

What is the #1 Solution to our #2 Problem?
An Analysis of the Sewage Sludge Regulatory Regime in North Carolina

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Summary

North Carolina's urban areas are producing sewage sludge that must be disposed of, and farmers in rural areas are in need of cheap fertilizer. While this may seem like a good opportunity to kill two birds with one stone, the practical realities surrounding application of sewage sludge to cropland present a much more complex situation. Land application of sewage sludge involves various community interests and negative externalities that must be considered by its management program to truly benefit both the state's urban and rural areas.

This article endeavors to discuss the existing management program and assess its effectiveness in dealing with these community interests and negative externalities to determine if the current land application regime is truly a "beneficial use" of sewage sludge. First, background information on municipal production of sewage sludge and its potential for use as fertilizer is discussed. Second, the federal and state frameworks for creation and administration of state sludge application programs are detailed. Next, the current state of the program in North Carolina is discussed, with a focus on watershed impacts and environmental justice issues. Avenues of local involvement and available means of recourse are then evaluated, followed by future policy recommendations which may improve the biosolids application program's overall equity to rural communities.

While North Carolina's administrative program theoretically provides operation/management practices, enforcement, and a site permitting process which are adequate to mitigate negative environmental impacts and provide consideration of local input, the practical reality in North Carolina is far from this theoretical ideal. The current sewage sludge

management regime in North Carolina has thus far produced quantifiable negative impacts on state watersheds and community health, and has failed to offer effective means for community involvement in site permitting and local regulation.

I. Background

Sewage sludge is the byproduct of municipal wastewater treatment.¹ Urban areas such as Charlotte, the Triangle, and Burlington process their wastewater to extract treated water for discharge into local bodies of water, with sewage sludge remaining as the solid byproduct.² This sludge is then put through one or a combination of chemical, thermal, and biological treatment to remove pathogens, after which it is termed “biosolids” by the application industry and graded by the wastewater treatment plant according to its pollutant concentrations.³

Fertilizer is a major expense for farmers. Many turn to free sewage sludge as a cheap alternative.⁴ The land application of biosolids generally entails use of a truck or other agricultural vehicle to spread sludge in solid or liquefied form onto the soil surface.⁵ Biosolids contain nutrients such as organic carbon, nitrogen, and phosphorus, which are valuable soil amendments for farmland.⁶ Its nutritional value to soil makes land application the preferred method of disposal for state and federal regulatory agencies.⁷ These agencies call land application a “beneficial use” of biosolids.⁸ However, biosolids also contain levels of heavy metals, pathogens,

¹ Lowman et al., *Land application of Treated Sewage Sludge: Community Health and Environmental Justice*, 121 ENVTL. HEALTH PERSP. 537, 537 (2013).

² ELAINE CHIOSSO & SAM PERKINS, WATERKEEPERS CAROLINA, SLUDGE IN OUR WATERS 3 (2015).

³ Lowman et al., *supra* note 1, at 540.

⁴ CHIOSSO & PERKINS, *supra* note 2, at 24.

⁵ OFFICE OF WASTEWATER MGMT., EPA, A PLAIN ENGLISH GUIDE TO THE EPA PART 503 BIOSOLIDS RULE 27 (1994). [hereinafter EPA].

⁶ Lowman et al., *supra* note 1, at 537.

⁷ N.C. DIV. WATER QUALITY, N.C. DEP’T ENV’T & NAT. RES., RESIDUALS MANAGEMENT PROGRAM SUMMARY 2 (2010). [hereinafter DWQ].

⁸ *Id.*

and toxic materials.⁹ Concentrations of heavy metals, PCBs, and other pollutants largely depend on the degree of industrial impact on the source area's municipal water system.¹⁰ Sewage sludge is tested for concentrations of various heavy metals and pathogens and graded as Class A or Class B.¹¹ Class A sludge has stricter requirements for reduction of pathogen levels, but the two classes are generally identical with regards to other contaminants.¹²

II. Federal Biosolids Regulation

The Environmental Protection Agency ("EPA") takes a staunch pro-biosolids stance. The EPA calls land application a "beneficial use" and recommends land application as the preferred method of sewage sludge disposal.¹³ The program for land application of biosolids was created by the EPA under the authority of the Clean Water Act.¹⁴ The biosolids land application rules are detailed in Title 40 of the Code of Federal Regulations, Part 503, and became active in March of 1993.¹⁵ The EPA states that it designed the regulations to protect the environment and public health from any foreseeable negative impacts that may be posed by certain pollutants and contaminants in sewage sludge.¹⁶

Subpart A covers general provisions such as the subject matter and activities governed by the Part 503 rule, compliance periods, and exceptions.¹⁷ Subpart B lays out the requirements for land application of sewage sludge and sludge mixed with other materials, such as composted vegetation.¹⁸ The Part 503 rule establishes maximum allowable pollutant concentrations for

⁹ Lowman et al., *supra* note 1, at 537.

¹⁰ CHIOSSO & PERKINS, *supra* note 2, at 17.

¹¹ DWQ, *supra* note 7, at 4.

¹² Lowman et al., *supra* note 1, at 537.

¹³ EPA, *supra* note 5, at iii.

¹⁴ *Id.* at 12.

¹⁵ *Id.* at 1.

¹⁶ *Id.* at 2.

¹⁷ *Id.* at 6.

¹⁸ *Id.*

Class A and Class B biosolids.¹⁹ Pollutant concentration ceilings are established for ten heavy metals: cadmium, arsenic, chromium, mercury, lead, copper, molybdenum, nickel, zinc, and selenium.²⁰ Subparts C and E cover disposal of sewage sludge in surface disposal sites and incinerators, respectively.²¹ Because the number of these sites shy in comparison to sites permitted for land application to cropland, they will not be discussed. Subpart D of the Part 503 rule establishes producer requirements for the reduction of pathogens and vectors in biosolids.²² Vectors are disease-spreading organisms such as flies and rats.²³

The Part 503 rule applies to biosolids producers and any person or entity applying biosolids to land, as well as those operating a biosolids surface disposal site or incinerator.²⁴ The federal regulation requires municipal wastewater treatment facilities and other similar operations producing biosolids to obtain a permit, which are issued in various ways.²⁵ EPA issues permits itself under the National Pollutant Discharge Eliminations System covering point-source polluters.²⁶ However, the EPA also allows states with approved biosolids management programs, such as North Carolina, to issue their own non-discharge permits designated as “biosolids-only.”²⁷ The EPA allows for stricter regulation by state management programs, but state programs must meet all minimum requirements set out in Part 503.²⁸ Since North Carolina’s biosolids management program complies with all minimum federal requirements, the Part 503

¹⁹ *Id.* at 30.

²⁰ *Id.*

²¹ *Id.* at 9.

²² *Id.* at 10.

²³ *Id.*

²⁴ *Id.* at 11.

²⁵ *Id.* at 13.

²⁶ *Id.* at 11.

²⁷ *Id.*

²⁸ *Id.* at 15.

rule will not be discussed here in extensive detail. Additionally, the Part 503 rule leaves room for local biosolids regulation on the municipal level in states which allow it.²⁹

The EPA has designed the rules for self-regulation by biosolids producers and land appliers, but leaves room for itself and the state governments to monitor compliance, test samples from producers and field sites, respond to complaints, and take enforcement actions against violators of the Part 503 rule.³⁰ The EPA's main enforcement mechanism occurs through civil prosecution and fines, and through criminal prosecution in cases of willful or negligent violations.³¹ Section 505 of the Clean Water Act also allows any citizen to bring their own civil actions against Part 503 rule violators, sanctioning the same remedial actions and fines that the EPA itself could pursue.³²

III. State Statutory Prescription for Management Program

The North Carolina General Assembly created the Department of Environment and Natural Resources, now called the Department of Environmental Quality ("DEQ"), with a grant of authority to construct and administer a state water and air resource management and pollution control program.³³ The Environmental Management Commission ("EMC") has a legislative grant of authority to adopt its own rules and regulations necessary to fulfill the DEQ's mandate to promulgate the air and water resource management regime.³⁴ North Carolina courts have ruled that this state regulatory regime preempts local regulation on biosolids because the DEQ plan is a comprehensive regime of air and water resource management and regulation.³⁵

²⁹ *Id.* at 23.

³⁰ *Id.* at 11.

³¹ *Id.* at 14.

³² *Id.* at 15.

³³ N.C. GEN. STAT. § 143-211(c) (2016).

³⁴ N.C. GEN. STAT. § 143-215.3(a)(1) (2016).

³⁵ *Granville Farms, Inc. v. Cty. of Granville*, 612 S.E.2d 156, 162 (N.C. Ct. App. 2005).

North Carolina defines sewage sludge as “waste”.³⁶ The state requires permits for the construction/operation of any system that disposes of, treats, or collects waste, including municipal wastewater treatment plants that produce sewage sludge.³⁷ Before farmers or agricultural entities can apply sludge to farmland, they must obtain a state biosolids application permit from EMC.³⁸ The legislature has also laid out some additional details for the permit application, including local notice to county managers and health boards and a comment period for the county board before EMC makes its permit granting decision.³⁹

IV. State Administrative Regulation

DEQ lays out the regulatory rules for its air and water resource management plan in the North Carolina Administrative Code. Municipal sewage sludge is regulated by the Division of Water Quality (“DWQ”) Residuals Management Program under 15A N.C. ADMIN. CODE § 2T.1100, which covers waste not discharged to surface waters.⁴⁰ DEQ states that North Carolina's biosolids regulations meet the requisite federal biosolids application standards in 40 CFR 503.⁴¹ DWQ says its program is stricter than federal regulations by requiring larger application site setback requirements from state waters to further protect them and limiting application according to crop/yield- specific nutrient uptake (“agronomic rate”) projections to prevent nutrient overloading.⁴²

Municipal wastewater treatment facilities often apply for a permit themselves, but also regularly contract application of their biosolids out to permitted application companies.⁴³

³⁶ N.C. GEN. STAT. § 143-213.18(a) (2016).

³⁷ *Id.* at § 143-215.1(a)(2) (2016).

³⁸ *Id.* at § 143-215.1(a)(9) (2016).

³⁹ *Id.* at § 143-215.1(d)(1) (2016).

⁴⁰ 15A N.C. ADMIN. CODE § 2T.1100 (2016).

⁴¹ DWQ, *supra* note 7, at 3.

⁴² *Id.*

⁴³ CHIOSSO & PERKINS, *supra* note 2, at 10.

Synagro is one such prominent application company in North Carolina.⁴⁴ Permit holders obtain a signed Land Owner Agreement Form from the owner of each application field.⁴⁵ The permitted applicators and landowners of each field collaborate regarding the intended crop to be planted, other nutrients and fertilizers to be applied, quality and quantity of the sludge applied, and related use restrictions.⁴⁶

The DWQ regional offices oversee the residuals management program in their area, conducting site inspections and new permit site evaluations.⁴⁷ Approval of new application sites involves documentation of “field location, size, predominate soil type, applicable setbacks, watershed classification, signed landowner agreements, and notification to the County Manager of the proposed new field.”⁴⁸ Program enforcement actions start in the regional offices and are then sent to the central office for the DWQ director to make a determination on the action to be taken.⁴⁹ The DWQ regional and central offices conduct permit reviews and site monitoring visits occasionally to ensure compliance.⁵⁰

Permit holders are required to submit an annual report documenting that “effluent quality, nutrient management, and operation and management practice requirements were met.”⁵¹ Permit holders are required to self-report yearly application statistics and any violations that occur.⁵² They must submit an annual report detailing all application events, the quantity and quality applied per site, cumulative metal loadings per site, and an annual soils analysis.⁵³

Permit types

⁴⁴ DWQ, *supra* note 7, at 3.

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ *Id.* at 16.

⁴⁸ *Id.* at 3.

⁴⁹ *Id.* at 16.

⁵⁰ *Id.* at 3.

⁵¹ *Id.*

⁵² *Id.* at 15.

⁵³ *Id.*

DWQ divides its permits according to the quality and quantity of sludge intended to be applied to a given field site. Four classes of permits are issued, with three classes pertaining to land application of sludge and one involving sludge disposal in surface containers, such as waste lagoons.⁵⁴ The lower quality the class of sewage sludge used, the more the stringent use restrictions, active on-site checkups, setback requirements, predictive modeling, and compliance monitoring methods implemented.⁵⁵

The Class A permit of land application allows gardeners, farmers, or other people needing fertilizer to purchase or pick up a small bagged dose or bulk amount of the relatively clean Class A sludge.⁵⁶ Class A permits are restricted to biosolids sources with lower concentrations of metals and pathogens.⁵⁷ The permitted residuals distributor is charged with recording the volume of Class A biosolids it distributes, but not site-specific distribution information.⁵⁸ This is due to the minimal risk of soil metal poisoning or pathogen overloading that DEQ estimates from Class A residuals.⁵⁹

The next permit class lays out requirements for Class B Residuals applied to non-dedicated fields, which are normal agricultural lands where farming, not biosolids disposal, is the primary intended use. This permit is required in order to apply Class B biosolids to cropland at agronomic rates, with individual field sites requiring prior approval and listing on the permit before application is allowed.⁶⁰ The permitted residuals distributor is required to record the volume of Class B biosolids it applies to each individual site, record aggregate nutrient and metal

⁵⁴ *Id.* at 4.

⁵⁵ *Id.*

⁵⁶ *Id.* at 12.

⁵⁷ *Id.* at 4.

⁵⁸ *Id.*

⁵⁹ *Id.* at 12.

⁶⁰ *Id.* at 4.

loads applied, and collaborate with landowners regarding the intended crops to be planted.⁶¹ The vast majority of all permits issued and approved application sites fall under this category. In 2009, there were 5,000 permitted fields representing 107,000 acres of farmland.⁶² In 2008, approximately 27,500 acres had Class B biosolids applied to them, amounting to an aggregate state total of 88,500 dry tons of Class B sludge applied that year.⁶³

The Class B land application to dedicated fields permit governs application of Class A and B residuals to fields where sludge disposal is the primary purpose and crop farming is secondary. These permits are much less common, amounting to only 21 of the 275 residuals management permits issued by the state in 2009.⁶⁴

Operational & Management Practices

DWQ lays out operational and management practices for Class B sludge application with the intent to preserve environmental and human health. Bulk application of Class B residuals to non-dedicated fields poses greater risks of nutrient runoff, environmental problems, and human nuisance and exposure adverse to human health.⁶⁵ DWQ regulations state that sludge application must not cause prolonged or continuous nuisance conditions.⁶⁶ However, the extent to which this decree is truly observed is questionable.

DWQ regulations list numerous requirements and restrictions intended to mitigate any potential environmental impacts biosolids application may pose. Sludge must assimilate into the soil to avoid nutrient runoff and other problems. The program allows no application when land is frozen, covered with snow, flooded, or will otherwise pose significant risk of runoff.⁶⁷

⁶¹ *Id.*

⁶² *Id.* at 6.

⁶³ *Id.*

⁶⁴ *Id.* at 5.

⁶⁵ *Id.* at 12.

⁶⁶ *Id.*

⁶⁷ *Id.*

Application is prohibited in the 100-year floodplain,⁶⁸ unless the sludge is injected or incorporated (tilled) into the soil within 24 hours of application.⁶⁹ No application is allowed during rain or within 24 hours of a precipitation event of .5 inches or more.⁷⁰ Liquid surface application is prohibited in areas where the land's slope is greater than 10%, and application via injection/incorporation is prohibited at slopes greater than 18%.⁷¹ Application is also prohibited when the land has no vegetative cover crop unless injected or incorporated within a 24-hour period of application.⁷²

DWQ also lays out several mandates designed to prevent human exposure to fields in which sludge has not fully assimilated into the soil. Public access to lands open to the public such as parks, soccer fields, golf courses, plant nurseries, etc. is restricted for one full year after application.⁷³ Access to private land is restricted for 30 days after application.⁷⁴ Setback requirements are also designed with reduction of potentially harmful human exposure in mind.

Restrictions have also been implemented to mitigate risks sewage sludge application may pose to the food system, designed to reduce health risks to grazing animals and crops for human consumption. Animals may not graze on land for 30 days after application.⁷⁵ Crops for human or animal consumption and fiber crops may not be harvested for 30 days after application.⁷⁶ Food crops with above-ground harvested materials which have occasion to touch the soil surface may not be harvested for 14 months after application.⁷⁷ Below-surface parts of food crops may not be

⁶⁸ The 100-year floodplain includes all land expected to flood during a precipitation event of such magnitude that it has a probabilistic occurrence of every 100 years.

⁶⁹ DWQ, *supra* note 7, at 12.

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.* at 13.

⁷⁶ *Id.*

⁷⁷ *Id.*

harvested for 20 months after application, in the event where biosolids residues remain on the soil surface unincorporated for four months or longer.⁷⁸ Turf which has had biosolids applied to it may not be harvested for one year after application.⁷⁹

DWQ lays out a variety of setback requirements in order to mitigate unwanted human exposure and impacts to state water quality. The North Carolina setback requirements for land where residuals may be applied are stricter than the standard “ten meters from any waters of the U.S.” laid out in federal regulation.⁸⁰ The most notable setback requirements for liquid application by vehicle are 400 feet from nearby residences and places of public assembly, 100 feet from surface waters and wells, 50 feet from property lines, and 25 feet from ephemeral streams and ditches⁸¹.

V. Current State of the Sewage Sludge Program in NC

The NC Division of Water Resources reported that, as of September 2015, there were 4,616 permitted application fields totaling 78,669 acres in the state.⁸² Blue Ridge Environmental Defense League estimates that over 50 million tons of sewage sludge are applied to North Carolina fields each year.⁸³ The current state of the sewage sludge application regime in North Carolina raises serious questions as to whether state administrative regulation has been adequate in achieving its goals of minimal impact to air and water resources and human health. While the state management program laid out by the Division of Water Quality should theoretically provide the adequate environmental protection and avenues of recourse to allow a biosolids application scheme to operate safely, the program has fallen short of this ideal in numerous

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.* at 14.

⁸² CHIOSSO & PERKINS, *supra* note 2, at 13.

⁸³ BLUE RIDGE ENVTL. DEF. LEAGUE, BIOSOLIDS FACTSHEET 1 (2009).

instances. Notably, DWQ itself is said to have violated North Carolina’s Water Supply Watershed Protection Act by renewing application permits in watersheds critical to local drinking supplies in “Orange, Alamance, Gaston, Caldwell, Catawba, and Wake counties.”⁸⁴

Impacts on Major Watersheds and Drinking Water

The piedmont and coastal plain host the majority of North Carolina’s biosolids application fields, raising an increased risk of water quality concerns in some of the state’s major river basins. Those facing significant, measurable impacts from sewage sludge include the Haw, Catawba, Yadkin-Pee Dee, Cape Fear, Neuse, and Tar-Pamlico watersheds.⁸⁵ The Charlotte-Mecklenburg municipal wastewater treatment system distributes much of its sludge to the rural, economically stagnant counties to the east.⁸⁶ For example, sewage sludge is applied to over 11,000 acres of farmland in neighboring Union County.⁸⁷

Biosolids produced from the Burlington wastewater treatment plant are distributed predominately in Chatham and Orange counties.⁸⁸ Some application sites in this area lie in the watersheds of headwaters critical to supplying Cane Creek Reservoir, a major supply of drinking water for the Chapel Hill-Carrboro area that otherwise undergoes strict watershed protection.⁸⁹ Agricultural lands that receive Burlington sludge border the area of the Cane Creek watershed under protective management by Orange County Water and Sewer Authority.⁹⁰ Notable levels of perfluorinated compounds (“PFCs”) have been found in the nearby creeks and streams directly

⁸⁴ CHIOSSO & PERKINS, *supra* note 2, at 11.

⁸⁵ *Id.* at 14.

⁸⁶ *Id.* at 13.

⁸⁷ BLUE RIDGE ENVTL. DEF. LEAGUE, *supra* note 83.

⁸⁸ CHIOSSO & PERKINS, *supra* note 2, at 13.

⁸⁹ *Id.*

⁹⁰ *Id.* at 19.

feeding Cane Creek.⁹¹ Scientists believe that PFCs pose significant human health risks from continuous exposure to low levels in drinking water.⁹²

Burlington biosolids are also currently thought by many to be contaminating the Haw River, upstream of Pittsboro's drinking water supply.⁹³ A 2007 study published in *Environmental Science & Technology* revealed nationally significant levels PFCs present in the Cape Fear, apparently stemming from its tributary the Haw River.⁹⁴ Subsequent watershed and tributary testing research conducted by Haw River Waterkeepers showed higher levels of PFCs and other industrial contaminants in tributary streams and creeks downstream of Burlington-sourced biosolids application sites where the rural landscape is otherwise minimally impacted by industrial sources of such contaminants.⁹⁵

Environmental Justice Issues

Environmental justice is a predominating concern that has arisen with the application of urban municipal sewage sludge to farmland in rural communities. According to a study published in *Environmental Health Perspectives* on the community effects of biosolids application, half of the thirty-four interviewees reported that the biosolids sites near their homes were owned by people, companies, or municipalities who did not live in the nearby community.⁹⁶ Rural counties often become veritable dumping grounds for the sewage sludge output from nearby urban centers.⁹⁷ Reports show that some areas where biosolids application to farmland is prevalent face the same environmental justice issues present in the hog farming

⁹¹ *Id.* at 13.

⁹² *Id.* at 16.

⁹³ *Id.* at 21.

⁹⁴ *Id.* at 17.

⁹⁵ *Id.*

⁹⁶ Lowman et al., *supra* note 1, at 540.

⁹⁷ CHIOSSO & PERKINS, *supra* note 2, at 13.

industry, with a disproportionate concentration of application fields prevalent in working class and minority communities.⁹⁸

Application events can cause environmental justice issues for neighboring community members for extended periods afterwards.⁹⁹ The *Environmental Health Perspectives* study states that homeowners on properties neighboring application sites often experience a plethora of negative effects on their social, physical, and mental health.¹⁰⁰ Many of those interviewed related various physical symptoms with application events, such as “mucous membrane irritation, respiratory and gastrointestinal distress, headaches, and skin rashes.”¹⁰¹ Almost all of those surveyed living within a mile of an application field also complained that the foul odors prevented them from exercising and socializing outdoors.¹⁰² Some noted that the acrid odors following application exacerbated preexisting chronic conditions, such as asthma and cancer.¹⁰³ Setback requirements thus appear to have failed in their purpose to prevent exposure detrimental to water quality and human health.

VI. Involvement and Recourse Available to Local Communities

DWQ states that its regional offices respond to any public complaints arising from the residuals management program.¹⁰⁴ However, the only public interaction and communication detailed in its Residuals Management Program Summary involves communication with county officials.¹⁰⁵ DWQ requires permittees to send a standard DWQ notification form to the local

⁹⁸ CHIOSSO & PERKINS, *supra* note 2, at 14.

⁹⁹ Lowman et al., *supra* note 1, at 538-39 (stating that odor nuisances can persist for up to six months after an application event).

¹⁰⁰ Lowman et al., *supra* note 1, at 538.

¹⁰¹ Lowman et al., *supra* note 1, at 537.

¹⁰² *Id.*

¹⁰³ Lowman et al., *supra* note 1, at 539.

¹⁰⁴ DWQ, *supra* note 7, at 16.

¹⁰⁵ *Id.*

County Manager of the county in which they are submitting site permit applications.¹⁰⁶ This standard form informs the County Managers of the fields intended to be permitted as application sites and an invites them to comment on the pending permit application.¹⁰⁷ If a site permit is approved, DWQ sends a copy of the permit and informational attachments detailing permit site locations within the county to the local County Health department.¹⁰⁸

Environmental groups in North Carolina scrutinize whether the state regulatory scheme's available avenues of involvement and recourse adequately represent the interests of local residents.¹⁰⁹ DWQ has enumerated measures to communicate with county officials, but the extent to which these measures provide citizen access to information and participation in the local permit decision-making process is questionable. Many neighbors to application sites complain of a lack of sufficient public notice before sludge is applied and a seeming lack of adequate avenues to inform and involve themselves in the application site permitting process.¹¹⁰ There appears to be an informational disconnect between neighborhoods affected by nearby permitted sites and both the DWQ and local county officials.

Additionally, county and municipal governments have been stifled from attempting to exercise their own preferences for sewage sludge application in their area. Though the federal EPA guidelines in 40 CFR Part 503 allow for additional regulation of sewage sludge application and permitting site approval on the local level, North Carolina courts have ruled local regulation on the matter to be completely preempted by the state-level management program.¹¹¹ The leading case on this issue in North Carolina is *Granville Farms, Inc. v. Cty. of Granville*.¹¹²

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ CHIOSSO & PERKINS, *supra* note 2, at 11.

¹¹⁰ Lowman et al., *supra* note 1, at 540-41.

¹¹¹ CHIOSSO & PERKINS, *supra* note 2, at 11.

¹¹² *Granville Farms, Inc. v. Cty. of Granville*, 612 S.E.2d 156, 162 (N.C. Ct. App. 2005).

On October 6, 2003, Granville County adopted an ordinance called the Granville County Sludge and Septage Ordinance.¹¹³ The ordinance added a more restrictive level of regulation to the regulations provided by DEQ, including requirements for sludge applicators in the county to:

- (1) obtain a permit from the county in addition to the state permit;
- (2) pay substantial permitting fees;
- (3) record a warning in the chain of title of the property that biosolids had been applied to the land;
- (4) keep more extensive records than required by state regulations; and
- (5) provide additional and more detailed notice of the application of biosolids to local authorities.¹¹⁴

The plaintiff in the case was Granville Farms, a farming and biosolids application company operating in the Granville County area. Granville Farms filed action on November 7, 2003, seeking to have the local ordinance struck down due to violations of state law.¹¹⁵ The trial court granted Granville Farms' motion for summary judgement on the grounds that the local ordinance was preempted by the state-level regulatory regime and enjoined the county from enforcing the ordinance.¹¹⁶

Granville County appealed, but to no avail. The North Carolina Court of Appeals stated that, although a county has the power and authority to enact local laws "relating to the health, safety or welfare of its citizens" under N.C. Gen. Stat. § 160A-174(b)(5), such ordinances are deemed invalid where they "[purport] to regulate a field for which a State or federal statute clearly shows a legislative intent to provide a complete and integrated scheme to the exclusion of state regulation."¹¹⁷ The court interpreted N.C. Gen. Stat. § 143-211(c) to expressly preempt attempts at further regulation by local governmental entities.¹¹⁸ It further noted that the two

¹¹³ *Id.* at 157.

¹¹⁴ *Id.*

¹¹⁵ *Id.* at 157-58.

¹¹⁶ *Id.* at 158.

¹¹⁷ *Id.* at 158-59

¹¹⁸ *Id.* at 162.

explicit exceptions under § 143-215.112(a), where local governments may regulate environmental matters relating to local air pollution and wastewater pretreatment programs with EMC approval, were implied to be exclusive of all others by express mention.¹¹⁹ The court cited several policy considerations justifying its holding, such as concerns that local regulation would undermine the goal of a comprehensive statewide regulatory scheme, an unreasonable compliance burden on agribusiness under a patchwork system of county-by-county regulation, and the potential effect of NIMBYism¹²⁰ pushing biosolids application into neighboring counties.¹²¹

VII. Policy Recommendations Going Forward

If sludge application as fertilizer is to live up to federal and state intentions as a truly “beneficial use,” several policy changes are needed going forward. These policy changes must address the seeming inability of local communities to exercise any meaningful degree of self-determination regarding where, when, and how sewage sludge is used in their area.

The *Granville Farms* holding points to one easy policy suggestion for how communities can deal with biosolids in their backyards. A reinterpretation of § 143-211(c) to read as not banning all exceptions to preemption of local regulation of air and water resources not explicitly mentioned would empower rural communities to deal with the benefits and risks of sewage sludge on their own terms. If the court system worries this would open the floodgates to local regulations of all kinds to the detriment of consistent application of state law, perhaps the legislature could simply add local biosolids regulation as one of the explicit exceptions in § 143-211(c).

¹¹⁹ *Id.* at 160.

¹²⁰ NIMBY stands for “not in my backyard,” a term which expresses the sentiment in which people believe a certain action should be taken, yet do not want it happening near them.

¹²¹ *Granville Farms, Inc. v. Cty. of Granville*, 612 S.E.2d 156, 159-60 (N.C. Ct. App. 2005) (discussing policy concerns that allowance of variable local regulation would have on agribusiness and neighboring counties).

In the spring session of 2015, the North Carolina General Assembly saw an ultimately unsuccessful bill introduced that would have allowed local governments to set biosolids quality restrictions for sewage sludge applied to sites in a given county.¹²² Legislative approval of local sludge quality restrictions would be a good first step towards increasing citizen influence over how sewage sludge is applied in their communities.

State policymakers should also address the information disconnect between local communities and both county-level governments and DWQ regional offices. More adequate notice should be provided to community members residing near fields with pending permit applications so that they can adequately voice their concerns and have their questions answered by DWQ and county officials. Additionally, a more adequate public forum and longer permit application comment period are necessary to ensure that the working-class, rural communities have a reasonable means and time in which to voice their opinions on local biosolids application.

VIII. Conclusion

The promise of free fertilizer and the necessity of sewage sludge disposal makes wholehearted support of a sewage sludge land application program appealing to agribusiness, urban areas, and regulators alike. However, land application of sewage sludge presents more social and environmental complexities than industry supporters and regulators currently recognize. While land application may indeed be a “beneficial use” in some cases, going forward it will be important for state regulators and policymakers to avoid a categorical adoption of this view. Field-by-field, community-by-community, and watershed-by-watershed determinations of whether sewage sludge may be beneficially used as fertilizer must be incorporated into North Carolina’s regulatory framework to ensure results that can balance the rights and needs of agribusiness, urban areas, and rural communities in a fair and comprehensive manner.

¹²² CHIOSSO & PERKINS, *supra* note 2, at 13.