal laws will be examined in the context of (1) the regulatory framework of the federal government and New York State, and (2) current case law regarding various forms of sewage sludge and septage regulation.

16. Daniel A. Spitzer, *Maybe in My Backyard: Strategies for Local Regulation of Private Solid Waste Facilities in New York*, 1 BUFF. ENVTL. L.J. 87, 89 (1993). Note that this assertion is in relation to solid waste management facilities generally, and not specifically directed to land application facilities.

17. See KERN COUNTY, CA., KERN COUNTY ORDINANCE CODE § 8.05.010 (1999) (regulating biosolids land application); RAPPAHANNOCK COUNTY, VA., GENERAL ZONING PROVISIONS, ch. 170, § 38(A)(7) (1994).

18. California Farm Bureau Federation, *Farm Bureau Adopts 1999 Policy*, FARM BUREAU NEWS RELEASES, Dec. 11, 1998.

This article first cites specific examples of local laws that address particular concerns such as water contamination or liability. Then the challenges to local laws that are demonstrated by applicable case law are examined. It is hoped that interested readers will find the example-based format useful.

II. NATIONAL AND NEW YORK STATE LAW AND REGULATIONS

The land application of sewage sludges and septage in New York State is governed by substantial federal and state regulations. The major pieces of legislation and regulation that affect the land application of sewage sludges and septage are outlined in this section. This section will provide a broad overview for interested readers; it is not intended to be conclusive, to serve as legal advice, or to encompass the entire field of regulatory action in this area. Municipalities should obtain a thorough understanding of the applicable federal and state rules prior to adopting any local ordinance.

II.A. Major Federal Governing Regulations

II.A.1. Regulatory Background

The U.S. Environmental Protection Agency (EPA) has regulated sewage sludges and septage for many years. There have been several rounds of regulation pertaining to sewage sludges and septage.¹⁹ The current regulations (the Part 503 Rule) will be discussed below. The initial regulation, 40 Code of Federal Regulations (CFR) Part 257, has been, for the most part, superseded by Part 503.²⁰ However, Part 257 governed the land application of sewage sludges from 1979 to 1993.²¹

One of the primary disposal methods for sludges until the beginning of this decade, especially for coastal states like New York, was ocean dumping. However, in 1988 Congress passed Public Law 100-688, otherwise known as the Ocean Dumping Ban Act (the Act).²² The effective date of the Act was January 1, 1992.²³ The Act banned the disposal of sewage sludges at sea and in New York's Staten Island landfills.²⁴ Since New York City had been engaged in ocean dumping, this act had particular significance for New York State because the city had to find another outlet for disposal of its sewage sludge. The relationship between small towns and

19. See OFFICE OF RESEARCH & DEV., *supra* note 2, at 11.

20. See *id.*

21. See *id.*

22. See Ocean Dumping Ban Act of 1988, Pub. L. No. 100-688, 102 Stat. 4139.

23. See *id.* § 104B(a)(1)(B).

24. See *id.* § 104B(a), §104C.

large waste disposers, such as those employed by large municipalities like New York City, will be discussed further below.

II.A.2. Part 503 Rule

The Part 503 Rule is the primary federal regulation dealing with septage and sewage sludge land application. In many ways, its requirements are similar for septage and sewage sludges, but septage is treated more leniently in some cases. The less stringent requirements in the Part 503 Rule for septage spreading apply only for non-public contact sites. For areas where the likelihood of public contact is high, the more stringent rules that apply to sewage sludges are used.²⁵

II.A.2.a. Sewage Sludges

Since the beginning of the modern environmental movement in the late 1960s and early 1970s, the federal government has been increasingly involved in the regulation of pollutants. One of the most significant pieces of legislation in this area was the Clean Water Act (CWA) enacted in 1972.²⁶ The CWA was followed by several rounds of amendments, including the CWA Amendments of 1987 (the Amendments).²⁷

The Amendments required the EPA to develop regulations regarding the use and disposal of sewage sludges.²⁸ In response, the EPA developed the regulations that currently control the use of sewage sludges. These regulations were subsequently published as 40 C.F.R. Part 503 (the Part 503 Rule) on February 19, 1993, and became effective on March 22, 1993.²⁹ The Part 503 Rule, as amended,³⁰ has remained the controlling federal regulation on the use of sewage sludges.

States adopting their own rules are required to comply, at a minimum, with the federal rules, but are permitted to adopt more stringent regulations.³¹ Specifically, Section 405(e) of the CWA states that the "determination of the manner of disposal or use of sludge is a local determination."³² This provision opens the door for states and localities to adopt regulations to fit local needs, provided that the federal regulations form the minimum standards upon which the state and local regulations build. Additionally, the Part 503 Rule specifically states "nothing in this part

25. See OFFICE OF RESEARCH & DEV., *supra* note 2, at 129.

26. See Goldfarb et al., *supra* note 8, at 697.

27. See OFFICE OF WASTEWATER MGMT., *supra* note 1, at 1.

28. See *id.*

29. See *id.*

30. See 59 Fed. Reg. 9095 (Feb. 25, 1994); 60 Fed. Reg. 54,764 (Oct. 25, 1995); 64 Fed. Reg. 42,552 (Aug. 4, 1999).

31. See OFFICE OF WASTEWATER MGMT., *supra* note 1, at 1.

32. 33 U.S.C. § 1345(e) (1994). See also Goldfarb et al., *supra* note 8, at 709.

precludes a State or political subdivision thereof or interstate agency from imposing requirements for the use or disposal of sewage sludge more stringent than the requirements in this part or from imposing additional requirements for the use or disposal of sewage sludge."³³

The Part 503 Rule consists of several main sections. The first section is the general provisions of the rule.³⁴ The second section establishes the requirements for land application of sewage sludges.³⁵ This is the primary section of concern for this article. The land application requirements divide sewage sludges into several categories: Class A, Class B, Cumulative Pollutant Loading Rate (CPLR), and Annual Pollutant Loading Rate (APLR).³⁶ Classes A and B refer to the level of pathogen reduction required. The second section also establishes pollution concentration limits for eight contaminants applicable to both Class A and Class B sludges.³⁷ CPLR and APLR sludges exceed one or more of these pollutant concentration limits, but meet ceiling concentration limits.³⁸ Sludges meeting the pollutant concentration limits and Class A pathogen and vector reduction standards are essentially deregulated. For CPLR and APLR sludges, the total quantity of sludge-applied metals must be calculated and application must cease when cumulative loading limits are reached.³⁹ Additionally, the second section establishes requirements pertaining to public and animal contact as well as delay in harvesting crops when Class B sludges that contain viable pathogens are spread.⁴⁰ The second section also establishes requirements for different types of crops and establishes record keeping requirements.⁴¹ The third section of the Part 503 Rule pertains to sewage sludges placed on a surface disposal site such as a landfill.⁴² The fourth section details methods for pathogen and vector reduction.⁴³ Finally, the fifth section establishes requirements for sludges fired in a sewage sludge incinerator.⁴⁴

There are provisions for compliance and enforcement of the Part 503 Rule. One of the primary provisions is the "self-implementing" nature of the regulations.⁴⁵ This means that people to whom the rules apply are

33. Standards for the Use or Disposal of Sewage Sludge, 40 C.F.R. § 503.5(b) (1999).

34. See OFFICE OF WASTEWATER MGMT., *supra* note 1, at 6.

35. See 40 C.F.R. §§ 503.10–503.18.

36. The designation "CPLR" applies to bulk sewage sludge while "APLR" applies to sewage sludge sold or given away in containers.

37. See 40 C.F.R. § 503.13.

38. See OFFICE OF WASTEWATER MGMT., *supra* note 1, at 6–9.

39. See 40 C.F.R. § 503.13.

40. See OFFICE OF WASTEWATER MGMT., *supra* note 1, at 38.

41. See *id.* at 38–39, 49, 51.

42. See 40 C.F.R. §§ 503.20–503.28.

43. See *id.* §§ 503.30–503.33.

44. See *id.* §§ 503.40–503.48.

45. See OFFICE OF WASTEWATER MGMT., *supra* note 1, at 11.

required to follow those rules but are not required to obtain a permit. The regulations allow civil fines and prison terms for individuals against whom the EPA has taken successful enforcement action and allows individuals to bring civil suits where the EPA is unable to take enforcement action.⁴⁶

II.A.2.b. Domestic Septage

The Part 503 Rule also addresses the land application of domestic septage. "The Part 503 regulation...includes simplified requirements for the land application of domestic septage....While the Part 503 rule provides minimum guidelines for state programs, individual state regulations may be more stringent."⁴⁷ This is simply a restatement of the idea articulated in the CWA, and outlined above, that states and localities are free to adopt more stringent regulations.

Some of the requirements for domestic septage are similar to those for sewage sludges. As for sewage sludges, domestic septage must be applied to the land in accordance with agronomic rates for the nitrogen demand of the planned crop.⁴⁸ Pathogen reduction measures are also required though they are less stringent. Harvest, grazing, and access restrictions vary with the method of pathogen reduction chosen.⁴⁹ Septage application must also comply with vector attraction reduction practices.⁵⁰ Again, several options are available. Further, applicers are required to insure that the septage applied is from domestic sources only, to certify the pathogen and vector reduction requirements were met, and to maintain a record-keeping system for five years.⁵¹

II.B. Outline of New York State Rules

This article is primarily oriented toward New York State, so a brief discussion of the pertinent laws and regulations is necessary. "Congress has, for the most part, reserved local solid waste management to state and local governments...the collection and disposal of solid wastes should continue to be primarily the function of State, regional, and local agencies."⁵² New York State has unique regulations that govern land application of sewage sludges and septage. The following sections outline the requirements of these state regulations, which are more stringent than

46. *See id.* at 15.

47. OFFICE OF RESEARCH & DEV., *supra* note 2, at 129.

48. *See id.* at 130-31.

49. *See id.* at 131-32.

50. *See id.*

51. *See id.* at 133.

52. Jason M. King, *Standing in Garbage: Flow Control and the Problem of Consumer Standing*, 32 GA. L. REV. 1227, 1227 n.3 (1998) (quoting 42 U.S.C. § 6901(a)(4) (1994)).

the federal rules in some respects. When a conflict exists between federal and state laws, the more stringent of the two would apply to land application operations within New York State. However, several other legal and regulatory issues affect local regulation of land application. Concepts like the scope of home rule permitted in New York, as well as laws such as the New York right-to-farm laws are also relevant and will be addressed here.

II.B.1. Solid Waste Management Facilities (6 NYCRR Part 360)

The primary rules regulating sewage sludges and septage in New York State are contained in 6 New York Codes, Rules, and Regulations (NYCRR) Part 360 (Part 360), which were most recently revised on November 26, 1996.⁵³ "The criteria applicable to [sewage sludge] beneficial use are found in Subparts 360-1 (General Provisions), 360-4 (Land Application Facilities), and 360-5 (Composting Facilities)."⁵⁴ The New York State Department of Environmental Conservation (DEC) is currently revising these regulations, in part, to ensure that in all aspects they are at least as strict as the federal Part 503 Rule.⁵⁵

Part 360 provides for several requirements. Sewage sludges must be monitored for specific contaminants.⁵⁶ Sewage sludge products that meet Class A pathogen elimination requirements and meet specified pollutant limits are regulated under permits granted by DEC to the sludge processing facility.⁵⁷ Thus, it is the processing facility and not the land application project that is regulated. Currently all New York State facilities and products are regulated under the section of Part 360 pertaining to compost. In contrast, direct land application of sewage sludges requires a permit for the specific agricultural situation, taking into account potential impacts on human and animal health, on the soil biota, and on the permanent vegetation; the potential benefit of the material; and the suitability of the site.⁵⁸

Part 360 contains operational requirements as well. The rules do not allow the use of sewage sludges and sludge products on crops for direct human consumption including use in domestic vegetable gardens.⁵⁹ The sewage sludges and septage to be land applied may not exceed contaminant concentrations and must be tested on an annual basis.⁶⁰ All sewage sludges

53. See DIV. OF SOLID & HAZARDOUS WASTE, *supra* note 10, at 24.

54. *Id.*

55. See *id.* at 25.

56. N.Y. COMP. CODES R. & REGS. tit. 6, §§ 360-4.6(c), 360-4.3(h)(2) (2000).

57. See *id.* § 360-4.4.

58. See *id.* § 360-4.2.

59. See *id.* § 360-4.4(r).

60. See *id.* § 360-4.4(a) & (c).

and septage must be stabilized prior to application using aerobic digestion, air drying, anaerobic digestion, composting, lime stabilization, or another equivalent method.⁶¹ Other requirements for direct land application (as opposed to the use of sludge products) include provisions for a maximum slope, a minimum depth to bedrock, time periods for incorporation, minimum soil pH, and restrictions on crops, public access, and grazing.⁶² Part 360 also contains reporting requirements and management plan requirements.⁶³

Part 360 sets up the basis for sewage sludge and septage land application in New York State. Its rules address many aspects of the land application process. However, there is one large exception to Part 360, and it is addressed in 6 NYCRR Part 364 (Part 364) discussed below.

II.B.2. Waste Transporter Permits (6 NYCRR Part 364)

New York State sets up a divided regulatory scheme depending on the size of the hauling operation. When a hauler operates two or fewer trucks, they are subject to the provisions of Part 364, instead of Part 360 outlined above.⁶⁴ Sites receiving septage only from these small haulers are exempt from the permitting requirements of Part 360.⁶⁵ Similarly, sites using only sewage sludges from treatment plants "with a combined design flow of not more than 100,000 gallons per day operating under a Part 364 waste transporter permit are exempt from Part 360 permit requirements, although they must comply with operational requirements specified in Section 360-4.4."⁶⁶ Part 364 provides for less extensive rules for these smaller operations than would be the case under Part 360.⁶⁷

Part 364 rules require small haulers to obtain site-specific permits from the appropriate regional office of the DEC.⁶⁸ There is considerable variation among the regional DEC offices with respect to the interpretation of the permit requirements.⁶⁹ Considering this variation, it is beyond the scope of this article to report exhaustively on specific requirements that may vary with particular permits. However, these permits generally do not require monitoring of septage quality, but they do specify some separation

61. *See id.* § 360-4.4(b).

62. *See id.* § 360-4.4(e)-(q).

63. *See id.* § 360-4.4(s) & (x).

64. *See* Ellen Z. Harrison, Cornell Waste Management Institute, *Land Application of Septage in NYS 1* (Mar. 17, 1999) (unpublished paper, on file with author).

65. *See* N.Y. COMP. CODES R. & REGS. tit. 6, § 364.1(b).

66. *See id.* § 360-4.1(c)(3) & (5).

67. *See* Harrison, *supra* note 64, at 1.

68. *See id.*

69. *See id.*

from groundwater as well as limitations on the types of crops grown and public access to the site.⁷⁰

Although Parts 360 and 364 are the major state regulations regarding sewage sludge and septage land application, there are several other regulations that are pertinent to localities wishing to regulate the land application of sewage sludges and septage. These laws and regulations will be discussed below.

II.B.3. New York Environmental Conservation Law—State Solid Waste Management Policy (Article 27)

One of the major pieces of New York State law concerning the environment is the New York Environmental Conservation Law (ECL). The section of concern for this article is Article 27, the State Solid Waste Management Policy. One of the most important provisions for localities wishing to regulate sewage sludges and septage land application is Section 27-0711.⁷¹ "It states that a local government can enact laws, ordinances, or regulations as long as they are not inconsistent with the state solid waste law, or regulations promulgated thereunder. If a local law complies with the minimum requirements of state law, rules, and regulations, it will be deemed consistent."⁷² Under this section, the courts have consistently upheld municipalities' stricter regulations.⁷³

This law is significant because it gives New York State localities affirmative powers to regulate land application. As discussed in more detail below, local governments' power is constrained by other state law, but the grant of affirmative powers protects the right of localities to enact regulations.

II.B.4. New York State Agriculture & Markets Law (Article 25-AA)

One of the primary provisions of the New York State laws that impacts local decisions on septage and sewage sludge management is the New York State Agriculture and Markets Law, which includes a right-to-farm provision (AML Article 25-AA § 308).⁷⁴ Right-to-farm laws are popular in the United States, and all 50 states have some form of the law on the books.⁷⁵

Although right-to-farm statutes are typically enacted to protect farm operations from nuisance liability, they also may be used to prohibit

70. See *id.* at 1-2.

71. See Spitzer, *supra* note 16, at 111.

72. *Id.* at 111-12.

73. See *id.* at 112.

74. See N.Y. AGRIC. & MKTS. LAW § 308 (McKinney Supp. 2000).

75. See Neil D. Hamilton, *Right-to-Farm Laws Reconsidered: Ten Reasons Why Legislative Efforts to Resolve Agricultural Nuisances May Be Ineffective*, 3 DRAKE J. AGRIC. L. 103, 103 (1998).

local ordinances from regulating farm activities and agricultural uses of the land. The rationale behind their preemptive power is that as rural areas become more developed, the political power of farmers declines and members of the non-farming community may exercise influence to control agricultural activities. "Thus, these laws attempt to protect farming operations from developmental pressures by broadly defining the agricultural activities that warrant protection."⁷⁶

The Agriculture and Markets Law's right-to-farm provisions have a long history in New York State.⁷⁷ The first version of the law was adopted in 1971, but the most contemporary amendments occurred as recently as 1999.⁷⁸

New York State law provides for the establishment of agricultural districts within the state.⁷⁹ Agricultural districts "may be created in two ways: (1) by the commissioner to protect unique and irreplaceable agricultural lands; (2) on the initiative of farm owners."⁸⁰ The Agriculture and Markets Law also provides for reduced tax assessment for lands outside of an agricultural district that meet certain criteria.⁸¹ The New York State Commissioner of Agriculture and Markets has the power to review farm practices.⁸² In reviewing a particular situation, if the Commissioner determines that a practice is a "sound agriculture practice," then a farmer engaging in that practice within an agricultural district or one who is receiving an agricultural assessment is protected from private nuisance suits.⁸³

Additionally, the New York State Department of Agriculture and Markets (NYSDAM) has a more direct power. It may review local laws to determine whether they "unreasonably restrict or regulate farm operations within agricultural districts" in violation of the Agriculture and Markets Law.⁸⁴ This review can be initiated by the Commissioner of NYSDAM or

76. Goldfarb et al., *supra* note 8, at 715 n.178.

77. See Sean F. Nolan & Cozata Solloway, *Preserving Our Heritage: Tools to Cultivate Agricultural Preservation in New York State*, 17 PACE L. REV. 591, 613 (1997).

78. See N.Y. AGRIC. & MKTS. LAW § 305.

79. See Harrison, *supra* note 64, at 2.

80. Nolan & Solloway, *supra* note 77, at 614.

81. See N.Y. AGRIC. & MKTS. LAW § 306.

82. See *id.* § 308(1).

83. *Id.* § 308(3). Additionally, the 1995 amendments allow the collection of attorneys' fees and costs from the losing parties in these suits "unless the court finds that the position of the plaintiff was substantially justified or that special circumstances make an award unjust." See *id.* § 308-a(2)(a). Provisions such as these often serve to discourage suits because of the risk of the imposition of costs, despite the fact that no instances of the imposition of these fees and costs exist. See Hamilton, *supra* note 75, at 11.

84. N.Y. AGRIC. & MKTS. LAW § 305-a(1).

upon the request of a person within a district.⁸⁵ In order to evaluate local laws, the department uses several factors. The first question is whether the farm is in an agricultural district.⁸⁶ The second evaluates whether the regulated activity "encompass[es] farm operations."⁸⁷ The third is whether the local law is reasonable under the circumstances.⁸⁸ Finally, the fourth is whether it can be shown that the public health or safety is threatened.⁸⁹ Pursuant to Section 305-a (1) of the law, local laws determined to be unreasonably restrictive in this manner may only be sustained by the locality if it can be shown that "the public health or safety is threatened."⁹⁰ Specifically, the section states,

Local governments, when exercising their powers to enact and administer comprehensive plans and local laws, ordinances, rules or regulations, shall exercise these powers in such manner as may realize the policy and goals set forth in this article, and shall not unreasonably restrict or regulate farm operations within agricultural districts in contravention of the purposes of this article unless it can be shown that the public health or safety is threatened.⁹¹

These provisions directly impact localities' ability to regulate land application. Individuals engaged in sound agricultural practices as defined by NYSDAM are protected from private nuisance suits if they are either located within an agricultural district or subject to an agricultural value assessment.⁹² NYSDAM's power to review local laws is limited to the impact of the local laws upon farm operations within agricultural districts.⁹³ Discussion of proposed local ordinances with NYSDAM prior to enactment is encouraged by the Department.⁹⁴

85. See Dep't of Agric. and Mkts., *Local Laws and Agricultural Districts: How Do They Relate?* (Nov. 3, 1997) (on file with authors) [hereinafter NYSDAM] (citing N.Y. AGRIC. & MKTS. LAW § 305-a(1)(b)).

86. See Letter from John F. Rusnica, Senior Attorney, Department of Agriculture and Markets, to Ellen Harrison, Director, Cornell Waste Management Institute, 4 (Dec. 2, 1999) (on file with authors).

87. *Id.*

88. See *id.*

89. See NYSDAM, *supra* note 85.

90. Letter from John F. Rusnica, Senior Attorney, Department of Agriculture and Markets, to Kenneth Nolan, Supervisor, Town of Butternuts, 1 (Sept. 23, 1996) (on file with authors).

91. N.Y. AGRIC. & MKTS. LAW § 305-a (1)(a) (McKinney Supp. 2000).

92. See *id.* § 308(3).

93. See *id.* § 305-a(1).

94. See NYSDAM, *supra* note 85.

II.B.5. New York State Home Rule Requirements

As noted above, another basic element of local regulation is the extent of home rule granted to localities by the state. This varies quite substantially from state to state. New York requirements are fundamental to the ability of localities to adopt regulations regarding land application. This section will outline a brief history of the development of local home rule powers and specify which are most critical for local power over land application activities.

The initial basis for local power over solid waste disposal generally is the police power of local governments, one of the most fundamental powers of localities.⁹⁵ The police power to protect public health and safety has been recognized in New York for well over one hundred years and courts have accepted waste disposal regulation as a public health necessity.⁹⁶ Zoning, another element of police power, can be a useful tool in regulating land application as well.⁹⁷ "Zoning ordinances, as valid exercises of the police power, will be upheld if the restrictions they impose are not arbitrary and bear a substantial relationship to the welfare of the community."⁹⁸ Many localities in New York State have specifically referenced protection of public health and safety, an element of their police power, as a justification for an ordinance.

The local power to regulate solid waste disposal also has roots in the Constitution of New York State.⁹⁹ The Constitution grants authority to local governments to devise regulations regarding "its property, affairs and government" and "the government, protection, order, conduct, safety, health and well-being of persons or property therein" provided those regulations do not conflict with state laws.¹⁰⁰ Although this power has been narrowly interpreted in some areas, it might be used as a source of authority by localities should laws change in the future.¹⁰¹

Finally, another potential source of local power is the Municipal Home Rule Law.¹⁰² This law gives localities the power to create inconsistency between state and local law when (1) inconsistency is not expressly prohibited by the state legislature, (2) the local law seeks to tailor application of state law to fit peculiar local needs, and (3) the local

95. See Spitzer, *supra* note 16, at 115-17.

96. See *id.* at 117-19.

97. See *id.* at 127.

98. *Id.*

99. See *id.* at 122-23.

100. *Id.*

101. See *id.* at 123.

102. See *id.* at 128.

legislature has expressly stated an intention to amend or supersede state law.¹⁰³

In the case of solid waste facilities, localities have been expressly granted authority by the state to make more strict regulations.¹⁰⁴ The basis for local control in the New York Constitution and various state laws is significant for a clear understanding of the durability of this power in the future, should laws change. In New York State, then, localities can act, consistent with these various constraints and provisions.

III. LOCAL ORDINANCES TO ADDRESS LAND APPLICATION CONCERNS

This section provides specific examples of municipal ordinances and describes the different concerns that they address.¹⁰⁵ A later section discusses some of the legal issues that such local ordinances face. Until challenged, local laws would remain in force. Thus, some current local laws may in the future be found to be invalid by the courts if a suit is brought that successfully demonstrates that the law violates some federal or state provisions.

Localities will often have specific concerns they wish to address. The most basic of these is normally the safety of land application. Localities have a responsibility to protect the health and safety of their residents, the public, and the environment. But these are not the only concerns localities must address. Nuisance issues, such as noise and odor, often command a great deal of attention. Health, safety, and nuisance concerns are often the most important to residents, but there are several less "glamorous" issues that may be addressed, such as enforcement, liability, and informed consent provisions.¹⁰⁶ These provisions normally become incorporated into the ordinance as part of a local permitting process for land application activities.

There are many ways to address these issues and they vary in complexity. These ordinances can be as simple as a one-page ban of land application, or as complex as an ordinance regulating a multitude of aspects of land application operations through a permit process as a part of a

103. *See id.*

104. *See* N.Y. ENVTL. CONSERV. LAW §§ 27-0701 & 27-0711 (McKinney 1997).

105. Note that these ordinances have been analyzed in the context of this article. Therefore, the interpretations in this article may or may not be consistent with actual practice or enforcement.

106. Note that federal and state rules address many of these issues specifically. Localities interested in regulating land application should familiarize themselves with the federal and state requirements.

broader solid waste management effort.¹⁰⁷ The next sections address the breadth of activity on this issue.

III.A. Regulation of Sludges by Type

As discussed above, the federal government makes distinctions between sludge types. Some localities have used these distinctions to regulate sewage sludges differently depending on its class. Municipalities should be clear in their rules about whether all sludges and sludge products are being addressed in a like manner or whether different types of materials are being regulated differently.

Under federal rules, Class A and B sludges differ from one another in regard to pathogen and vector reduction requirements. These differences can lead to concerns on the part of localities regarding the safety of Class B application. Concerns include the potential leaching of pathogens to groundwater, movement of pathogens into surface water, airborne transport, and direct contact of people and livestock with the Class B sludges.

Many localities have responded by regulating the classes disparately. Localities sometimes also use disparate requirements for septage land application and sewage sludge land application requirements. Many localities exempt all Class A sludge products or those that are sold in containers and bags from their regulations, as sludges of this type are essentially unregulated by the federal government in the Part 503 Rule. Additionally, adequate enforcement of regulations concerning these products may be difficult to manage. Municipalities might also regulate sludges that do not meet pollutant concentration limits differently.

An example of disparate regulation comes from Auburn, New Hampshire. Auburn prohibits the land application of any sewage sludges or septage with the exception of Class A sewage sludges applied in rural districts.¹⁰⁸ If localities have concerns limited to Class B sludges, then provisions such as these would be appropriate to address those concerns without regulating all sewage sludge land application.

107. In drafting an ordinance, care is required to ensure that it addresses only the activities that are of concern. Activities such as backyard composting or composting of yard wastes may be unintentionally restricted if language is unclear.

108. See Auburn, N.H., *The Use and Disposal of Sewage Sludge and Septage*, art. 3.20, § C (Mar. 14, 1995).

III.B. Regulation of Sludges by Source

Some localities have also attempted to regulate sludges by source in order to restrict out-of-town wastes. Two legal issues arise. One issue discussed below has to do with the Commerce Clause of the U.S. Constitution and pertains to the differential treatment of intra and interstate wastes. The other pertains to differentiating between locally generated and other wastes. A number of localities have tried to exempt their own facilities and operations from the regulations that apply to sewage sludges generated outside their borders. Webster, New Hampshire, adopted a simple ban ordinance with the following language:

[t]he treatment, storage, disposal, and/or land application of municipal sewage sludge, industrial sludge, and products derived from these sludges is prohibited in the Town of Webster, NH. This ordinance shall not apply to any facility owned and/or operated by the Town of Webster for the disposal of septage generated within the Town of Webster, NH.¹⁰⁹

Other localities, such as Starkey, New York, state that only sludge originating in the Town may be land applied within the Town.¹¹⁰ One potential rationale for legitimately differentiating local waste from any exogenous waste might be that the municipality has greater knowledge and control over its own sludge quality.

Some localities do not wish to ban outside sewage sludges and septage altogether, but wish to restrict how much out-of-town waste comes into the town. Ridgeway, New York, has an ordinance containing a provision that no more than 80 percent of the solid waste disposed of in the town can be from outside the town.¹¹¹

Although, as further discussed below, the Commerce Clause of the U.S. Constitution may prohibit differential treatment of in-state and out-of-state wastes, as "case law in New York has developed, the right to exclude

109. Gwen Filosa, *No Sludge in Webster! 155 to 62; no class B, no class A!* SUNDAY MONITOR, Mar. 15, 1998, at B-4. Note also that Orangetown, N.Y. has a similar provision exempting its own sludge from a prohibition against disposal of other sludges. See Orangetown, N.Y., A Local Law Implementing a Waste Flow Enforcement Program in the Town of Orangetown (Mar. 15, 1991).

110. See Starkey, N.Y., A Local Law Intending to Regulate the Disposal of Sludge on Lands Located in the Town of Starkey in Order to Protect the Environment of the Town and to Promote the Health and General Welfare of the Citizens of the Town § V (Sept. 29, 1988) [hereinafter Starkey].

111. See Ridgeway, N.Y., Solid Waste Disposal and Sanitary Landfill Law of the Town of Ridgeway § VI (E) (Jan. 28, 1991).

neighboring in-state communities' garbage has been upheld."¹¹² Some localities have included specific provisions addressing this issue. For example, Augusta, New York, has an ordinance prohibiting land application. The ordinance contains a provision specifically designed to address potential Commerce Clause conflicts:

The provisions of this local law shall be construed in such a manner so as not to violate the provisions of the Interstate Commerce Clause of the Constitution of the United States. In the event that the prohibition established hereunder shall be deemed to violate the Interstate Commerce Clause, this local law shall be interpreted to apply only to intrastate regulation of septic and sludge disposal.¹¹³

This provision would potentially allow the ban on intrastate waste to remain even if it were determined that the local prohibition including interstate wastes violates the Commerce Clause.

III.C. Water Contamination

Land application regulations in New York State and in many other states include provisions that address water quality concerns. New York State rules, for example, include minimum separation distances to bedrock and groundwater, setback requirements from wells and watercourses, and a prohibition against spreading on frozen ground.¹¹⁴ However, water contamination as a result of sewage sludge and septage spreading operations remains a major concern to many localities, especially localities in which residents depend on well water. There are several types of provisions localities use to address these concerns. General water protection provisions will be discussed first, followed by those directed specifically at groundwater¹¹⁵ and surface water.

One provision frequently used in the Northeast deals with snow and ice conditions. The underlying concern is that sewage sludges or septage spread on snow or ice will migrate into surface or groundwater upon thaw. Localities have dealt with this concern in several ways. Laurens New York's ordinance does not allow any spreading between November

112. Spitzer, *supra* note 16, at 121-22.

113. Augusta, N.Y., A Local Law Regulating the Storage and Land Spreading of Septic and Sewage Waste in the Town of Augusta § VII (Local Law #1, 1992).

114. See N.Y. COMP. CODES R. & RECS. tit. 6, § 360-1.14 and 360-4.4 (2000).

115. "Groundwater means water below the land surface in a saturated zone of soil or rock. This includes perched water separated from the main body of groundwater in an unsaturated zone." N.Y. COMP. CODES R. & RECS. tit. 6, § 360-1.2(b)(81).

fifteenth and April first.¹¹⁶ Union, Maine, prohibits winter stacking or storage of sludges on site.¹¹⁷ Similarly, requirements are included that prohibit application on saturated lands and during periods of rain.¹¹⁸

One of the more basic provisions takes the form of a "thou shall not" statement. Washington County Virginia's ordinance includes the statement that "all solids or other wastes shall be deposited in a manner which ensures that no harmful components can reach state waters by natural or other means."¹¹⁹ Localities must decide what level of guidance and requirements they will give to individuals wishing to land apply sewage sludges and septage. Although these "thou shall not" statements reach the core of concern for the locality, it may not be clear what practices are reasonable in order to avoid water contamination.

A requirement that the applicant submit a comprehensive nutrient management plan is a more specific approach. Such a plan, addressing the sources of nutrients for the farm, including manure, and the nutrient needs of crops, is one tool for trying to prevent the excessive application of nutrients, which can lead to water contamination.¹²⁰

III.C.1. Groundwater Contamination

Groundwater provides drinking water to many people, particularly in rural agricultural areas where sewage sludges are likely to be applied. Contamination of groundwater from land application is a potential problem associated with landspreading. Localities have taken measures to reduce the risk to groundwater from landspreading activities. Protection of groundwater from contamination by pathogens such as viruses is one of the reasons behind the restriction or prohibition of land application of Class B sludges in some municipalities. There are other approaches as well.

One method of reducing the risk to groundwater is to control the location of landspreading. Union, Maine, has an ordinance that prohibits land application "over a significant ground water aquifer, primary sand and gravel recharge area or within the recharge area of a public water supply."¹²¹ Another type of location control limits the size of the site for

116. See Laurens, N.Y., Regulations for the Storage, Disposal and Land Application of Septage, Sewage and/or Sludge Wastes, their Derivatives and/or By-Products § VI(1) (Jan. 19, 1999) [hereinafter Laurens].

117. See Union, Me., Town of Union Sludge Ordinance § V (June 22, 1998) [hereinafter Union].

118. See *id.*

119. WASHINGTON COUNTY, VA., MUNICIPAL CODE, part a., art. 10, § 66-883 (1994) (regulating land application of sludge) [hereinafter Washington].

120. See Clinton, Me., Draft Septage and Solid Waste Disposal Ordinance § V(i) (Sept. 1999) (on file with authors) [hereinafter Clinton].

121. Union, *supra* note 117, § V.

land application. One of the many concerns over land application is the cumulative effect of widespread use in one locality. Sandwich, New Hampshire, addresses this problem in part by limiting the size of the application site to 10 acres per year.¹²²

Another type of requirement that serves primarily to protect against groundwater contamination involves the distance between the soil surface and the bedrock layer or water table below. Again, municipalities use a range of distance requirements for these types of provisions. East Kingston, New Hampshire, requires four feet between the bottom of the soil receiving sludge and the bedrock or other impermeable layer.¹²³

Use of provisions such as these may help localities reduce the risk of contamination to groundwater. Risk varies with the environment. Localities in particularly sensitive areas may be able to sustain stricter rules against a challenge. Localities must choose provisions appropriate for their environment and individual needs.

III.C.2. Surface Water Contamination

Localities are often specifically concerned about surface water contamination. Runoff from fields and other application sites directly into local streams and lakes is a potential concern to residents who use and enjoy these resources. Again, there are several methods available to help address these concerns and reduce the risk to surface waters.

One of the most fundamental requirements that serves to help protect surface water is the prevention of direct runoff of the sewage sludge or septage from the surface of the soil. Therefore, many municipal ordinances require sludges to be incorporated into the soil within a specified time period. These vary from specific time periods to "reasonable" time periods. Riverside County, California, allows 24 hours and specifies that the incorporation must be thorough, including residuals from the staging areas.¹²⁴ Groton, New York, allows until 5:00 P.M. on the same day the sludge is applied.¹²⁵ Laurens, New York, contains a provision that is stricter: six hours from spreading until incorporation.¹²⁶ It should be noted that incorporation requirements might also help address other concerns, specifically vector attraction, airborne toxins, and odor. Another method

122. See Sandwich, N.H., Sludge Application Ordinance (Feb. 2, 1998) [hereafter Sandwich].

123. See EAST KINGSTON, N.H., ZONING ORDINANCES, art XIV, § 14.3.14 (1996) (regulating septage/sludge disposal facilities) [hereinafter East Kingston].

124. See Riverside, Ca., An Ordinance of the County of Riverside Regulating the Land Application of Sewage Sludge, Ordinance No. 696, § 9(C) (Mar. 26, 1991) [hereinafter Riverside].

125. See Groton, N.Y., A Local Law Regulating Solid Waste Management Facilities § 4(C)(6) (Mar. 21, 1988) [hereinafter Groton].

126. See Laurens, *supra* note 116, § VI(2).

similar to incorporation requirements is the provision for direct injection into the soil. Starkey, New York, has a provision requiring injection for sewage sludge application and specifying that the sewage sludge must be injected six to eight inches into the soil along paths parallel to the contours of the land.¹²⁷ A third method to prevent direct runoff is to specify soil types for application. For example, Sutton, New Hampshire, does not allow application on "poorly drained or very poorly drained (hydric) soils."¹²⁸ A fourth method for preventing direct runoff is to specify the solid content of the sewage sludge or septage. Groton, New York, specifies a "minimum solid content of twenty (20%) percent shall be allowed to be landsread."¹²⁹ However, these methods to reduce the risk of direct runoff from fields into surface water are not the only options available to localities wishing to reduce the risk of surface water contamination.

Another commonly used provision is to parallel the Part 503 Rule and include a provision specifying the maximum slope of the land application site. Different numbers are used by various localities. Laurens, New York, specifies six percent.¹³⁰ Union, Maine, specifies 15 percent.¹³¹ Sutton, New Hampshire, uses eight percent.¹³² The use of slope requirements prevents sewage sludge and septage from being spread on steep lands, where direct runoff may be more difficult to prevent.

New York State and many localities use buffer zones to protect surface water. These buffer zones can serve to decrease the risk of migration from the site directly into surface water features. Size requirements for buffer zones range from locality to locality. Union, Maine, contains a requirement for a 1,000-foot buffer zone from bodies of water, as does Groton, New York.¹³³ Some localities have also chosen to use buffer zones for floodplains¹³⁴ in order to reduce the risk of movement of sludge off-site during a flood event. Starkey, New York, uses a buffer of 200 feet for distance from the sludge application site to the edge of the floodplain area.¹³⁵

127. See Starkey, *supra* note 110, § VIII & X(O).

128. Sutton, N.H., Land Application of Sewage Sludge, Amendment to the Sutton Zoning Ordinance § N(2)(e) (Mar. 12, 1996) [hereinafter Sutton].

129. Groton, *supra* note 125, § 4(C)(4).

130. See Laurens, *supra* note 116, § VI(1).

131. See Union, *supra* note 117, § V.

132. See Sutton, *supra* note 128, § N(2)(b). Note that this provision only applies to the application of Class B sludge.

133. See Union, *supra* note 117, § V. Note that another requirement (of 500 feet) applies for intermittent streams. See Groton, *supra* note 125, at 4(C)(15).

134. "[T]he land susceptible to being inundated by a flood that has a one percent or greater chance of recurring in any given year (or 100-year floodplain)." N.Y. COMP. CODES R. & REGS. tit. 6, § 360-1.2(b)(67).

135. See Starkey, *supra* note 110, § X(M).

This range of provisions will help to address the risk of surface water contamination. Similar to the provisions relating to groundwater, localities should evaluate these provisions in light of the environmental conditions in their region. Provisions appropriate to their area can be used to address water contamination potential.

III.D. Human Health Risks

Human health risk is one of the major areas of concern for many residents opposed to land application. Therefore, it is likely that this subject area will be of great concern when drafting local regulations to address land application.

III.D.1. Exposure

One of the primary methods for dealing with human health risks is the prevention of exposure. There are several methods used by localities to prevent exposure of both nearby residents and the general public. Similar to surface water contamination, the first such method is the use of buffer zones. Buffer zones can also be used to address other problems, such as odor, because they increase the distance between the site and nearby residents and, therefore, will not be separately addressed in the section on nuisance issues below. Several ordinances have established buffer zones for maintaining distances from nearby property lines. The ordinance of Riverside County, California, contains a requirement for a 50-foot buffer zone from the nearest property line.¹³⁶ However, the ordinance also allows exceptions to this zone with the written permission from the adjacent landowner.¹³⁷ Additionally, it requires a buffer of 500 feet from occupied dwellings and 50 feet from public roads.¹³⁸ Union, Maine, on the other hand, requires 1,000 feet from residences and 500 feet from property lines and public roadways.¹³⁹ Groton, New York, requires that a land spreading facility be at least 2,000 feet from residences or businesses and 200 feet from property lines.¹⁴⁰

Another method of preventing exposure to land application sites is the use of signs, barriers, and other forms of marker. East Kingston New Hampshire's ordinance requires boundary stakes every 50 feet around the site.¹⁴¹ Laurens, New York, parallels that requirement, but requires signs

136. See *Riverside*, *supra* note 124, § 9(K).

137. See *id.*

138. See *id.*

139. See *Union*, *supra* note 117, § V.

140. See *Groton*, *supra* note 125, at 4(A)(15).

141. See *East Kingston*, *supra* note 123, at 14.3.11.

only every 200 feet, and additionally requires berms or barriers around the site.¹⁴²

As mentioned above, incorporation or injection of sludge into the soil can help address human exposure concerns. Although methods such as these to prevent exposure are important, they are not the only types of human health and safety requirements that localities have available.

III.D.2. Food Chain Safety

One area of concern for localities, especially farming communities, is the safety of the local food supply. Communities often depend on agriculture not only for their food supply, but also as a source of economic benefits to the community. Application onto agricultural land carries with it federal and state requirements for harvest and grazing restrictions. Localities have sometimes included harvest restrictions in their own ordinances. Laurens, New York, for example, requires at least one year before any harvest after the last application.¹⁴³ Groton, New York, restricts agricultural use of the land for a minimum of 18 months, and further requires that, prior to agricultural use, the permittee obtain certification by an independent engineer that the site is within limits for pathogens, heavy metals, and other harmful substances.¹⁴⁴ Starkey, New York, does not allow sludge on land used for producing food chain crops for direct human consumption and restricts the growth of these crops for a period of 24 months.¹⁴⁵ Restrictions such as these may serve to allay concerns about the integrity of the local food supply.

III.D.3. Carcinogenicity (Cancer Risks) and Chemical Toxicity

Some localities adopt provisions aimed at a specific type of risk. Often these are targeted at a specific chemical of concern to residents. For example, Starkey, New York, provides that "sludge containing polychlorinated biphenyls [sic] in concentrations greater than 10 mg/kg (dry weight basis) shall not be injected in the land."¹⁴⁶ Provisions such as these can be used when specific contaminants are a particular cause for concern. Localities may be able to respond more rapidly to new scientific information or uncertainty regarding contaminants than federal or state governments.

142. See Laurens, *supra* note 116, at § VI(13). Note also that Laurens specifies that the signs must contain the skull and crossbones and be maintained on the site for one year.

143. See *id.* at § VI(2).

144. See Groton, *supra* note 125, § 4(C)(1).

145. See Starkey, *supra* note 110, § X(R)-(S).

146. *Id.* § X(F).

III.D.4. Airborne Toxins

Concerns about the potential for airborne toxins and pathogens impacting human health may also lead municipalities to establish restrictions. These include restricting sludge use to Class A materials that are essentially pathogen free. Measures such as restrictions on the stockpiling of sludges and requirements to incorporate sludges into the soil within a short time may reduce the potential for migration of airborne contaminants. They also help to address odor concerns. Section III.C.2 describes incorporation requirements of several municipal ordinances.

III.D.5. Animal Health Risks

There are also concerns regarding the impact of land application on animal health. Sewage sludges and septage are usually applied in rural areas where both wild and domesticated animals abound. Some animals are a source of food for people; others are valued for their contribution to the character of the community. For whatever reason, localities may wish to include provisions protective of animal health in any ordinance they devise.

Similar to the reduction of human health risks, one of the most basic provisions for the protection of animal health is the limitation of exposure. Since signs are not effective for animals (possibly not for some humans either), another possible provision is to include barrier requirements. Lansing New York's ordinance includes a provision for dikes or berms to be used to surround sludge application sites.¹⁴⁷ Requirements for sludge to be incorporated into the soil will also provide a barrier to direct contact of animals. Another method applicable to domesticated animals is the use of grazing restrictions. Laurens, New York, restricts grazing for one year after the last application.¹⁴⁸

These provisions may or may not serve to address all of the concerns regarding animal health, but they may reduce the risk to animals or to people ingesting animal products from land application activities. Localities should pick provisions that address the issues particular to their area, whether those address primarily domestic or wild animals.

147. See Lansing, N.Y., A Local Law Regulating Solid Waste Management Facilities § 4(C)(7) (Mar. 14, 1988).

148. See Laurens, *supra* note 116, § VI(2).

III.E. Soil Contamination (Long Term Productivity Problems) and Plant Health Risks (Phytotoxicity)

There is scientific debate concerning the potential for the long-term application of sewage sludges to agricultural lands to cause a decline in soil productivity.¹⁴⁹ This may be of particular concern to localities that depend on agricultural production and want to ensure healthy farmland into the future. Localities have used several different tactics to reduce the risk of soil contamination.

As with human and animal health concerns, the reduction of exposure of the land is a critical factor to reduce risk. Therefore, one of the methods to reduce risk is to limit the amount or frequency of application. Sandwich New Hampshire's ordinance limits the application of sewage sludge to a site to once every five years.¹⁵⁰ Another potential method to reduce risk is to reduce the volume of sewage sludge allowed to be land applied at any one site. Laurens, New York, uses such a method by limiting application to 20,000 gallons per acre per year or less.¹⁵¹

Similar to soil contamination, many localities are concerned with the uptake of metals and other substances from the sludge into plants. One method localities have used to address this concern is to require that the soil pH be maintained at certain levels to reduce the potential for uptake. Starkey, New York, has an ordinance containing the following provision: "Soil ph [sic], if below 6.5 shall be amended to a ph [sic] of 6.5 or greater during periods of sludge injection, and the soil ph [sic] shall be maintained at 6.5 or greater for a period of three years after final sludge injection."¹⁵²

Again, these provisions are intended to reduce risk. Localities should be aware, however, that various plants and soils respond differently to contaminants. Therefore, as with the other provisions outlined in this article, localities should choose provisions that are tailored to fit the soils and plants found in the locality.

III.F. Nuisance Problems

Nuisance problems are a common difficulty between rural landowners and local farmers. Land application of sludges is of particular concern since odors can be strong and trucks from outside the community may be traversing local roads. In response, localities may introduce rules to

149. See Ellen Z. Harrison et al., *Land Application of Sewage Sludges: An Appraisal of the U.S. Regulations*, 11 INT'L J. ENV'T & POLLUTION 1, 1 (1999).

150. See Sandwich, *supra* note 122.

151. See Laurens, *supra* note 116, § VI(7).

152. Starkey, *supra* note 110, § X(H).

address these problems. These provisions vary from specific requirements for the methods of control to a complaint-based system that requires less than x number of complaints during any one period. Again, localities sometimes use "thou shall not" type provisions. For example, Starkey, New York, includes a provision in its local law that reads, "the operator shall operate the site to control vectors, pathogens and odors."¹⁵³ As above, the methods used depend on the amount of guidance localities wish to include in their provisions to prevent future disagreements over what actions are reasonable or required by the ordinance.

III.F.1. Odor

One of the major nuisance problems associated with land application is odor complaints from nearby residents. There are several methods to address odor problems. As noted above, incorporation and direct injection as well as buffer requirements can be used to help deal with odor problems, so these solutions will not be addressed again here.

A specific concern once the sludge is on-site is complaints from nearby residents. There are several types of provisions available. Starkey, New York, has a sludge ordinance containing a provision for odor complaints. The ordinance specifies that if 10 or more verified complaints occur within the space of one year, the land spreading facility will be shut down until the odor problem can be eliminated.¹⁵⁴ This method serves as a means to address odor only if it is actually a problem to the local residents and if it is verified.

Having a system in place to address easily foreseeable problems like odor is a straightforward way to prevent future difficulties. Odor problems are one of the most important issues for nearby residences. Sites operated without methods for addressing odor complaints can seriously impact the quality of life for neighbors. This can easily go beyond simple aesthetic issues, and can even impact the value of the neighbors' residences. Localities that include provisions to address odor will probably be more likely to adequately address the concerns of residents. However, odors are typical of agricultural operations and, thus, some level of odors may be protected under right-to-farm provisions for operations within agricultural districts. It may also be hard to differentiate between sewage odors and those generated by manure; thus, enforcement of an ordinance that treated these sources differently might present difficulties.

153. *Id.* § X (E).

154. *See id.* § IV. Note that a "verified complaint" is any complaint received by the Town officer that can be verified by the officer to be from the sludge operation (not other agricultural odors). Any complaints received within one 24-hour period are considered one complaint for the purposes of the ordinance.

III.F.2. *Other Nuisance Issues*

Clearly, the above listed issues are not the only nuisance issues of concern to localities. Residents, neighbors, and the general public may also be disturbed by various other elements of a land application operation. When these issues are of concern to residents, localities may choose to include provisions in their ordinances to address these issues.

One complaint sometimes associated with land application operations is the noise and activity of sewage sludge or septage delivery and application. Residents in some areas have reported middle-of-the-night truck visits. In some cases, this has resulted in concern over what activities were occurring and whether those activities were legal. Localities have responded to these concerns by limiting the time of day for land application operations (including both delivery and land spreading). Laurens, New York, restricts land application to the hours between 8:00 A.M. and dusk.¹⁵⁵

Another problem often associated with land application activities is complaints about attraction of flies, rats, gulls, and other animals to the site. Similar to other nuisance issues, vector attraction can be addressed by several means already discussed. Specifically, vector attraction can be reduced by incorporation and injection provisions and the associated nuisance issues for neighbors can be further reduced with the use of buffer zones.

III.G. **Uncertainty and Liability**

There are several reasons for uncertainty in sewage sludge and septage regulation, not the least of which is the sludge itself. According to the Toxics Release Inventory, 269,770,149 pounds of toxic chemicals and other substances considered hazardous by the federal government were released into sewage treatment plants during 1998.¹⁵⁶ The contaminants present in a sludge depend in part on the particular industries discharging into that sewer system. Since most state rules only require that sludges be tested for a very limited array of contaminants and then only periodically, municipalities are likely to have little information about the particular sludges that may be applied within their borders. There are several ways localities can address concerns about uncertainty. Additionally, there are

155. See Laurens, *supra* note 116, § VI(9).

156. See U.S. ENV'T'L PROTECTION AGENCY, 1998 TOXICS RELEASE INVENTORY PUBLIC DATA RELEASE REPORT 2-12 (2000), *chapter two available at* http://www.epa.gov/tri/tri98/pdr/chap_2.pdf. Note that this is a combination of the 3,045,974 pounds transferred to publicly-owned treatment works (POTWs) for disposal and the 266,724,175 pounds transferred to POTWs for further waste management and additionally includes only reported releases.

several groups and individuals to be addressed: the locality, the farmer, and the residents, to name a few.

A municipality might include a provision for testing of the particular sludges land applied within their borders as a means to address uncertainty as discussed below. Testing of soils prior to and subsequent to application might also be required. A specific list of parameters, testing protocol, and frequency might be specified.

As addressed above in the section on regulating sewage sludges by source, concerns about the quality of sludges may be a motivation for a municipality to restrict land application to sludges generated within the municipality, since there could be greater knowledge and control over non-residential inputs to the sewer system and over sludge quality.

Liability concerns may encourage a municipality to include a provision that requires applicers or operators to carry liability insurance to cover any losses resulting from their activities. Washington County, Virginia, has an ordinance containing a provision requiring a \$5,000,000 policy.¹⁵⁷ Riverside County California's ordinance contains a provision that requires a bond equal to the average of two months of expected gross income derived from the transportation and use of the sludge to guarantee performance.¹⁵⁸ Pendleton, New York, authorizes three types of bonds: performance bonds, restoration bonds, and penalty bonds, which can be required by the town prior to issuance of a permit.¹⁵⁹ As these examples show, options range from specific monetary amounts to amounts keyed to the economic benefit of the activity. If localities choose to use these measures, caution should be exerted to make sure that the policies required would actually cover the types of losses contemplated by the locality.

If localities do not wish to include provisions for insurance and bonds, but remain concerned about liability, there are other provisions requiring less implementation. Sandwich, New Hampshire, includes a provision requiring landowners to sign a statement with the following language: "landowners may be liable for any damage due to land spreading of sludge. Therefore, landowners should carefully research all available information on this process."¹⁶⁰ A similar provision requires the use of a disclosure statement by the applicer or producer to be given to the owner of the land, normally a farmer. Stanislaus County, California, has a draft disclosure statement that includes a definition of sewage sludge, a note regarding the applicable regulations (federal, state, and local), the major

157. See Washington, *supra* note 119, at art. X, § 66-882, pt. 3.

158. See Riverside, *supra* note 124, § 8.

159. See Pendleton, N.Y., Solid Waste Management Facility, Incineration, Recycling and Landfills Law, art. VIII(1) (Local Law #1, 1988) [hereinafter Pendleton].

160. Sandwich, *supra* note 122.

benefits of sewage sludge application, and the potential problems with application.¹⁶¹ These types of requirements help to ensure that the farmer or landowner gets adequate information.

However, the current landowner is not the only person with which localities are concerned. Some localities have inserted provisions that require applicators to record application information in the local land records so that future landowners are aware of the sludge use. For example, Sandwich, New Hampshire, includes the following provision: "[t]he Town will keep records of the land application of sludge on file at the town office for a period of 25 years from the last application date."¹⁶² Some concern has been expressed regarding provisions such as these. Farmers have complained that recording provisions may scare away potential buyers because they believe anything recorded is a potential legal encumbrance on the land.

Concerns about illegal dumping and identification of the site operator may be addressed through a provision requiring that trucks delivering sludge or septage be clearly labeled so that the hauler, generator, and cargo are identified.¹⁶³ Another method for dealing with uncertainty issues is to attempt to address possible problems in advance. Some ordinances require potential applicators to discuss emergency plans in advance as a part of the application process in order to obtain a permit for sewage sludge application. Pendleton, New York, for example, contains a provision requiring the operator to submit a plan describing the "corrective and remedial action to be taken in the event of equipment breakdowns; ground, surface water, or air contamination resulting from the facility's operation; fires; and/or spills."¹⁶⁴

III.H. Agricultural Districts

The right-to-farm provision in New York State is a potential source of constraints for localities wishing to regulate land application. There are several ways this has been directly addressed by localities in New York. Laurens, New York, creates the following exemption for the right-to-farm issue:

Nothing contained herein shall be deemed to limit the right to farm as set forth in Article 25-AA of the N.Y.S. Agriculture

161. See Stanislaus County, Cal., Draft Disclosure Statement Regarding Land Application of Sewage Sludge in the Unincorporated Area of Stanislaus County (n.d.) (unpublished document, on file with authors).

162. Sandwich, *supra* note 122.

163. See Clinton, *supra* note 120, § VII(c).

164. Pendleton, *supra* note 159, at art. V(1)(a).

and Markets Law (the "Right to Farm Act"). Notwithstanding any other provision herein, no "sound agricultural practice" as defined in said statute shall be deemed prohibited by or under this ordinance or subject to the permit requirement herein.¹⁶⁵

This provision serves to specifically exempt activities protected under the right-to-farm rules. Therefore, if NYSDAM determines at any future date that sewage sludge or septage land application is not a "sound agricultural practice" then the ordinance would not need to be revised. However, NYSDAM has determined that even connecting the exemption to practices determined to be sound agricultural practice may constitute an unreasonable restriction of farm operations in violation of Section 305-a of the Agriculture and Markets Law, because these practices are not defined in advance by the Agriculture and Markets Law but are rather determined by the Commissioner's case-by-case review.¹⁶⁶

Other localities have taken a different approach to exemption issues. A more broad exemption is contained in the ordinance of Napoli, New York. The language of this ordinance exempts "any farming operations" from the provision of the local law.¹⁶⁷ This exemption would apply to more than operations within agricultural districts, including farms outside agricultural districts that do not have agriculture assessments and that would not be protected under the Agriculture and Markets Law.

Allowing exemptions from the law for farms or agricultural districts should be a careful decision of a locality. Allowing these exemptions may prevent difficulties posed by the right-to-farm rules. However, exemptions that are too broad may serve to undermine the purposes of the ordinance.

III.I. Monitoring Issues

As a result of the uncertainty concerns discussed above, as well as concern over environmental responsibility and health and safety, many communities are interested in establishing procedures and requirements for monitoring land application sites. Properly conducted, monitoring can provide the concrete data necessary for adequate assessment of risks associated with land application. The mere presence of a monitoring system can serve to reassure people with concerns. Several interrelated issues should be considered regarding monitoring provisions.

165. Laurens, *supra* note 116, § X.

166. See Letter from John F. Rusnica to Ellen Harrison, *supra* note 86, at 4.

167. Napoli, N.Y., Solid Waste Disposal Law of the Town of Napoli, § IV (Local Law #1, 1990).

III.1.1. *What and When to Monitor*

One of the most obvious questions is what should be monitored and when. Localities may choose to use broad language simply stating that appropriate monitoring shall be done, but then the decision as to what is appropriate monitoring is open to interpretation. Alternatively, localities may choose to provide specific guidance for what items or locations should be monitored. If localities wish to give specific guidelines, there are several categories from which to choose, depending on the specific concern of the locality.

One major area of concern and an area with many possibilities for monitoring is water. Several localities have adopted monitoring requirements for wells near land application sites. For example, Union, Maine, requires that drinking water wells within 1,250 feet of application sites be monitored.¹⁶⁸ Groton, New York, requires surface water and groundwater testing.¹⁶⁹ Starkey New York's ordinance requires one water monitoring well for every 40 acres to be tested prior to sewage sludge injection and on an annual basis afterwards.¹⁷⁰

Soil is often tested as well in response to concerns over long-term soil health and productivity. Groton, New York, requires soil testing for sites including pH, soil classifications, and ambient levels of several metals, PCBs, pathogens, and other toxic substances.¹⁷¹ Soil testing continues after application at a frequency to be determined by the Town.¹⁷² A related possibility is testing of any crops grown on the site. This is directly applicable to the food chain health and animal health concerns discussed above. Starkey New York's ordinance contains a provision for annual crop samples to be taken at the operators' expense and tested at a certified laboratory for contaminants.¹⁷³ Again, these tests can be used not only for a source of data for continued policy adjustment, but also to reassure concerned individuals.

Another common target for testing is the sewage sludge or septage itself. Merced County, California, requires testing of the actual sludge applied.¹⁷⁴ Groton, New York, requires testing of the sewage sludge both

168. See Union, *supra* note 117, § IV.

169. See Groton, *supra* note 125, § 4(C)(10).

170. See Starkey, *supra* note 110, § XII(A).

171. See Groton, *supra* note 125, § 4(C)3.

172. See *id.* § 4(C)(10).

173. See Starkey, *supra* note 110, § XII(C).

174. See Merced County, CA, An Ordinance Regulating the Land Application of Sewage Sludge, Ordinance 1505, § 9-52-110(A)(2) (Nov. 8, 1994). Note that this ordinance requires composited samples to be obtained monthly from the sludge applied, but also requires composited tests to be done for all POTWs whose sludge is land applied in Merced County.

before and after spreading and at least quarterly.¹⁷⁵ Depending on the confidence the locality has in the consistency of the product applied in the area, monitoring at higher or lower levels of frequency may be appropriate. For instance, if a locality is concerned about receiving sewage sludge or septage from a source that shows a high degree of inconsistency, then they might be more inclined to require testing of each load to be applied. This degree of caution may not be necessary for material from a source that shows consistent quality.

Localities may also choose what should be tested during the monitoring incidents. Again, this should be guided by what substances are of the most concern to localities. Localities can consider the contaminants included in the Part 503 Rule or those included in the New York State regulations. Several localities require a broader range of tests, including the 125 priority pollutants designated by the EPA.¹⁷⁶ Provisions addressing what to monitor can also be tailored to specific concerns. For example, in areas with high ambient levels of a contaminant of concern, localities may wish to monitor any incoming materials for that particular contaminant.

Localities must decide not only what to monitor, but when. Testing of the site prior to application can be used to establish baseline information for that particular site. Baseline information can then be compared to future testing to determine if there have been any unpredicted or threatening changes. Using this information for policy adjustment will help localities make the best decisions for the problems specific to their own region.

III.J. Enforcement

III.J.1. General Provisions

Although often neglected, enforcement provisions can be one of the most important sections of an ordinance regulating land application. Federal and state agencies may not have the resources or motivation to conduct comprehensive enforcement activities in every locality. A report by the Office of the Inspector General of the EPA notes the lack of enforcement of sludge rules by the EPA.¹⁷⁷ A local ordinance is necessary for the municipality to have authority to take enforcement action. The municipality must insure that its ordinance is designed to give local officials the enforcement authority deemed necessary. Without enforcement provisions,

Finally, the ordinance requires that pathogen and vector sludge treatment records be made available to the County to ensure compliance.

175. See Groton, *supra* note 125, § 4(C)(9).

176. See Laurens, *supra* note 116, § VII(1); Sutton, *supra* note 128, § N(e).

177. U.S. ENVTL. PROTECTION AGENCY, OFFICE OF INSPECTOR GENERAL, REPORT NO. 2000-P-10, BIOSOLIDS MANAGEMENT AND ENFORCEMENT, at ii (2000), available at <http://www.epa.gov/oigearth/audit/list300/00P0010.pdf>.

ordinances, no matter how well intentioned, may not have the impact they were designed to achieve. Often the local code enforcement officer is identified as the enforcement agent and training in issues relevant to enforcement of the local ordinance may be needed.

In order to provide an opportunity for enforcement at the local level, localities may simply wish to incorporate federal and state land application requirements (where applicable) into their own ordinances. As Spitzer noted when discussing local regulation of solid waste facilities:

In adopting local legislation, local governments should incorporate the current [New York State] DEC regulations. By doing so, a municipality authorizes itself to enforce what the DEC may not. State law provides that authority to enforce the Environmental Conservation Law is vested in the State, not local governments. A local official would be enforcing only local law, thus avoiding any argument over local authority to enforce state law.¹⁷⁸

Thus, even if localities adopt by reference state and federal regulations and do not extend control beyond those provisions, it would allow localities to have enforcement power under their ordinance.¹⁷⁹ Localities such as Eden, New York, and Minden, New York, have adopted by reference provisions of state law, providing that any violation of the state laws is to be deemed a violation of the local law as well.¹⁸⁰

Since public and neighbor concerns are often a motivation for local ordinances, a provision for public notice, notification of neighbors, and possibly for a public hearing might be included in a local ordinance.¹⁸¹

178. Spitzer, *supra* note 16, at 104-05.

179. As discussed *supra* notes 5-9 and accompanying text, there is a possibility of implicit preemption of local regulations where a state has adopted extensive and comprehensive laws and regulations on the same topic. However, also as noted, preemption issues must be considered in light of the substantial home rule powers granted to localities in New York State. See N.Y. CONST. art. IX, § 1. See also *Incorporated Village of Nyack v. Daytop Village, Inc.*, 583N.E.2d928, 929-30 (N.Y. 1991); *supra* Part 2.2.5. In the case of solid waste management issues, such as local regulation of sewage sludge and septage, localities may adopt laws provided they are not inconsistent with the state law. See *supra* notes 71-73 and accompanying text. Local laws in this arena have been deemed consistent provided the standards they set are not below the state law minimum. See *supra* note 72 and accompanying text. Therefore, a court would be unlikely to find that a locality adopting the state standards as its own was implicitly preempted because the state law itself allows for concurrent local regulations; the law must be read in light of the strong provisions for home rule in New York, and enforcement of the local law would not undermine the purpose of the state scheme.

180. See *Minden, N.Y., Waste Management Facilities Law of the Town of Minden* § VII(A) (Jan. 25, 1999); *Eden, N.Y., Waste Management Facilities Law* § VII(A) (Mar. 23, 1994).

181. See *Groton, supra* note 125, § 6 (providing for a public hearing, advertised in advance, prior to issuance of a permit for land application activities).

III.J.2. *Who Pays and Other Regulatory Provisions*

Some localities will want to address potential problems, such as funding, by using regulatory means. The ordinance for Laurens, New York, provides for a fee in an amount to be determined for the permit application, and requires that the applicant pay for the direct costs of municipal oversight.¹⁸² An ordinance from Riverside County, California, provides for fees to be determined from a cost analysis of the county's costs in implementing the program.¹⁸³ Union, Maine, includes a provision for a \$5,000 application fee and a \$35,000 escrow fee to be used for expenses directly related to the review of the application for a permit, with the balance and interest returned to the individual after the application is reviewed.¹⁸⁴ Starkey, New York, requires a bond in the amount of \$500 per acre of the proposed site and specifies that the operator will be responsible for monitoring expenses.¹⁸⁵ Addressing these issues upfront may reduce confusion and difficulty enforcing the ordinance.

Another possibility is to include a method for municipal oversight on the land application facility site. Riverside County California's ordinance includes a provision providing for right of entry for a Town officer during sludge operations and additionally provides that the operator must notify the Town in advance of sludge application operations.¹⁸⁶ These allow the municipality the opportunity to choose whether to oversee sewage sludge or septage land application on a case-by-case basis. The determination could be made in part by reviewing the history of land application by the particular applier or owner. Concern about past compliance history led Kern County, California, to include "prior significant non-compliance with local, state or federal regulations or permits related to land application" as a criteria for permit denial.¹⁸⁷

Provisions such as these dealing with funding and oversight are direct ways to address these issues in advance. They can often provide municipalities with specific powers to insure that they have adequate funding for the type of oversight they need.

182. See Laurens, *supra* note 116, § IV(2).

183. See Riverside, *supra* note 124, § 5.

184. See Union, *supra* note 117, § IV.

185. See Starkey, *supra* note 110, § IX.

186. See Riverside, *supra* note 124, § 9(1) & 14.

187. KERN COUNTY, CA., ORDINANCE CODE § 8.05.040G.1 (1999) (regulating biosolids land application).

IV. MAJOR FEDERAL AND STATE CASES

This section discusses the major case law with implications for local regulation of land application. Laws must be interpreted within the light cast upon them by major court decisions. The interpretation of the law by the court is the final say on how provisions of the law are to be implemented. It is important to address the pertinent cases regarding land application. Where necessary, significant differences in state case law (for example, distinctions over local power in other states) that would impact the applicability of these cases to New York State will be briefly addressed. This is not meant to be an exhaustive review of the case law relating to this subject. Instead, this section will provide an overview of some of the major issues and cases relating to land application. There are several persistent issues of importance for land application. These include the potential Commerce Clause conflicts, right-to-farm statutes, and liability issues.

IV.A. Commerce Clause Cases

The Commerce Clause can present a barrier for localities wishing to regulate sewage sludge or septage if the waste generated outside the state is treated differently than that generated in the state or if the ordinance has an impact upon interstate commerce. However, municipalities may not be interested in differentiating between inter and intrastate wastes so much as they may be interested in either addressing all land applied sludges or differentiating between wastes generated within their own borders and all other wastes. Treating wastes generated within municipal borders differently than other wastes generated within the same state probably would not be subject to a Commerce Clause challenge since the clause addresses intrastate issues. Negotiating through this issue requires careful consideration in order to find a solution that will withstand legal challenge.

IV.A.1. *Welch v. Rappahannock*

One of the most recent relevant cases in the federal courts regarding local control over land application of sewage sludges arises from controversy in Rappahannock County, Virginia. In 1993, Rappahannock County amended its zoning ordinance to prohibit the land application of sewage sludges.¹⁸⁸ The pertinent section of the Rappahannock County ordinance reads as follows:

The use of sludges for land application is prohibited in all zoning districts in Rappahannock County. This prohibited

188. See RAPPAHANNOCK COUNTY, VA., GENERAL ZONING PROVISIONS, ch. 170, § 38(A)(7) (1994).

use shall include both surface and subsurface application. The term "sludge" is defined to be any solid, semisolid or liquid waste generated from a public, municipal, commercial, private or industrial wastewater treatment plant, water supply treatment plant, any pollution control facility or any other waste-producing facility, and includes treated sewage, stabilized sewage sludges and stabilized septage. This Subsection A(7) shall not apply to the otherwise lawful:

- (a) Incineration of sludge; or
- (b) Disposal of sludge in an approved sanitary landfill.¹⁸⁹

As is clear from the language of the ordinance, this is a broad-based ban on all types of sewage sludge land application within the County. The ordinance is simple and does not include any exceptions for land application.

Subsequent to the adoption of this ordinance by Rappahannock County, several farmers, including lead plaintiff W. Dale Welch, filed an action in the U.S. District Court for the Western District of Virginia challenging the validity of the ordinance under federal law.¹⁹⁰ There were two primary challenges. The first was a challenge under the CWA. The plaintiffs argued that the ordinance was preempted by comprehensive federal regulations in the realm of sewage sludge use and disposal.¹⁹¹ As noted above, the CWA was the underlying law prompting the promulgation of the Part 503 Rule. The court agreed with the plaintiffs that the regulations were comprehensive and that, of the disposal options available for sewage sludges, the EPA preferred land application, but concluded that the regulations did not preclude the Rappahannock ordinance.¹⁹²

The magistrate's original summary judgment in favor of the defendant was appealed. The appeal addressed both the CWA preemption argument and a claim that the ordinance violated the Commerce Clause of the U.S. Constitution by placing an excessive burden on interstate commerce.¹⁹³ The appeals court affirmed the decision of the magistrate and decided in favor of the defendant, Rappahannock County, on both issues.¹⁹⁴

189. *Id.*

190. *See Welch v. Bd. of Supervisors*, 860 F. Supp. 328, 329 (W.D. Va. 1994), *aff'd* 888 F. Supp. 753 (W.D. Va. 1995). Please note that this discussion is limited to the federal case. Plaintiffs filed a separate case under state law that is not discussed here.

191. *See id.* at 330.

192. *See id.* at 330-01.

193. *See Welch v. Board of Supervisors*, 888 F. Supp. 753, 755 (W.D. Va. 1995), *aff'g*, 860 F. Supp. 328 (W.D. Va. 1994).

194. *See id.*

The court used the *Pike* test to come to this decision.¹⁹⁵ The local concern in Rappahannock was the “(1) risk to the environment; (2) risk to human and animal health; (3) risk of the loss of confidence in agricultural products from the County; (4) risk of reduced property values; and (5) risk of an adverse effect on tourism.”¹⁹⁶ The court determined that these constituted a legitimate purpose, and a substantial burden on interstate commerce would have to be shown to overturn the ordinance.¹⁹⁷ The plaintiffs failed to present any evidence of a burden on interstate commerce, and only presented evidence of harm against them personally because they could not spread sewage sludges, a harm against which the Commerce Clause does not protect.¹⁹⁸ Fundamental to this finding was the fact that the ordinance did not ban sewage sludge outright, but instead only banned one method of disposal. “It is important to note that the Ordinance does not ban sewage sludge in the County. It merely bans land application as a possible method of its use or disposal. Sewage sludge still may flow freely into and out of the County.”¹⁹⁹ The plaintiffs failed to overcome the strong presumption of validity given to an ordinance that addresses a legitimate local purpose and is also in an area of traditional local concern.²⁰⁰

The Commerce Clause, broadly interpreted by the courts to mean that states may not pass laws that “discriminate against or unduly burden interstate commerce,”²⁰¹ can be a major concern for localities in drafting regulations regarding the land application of sewage sludges. The *Welch* case shows that, given a legitimate local interest and an ordinance that does not ban all methods of disposal, the ordinance could survive a Commerce Clause challenge. This could be of particular importance to several localities in New York that have adopted outright bans. The underlying implication of the *Welch* decision is that a ban that prohibits all methods of disposal might be a violation of the Commerce Clause.

195. *See id.* at 758. The *Pike* test is stated as follows:

Where the statute regulates evenhandedly to affect a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.... If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interests involved, and on whether it could be promoted as well with a lesser impact on interstate commerce.

Id.

196. *Id.* at 759.

197. *See id.*

198. *See id.* at 759-60.

199. *Id.* at 759.

200. *See id.* at 760.

201. King, *supra* note 52, at 1228 n.11.

IV.A.2. Other Commerce Clause Cases

There are several other notable cases dealing with solid waste and the Commerce Clause. These cases address issues not presented in the *Welch* case, specifically, differential treatment of waste by source. Since this is an issue that may arise for localities in New York State, these cases will be briefly discussed.

An early case involving the importation of waste is *City of Philadelphia v. New Jersey*.²⁰² This case involved a ban on out-of-state waste, and outlined the principle that discriminating against articles from other states, when there is no difference between the products except origin, is a violation of the Commerce Clause.²⁰³ The fundamental principle behind this decision is that a “[s]tate [may not attempt] to isolate itself from a problem common to many by erecting a barrier against the movement of interstate trade.”²⁰⁴

The second case, *Chemical Waste Management, Inc. v. Hunt*, built off the foundation of *Philadelphia v. New Jersey* and dealt with differential fees on out-of-state hazardous waste.²⁰⁵ The case was appealed all the way to the Supreme Court. Alabama had established a differential fee system for hazardous waste in which out-of-state waste was subject to higher fees than in-state waste. The court ruled that Alabama had not met its burden to show that no nondiscriminatory alternatives were available to meet the local interest that the fee system addressed.²⁰⁶

IV.B. Agricultural Districts

IV.B.1. Major New York Right-to-Farm Case Law

One of the most significant New York State cases regarding land application of sewage sludges and septage and the right-to-farm provision is the case involving the Town of Butternuts, New York. In this case, NYSDAM used its power to review a local ordinance restricting land application of septage. NYSDAM reviewed the local law at the request of Bruce Giuda, a farmer in an agricultural district within the jurisdiction of the Town of Butternuts.²⁰⁷ Mr. Giuda had planned to spread domestic septage on his land, but was prohibited by Town of Butternuts Local Law

202. 437 U.S. 617, 618 (1978).

203. *See id.* at 626-27.

204. *Id.* at 628.

205. *See Chem. Waste Mgmt., Inc. v. Hunt*, 504 U.S. 334, 336-37 (1992).

206. *See id.* at 344-45.

207. *See* Letter from John F. Rusnica to Kenneth Nolan, *supra* note 90.

#2 of 1993.²⁰⁸ The local law prohibited the operation of "dump[s]" within the town of Butternuts and provided no exceptions for farm practices.²⁰⁹ NYSDAM considers "the spreading, storage and/or composting of sludge, septage and manure and products derived therefrom, originating either on or off the farm, which support the production function of the farm to be agricultural practices."²¹⁰ NYSDAM concluded that the "Local Law appears to place unreasonable restrictions on agricultural land use, nutrient management practices and on-farm composting in possible violation of the Agriculture and Markets Law."²¹¹

After the review, NYSDAM and the Town were unable to come to a solution without legal action. When this occurs, NYSDAM is authorized under Section 305-a to bring an enforcement action or issue an order to comply.²¹² With this determination, NYSDAM was able to overturn the local ordinance in question using the authority granted to it by the state legislature. NYSDAM issued a Determination and Order compelling compliance with the Agriculture and Markets Law in which it declared that the Butternuts Local Law violated Section 305-a (1).²¹³

NYSDAM considers "DEC standards and permitting requirements in evaluating whether restrictions on agricultural land use, nutrient management practices and on-farm composting are reasonable."²¹⁴ Therefore, the further from state requirements, specifically, the pertinent DEC standards, the provisions of the ordinance go without showing a specific threat to the public health or safety, the more likely it becomes that NYSDAM will intervene if the ordinance is applied to cropped farmland in an agricultural district.²¹⁵

The Town responded by filing an Article 78 proceeding challenging NYSDAM's determination.²¹⁶ The courts agreed with NYSDAM and

208. See *id.* The Local Law prohibited the spreading of septage within the Town. See *Town of Butternuts v. Davidsen*, 686 N.Y.S.2d 239 (App. Div. 1997).

209. Letter from John F. Rusnica to Kenneth Nolan, *supra* note 90. Note that a "dump" was defined loosely as "a place used for the disposal and leaving of paper, garbage, rubbish and waste materials of any nature" and was determined by the Town Board to include landspreading activities.

210. *Id.* at 1-2.

211. *Id.* at 2.

212. NYSDAM, *supra* note 85. Note that the power to issue an order to comply is pursuant to section 36 of the AML.

213. See *Town of Butternuts*, 686 N.Y.S.2d at 240-41.

214. NYSDAM, *supra* note 85.

215. See *Harrison*, *supra* note 64, at 3.

216. See *Town of Butternuts v. Davidsen*, No. RJI-01-97-ST7955 (N.Y. Sup. Ct. Dec. 9, 1997) (dismissing Article 78 proceeding).

concluded that NYSDAM had acted within its authority.²¹⁷ The order to comply remained in effect.²¹⁸ In early March of 1999, a five-member New York Appellate court upheld the lower court's decision.²¹⁹

The *Butternuts* case is the controlling law of New York State. It upholds the authority of the Commissioner of NYSDAM to declare a local ordinance invalid. The case may not be completely dispositive of this issue, however. The Town did not present specific arguments supporting its health and safety concerns; thus, the Commissioner or a court could come to a different conclusion given different fact patterns or arguments.

IV.B.2. *Bormann v. Kossuth*

An Iowa court decision in *Bormann v. Kossuth* has relevance for New York State. In 1995, several individuals were successful in a petition to Kossuth County, Iowa, to create an agricultural area.²²⁰ Later that year, several neighbors filed a writ of certiorari and a declaratory judgment action in Iowa District Court.²²¹ They claimed that the creation of an agricultural area, with its statutory provision granting immunity from nuisance suits to farms, was a taking of their property without compensation not permitted under the Fifth and Fourteenth Amendments to the U.S. Constitution.²²² Although the District Court found in favor of the defendants, the Supreme Court of Iowa disagreed and reversed the decision.²²³

Under the Court's interpretation, the initiation of an agricultural area created an easement on the property of neighboring lands in favor of the landowners in the agricultural area "because the immunity allows the applicants to do acts on their own land that, were it not for the easement, would constitute a nuisance."²²⁴ In 1910, the U.S. Supreme Court decided a case entitled *United States v. Welch* in which it determined that an easement is a property interest subject to the Fifth Amendment.²²⁵ Following this line of logic, the Iowa Court concluded that the creation of an

217. *See id.* Note, however, that the Town did not present any evidence of a link to health or safety threats other than anecdotal evidence stating that the law was intended to address public health. Therefore, this ruling may not be indicative of a NYSDAM challenge to a locality that can produce evidence of a threat to public health and safety.

218. *See id.*

219. *See* *Town of Butternuts v. Davidsen*, 686 N.Y.S.2d 239 (1999).

220. *See* *Bormann v. Bd. of Supervisors*, 584 N.W.2d 309, 311-12 (Iowa 1998), *cert. denied sub nom.*, *Girres v. Bormann*, 119 S.Ct. 1096 (1999).

221. *See id.* at 312.

222. *See id.*

223. *See id.* at 311.

224. *Id.* at 316.

225. *See id.*

agricultural district resulted in the taking of property without just compensation as required under the U.S. Constitution.

This decision has the potential to undermine one of the basic tenets of the right-to-farm acts, that a state may simply grant immunity from nuisance suits without addressing and resolving the potentially complex issue of just compensation. The Iowa Supreme Court's decision stated that it was unconstitutional to establish an agricultural area that included the provision granting immunity to farmers from nuisance suits without compensation to those individuals whose right to protect their property by bringing nuisance suits may be compromised. A petition for certiorari review was filed in the U.S. Supreme Court, but the court did not grant the petition.²²⁶ Despite the fact that the case was decided by an Iowa Court and regarding an Iowa right-to-farm law, the Court was interpreting the federal Constitution. Additionally, this case has been followed by a U.S. District Court in Iowa.²²⁷

IV.B.3. *Pure Air and Water, Inc. of Chemung County v. Davidsen*

A similar constitutional argument was brought in New York in the case of *Pure Air and Water, Inc. of Chemung County v. Davidsen*²²⁸ (PAWI), but the Court did not decide the issue. The Court noted that petitioner "contends that the statute is unconstitutional because it takes away the common-law right to sue for a private nuisance. We need not consider this argument as it was not raised in the petition before the Supreme Court."²²⁹ Plaintiffs later brought a second action, also called *Pure Air and Water, Inc. of Chemung County v. Davidsen*²³⁰ (PAW II), based on the constitutional argument. They challenged the constitutionality of Section 308 of Article 25-AA of the Agriculture and Markets Law, arguing that it deprived them of property rights without just compensation or due process in violation of the U.S. Constitution and the New York Constitution.²³¹

The Court rejected this argument on several grounds. First, the Court found that the plaintiff's claims were precluded by res judicata and collateral estoppel principles.²³² Since plaintiffs were able to bring the constitutional claim in the earlier case and did not pursue this claim to its conclusion, they were precluded from bringing it again in a subsequent suit. Second, the Court found that the case-by-case analysis required to

226. Petition for writ of certiorari was denied on February 22, 1999. See *Girres v. Bormann*, 119 S.Ct. 1096 (1999).

227. See *Rutter v. Carrolls Foods of the Midwest, Inc.*, 50 F. Supp. 2d 876 (N.D. Iowa 1999).

228. 668 N.Y.S.2d 248 (App. Div. 1998).

229. *Id.* at 249.

230. No. 2690-97, slip op. (N.Y. Sup. Ct. May 25, 1999).

231. See *id.* at 3.

232. See *id.* at 7.

determine whether a practice was a sound agricultural practice was sufficiently different from the Iowa provision attacked in *Bormann v. Kosuth*.²³³ "Only after extensive consultation and investigation, and if the Commissioner determines that the practice is sound, will it be found not to constitute a nuisance."²³⁴ The Court further noted that nothing would preclude a nuisance suit if the practice did not conform to the sound agricultural practice outlined by NYSDAM.²³⁵ "Because the Iowa Supreme Court found that the immunity provision of the statute was unconstitutional, and its holding flows from the supposition that the statute confers immunity from private nuisance suits, it has no application here."²³⁶ The Court concluded that since Section 308 did not confer immunity against nuisance suits, "or permit the willy-nilly maintenance of a nuisance," it was not a taking under the New York or U.S. Constitution.²³⁷

This is a recent decision by a trial court. The case was appealed but was dismissed on mootness grounds in September 2000, thus the legal issues remain unresolved. However, the Court does underscore an important distinction between the Iowa provision and New York's Agriculture and Markets Law, that of case-by-case review.

IV.C. Liability

The potential liability of landowners, farmers, and persons who apply sludges is a concern that municipal laws may address. Several cases bear on this issue. In addition, the federal rules appear to provide an exemption from liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to those who apply sludge as a fertilizer in conformance with the Part 503 Rule.²³⁸ Such protection might in fact make it more difficult for a farmer or landowner found liable for pollution under state laws to share liability with the sludge generator or sludge management company.

233. See *id.* at 8-9.

234. *Id.* at 9.

235. See *id.*

236. *Id.* at 10.

237. *Id.* at 10-11.

238. See OFFICE OF WASTEWATER MGMT., *supra* note 1, at 52-53. Note here that contaminated sludge (i.e. not "normal" sludge) is considered a release under CERCLA. Non-contaminated sludge falls under the fertilizer exclusion. See *Fallowfield Dev. Corp. v. Struck*, 1994 U.S. Dist. LEXIS 12758, at *70 (E.D. Pa. 1994). Liability issues will be further discussed below.

IV.C.1. *New Jersey v. Ventron*

*New Jersey Department of Environmental Protection v. Ventron Corp.*²³⁹ arises from years of mercury pollution at a site owned by several different people and entities. The various owners and the New Jersey Department of Environmental Protection entered into a suit to determine liability for the pollution on the site.²⁴⁰ The case was appealed all the way to the New Jersey Supreme Court, where it was decided in 1983.²⁴¹

Readers should be aware that this case was decided in a different jurisdiction than New York State, based in part on different environmental rules and regulations. Nonetheless, the result is of interest. The court stated as follows:

We believe it is time to recognize expressly that the law of liability has evolved so that a landowner is strictly liable to others for harm caused by toxic wastes that are stored on his property and flow onto the property of others....The net result is that those who use, or permit others to use, land for the conduct of abnormally dangerous activities²⁴² are strictly liable for resultant damages.²⁴³

Even though the case was decided in New Jersey, the issue of strict liability should be considered by all farmers or landowners that plan to land apply sewage sludges and septage. The Court further stated, "[e]ven if they did

239. 468 A.2d 150 (N.J. 1983).

240. *See id.* at 154.

241. *See id.*

242. Note that some courts have found some activities commonly associated with agriculture to be an "abnormally dangerous activity." In *Langan v. Valicopters, Inc.*, the court found that defendants' crop spraying activities were an abnormally dangerous activity considering the circumstances of the case. In this case, some of the pesticides sprayed were deposited on plaintiffs' organic crop, causing plaintiffs to be permanently de-certified as organic growers. The court found that the crop spraying was an abnormally dangerous activity in this context. *See Langan v. Valicopters, Inc.*, 567 P.2d 218, 220 (Wash. 1977).

243. *Ventron Corp.*, 468 A.2d at 157. Note that the court lays out the elements of an "abnormally dangerous activity" as follows:

- (a) existence of a high degree of risk of some harm to the person, land or chattels of others;
- (b) likelihood that the harm that results from it will be great;
- (c) inability to eliminate the risk by the exercise of reasonable care;
- (d) extent to which the activity is not a matter of common usage;
- (e) inappropriateness of the activity to the place where it is carried on; and
- (f) extent to which its value to the community is outweighed by its dangerous attributes.

Id. at 159. All of these elements need not be proved for a positive finding of an abnormally dangerous activity.

not intend to pollute or adhered to the standards of the time, all of these parties remain liable. Those who poison the land must pay for its cure."²⁴⁴ The danger of liability to farmers should there be damage caused by sewage sludge and septage application is a serious concern and it is clear from this decision that adherence to contemporary standards may not be a certain protection from future liability.²⁴⁵

IV.C.2. *United States v. Cooper*

United States v. Cooper is a recent case heard by the U.S. Court of Appeals for the Ninth Circuit.²⁴⁶ The case involved a sewage sludge hauler who had violated his contract with the municipality whose sewage sludge he was hauling.²⁴⁷ The hauler had applied sewage sludge in areas not authorized by the contract, as well as other violations.²⁴⁸ The court held the hauler criminally liable for violating the National Pollutant Discharge Elimination System (NPDES) permit of the municipality, despite the fact that he was not a party to the permit.²⁴⁹ The decision was based on the language of the CWA that "imposes criminal liability on 'any person who knowingly violates...any permit condition or limitation.'"²⁵⁰ Since it was found that the hauler was aware that the municipality was under permit, he was found liable for the violation that occurred as a result of his actions.²⁵¹

This case is on appeal. A petition for certiorari was filed in the Supreme Court on August 23, 1999. However, it further emphasizes the point that the liability over problems associated with land application is not necessarily resolved. Therefore, all individuals involved would be wise to use caution.

V. AREAS OF CONTINUING CONTROVERSY OR UNCERTAINTY

The scientific uncertainty surrounding the relative risk of land application is one of the primary driving forces behind local regulation of sewage sludge and septage landspreading. However, localities also use local regulation to adapt broad-based federal or state regulation to local conditions. As additional research makes progress towards resolving some of the scientific uncertainty, the need for regulations or the type of

244. *Id.* at 160.

245. *See* Goldfarb, *supra* note 8, at 741-43.

246. *United States v. Cooper*, 173 F.3d 1192 (1999), *cert denied*, 1999 U.S. LEXIS 7783 (1999).

247. *See id.* at 1196.

248. *See id.* at 1196-98.

249. *See id.* at 1201.

250. *Id.*

251. *Id.*

regulations required by localities may change. However, the pertinent issues of local adaptation of regulations to meet local needs will remain with us.

The courts, both federal and state, also introduce uncertainty into the local regulation of land application. As noted above, several of the cases discussed in this article are not completely resolved. Quite a few have not exhausted the possibility of appeal and may be overturned by a higher court. Additionally, some of the cases, such as the *Butternuts* case, were initially tried with circumstances that were not favorable to local control. Others, such as the *Welch* case, were initially presented with circumstances favoring local control.²⁵² The courts could decide cases with different facts in the opposite way. Finally, the interpretation of the law itself changes over time, sometimes drastically. This was illustrated in this article by the changes in liability law over time.

The combination of scientific and legal uncertainty makes policy decisions all the more difficult. It is the responsibility of localities to make the best decisions possible to protect the public and the environment, given life in an uncertain world.

VI. CONCLUSION

VI.A. Summary of Findings

Municipalities must operate within the context of uncertain scientific information, unresolved legal issues, and conflicting local interests and needs. A thorough understanding of federal and state laws pertaining to land application of sludges and septage and of the legal constraints and opportunities provided by these and other rules is essential. It is hoped that this article has cast some light upon some of the issues involved and has given concrete examples for localities to examine.

Municipalities can play a significant role in addressing concerns regarding land application of sewage sludges and septage. Although simplicity is often a virtue in local regulation, localities must decide what level of regulation is necessary to meet the needs of the community and avoid successful legal challenges. Simple adoption of local rules that incorporate state and federal requirements can allow for municipal enforcement. For communities concerned about the possible health and safety issues associated with land application even under state and federal requirements, the simplest act to take would probably be an outright ban

252. As noted above, the challengers of the Rappahannock ordinance did not present evidence of an effect upon interstate commerce, other than the individual effect on their personal activities. Such individual effects are not protected by the Commerce Clause.

on sewage sludge or septage transportation or use within the community. However, as discussed above in the section regarding the *Welch* case, this action might be a violation of the Commerce Clause. More narrowly tailored provisions addressing specific local concerns may be more acceptable. Additionally, right-to-farm laws add a layer of complexity. Until the law is resolved on the matter of nuisance suits or unless the locality is prepared to show evidence of specific health and safety threats associated with land application, New York State localities may want to include exemptions for agricultural districts or lands with agricultural tax privileges. However, narrowly tailored exemptions may serve the intended purpose better than broad exemptions for farming operations. The third unresolved legal issue is liability. Even if localities do not want to address the assignment of liability in their ordinances, one of the simplest methods to address this problem is to advise individuals involved of the unresolved issues.

As can be seen by this article, localities have used a wide array of techniques to address concerns over land application in their jurisdictions. These provisions range from operative guidelines for sewage sludge and septage application, to incorporation provisions, to permitting requirements, to nuisance provisions. They address a wide array of concerns, ranging from health and safety to financial compensation. For some localities, the extent of the provisions have, in all likelihood, been enough to prevent some appliers from land spreading sewage sludges and septage. For others, it is hoped that the provisions have effectively addressed the concerns of interest to the municipalities and their citizens.

VI.B. Areas for Further Research

Obviously, this article has not covered all possible areas of interest regarding this topic. There are several specific areas for further research that warrant mention in closing. First, the focus of this article on New York State prompts the question of the treatment of the issue in other states and the possibility of a comparative study. Second, the concluding paragraph above raises the following question: How effective have these measures been in addressing the concerns of municipalities?