

# NOTES

## ***A Cow Palace Coup: Expanding the Reach of RCRA to Combat Agricultural Pollution***

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\* J.D. 2016, Georgetown University Law Center. The author would like to thank Professor Lisa Heinzerling, Brenden Cline, Hampden Macbeth, Daniel Carpenter-Gold, Peter Viola, Collmann Griffin, and the staff of the *Georgetown Environmental Law Review* for their valuable contributions to this note. © 2016, Rachel Fullmer.

## INTRODUCTION

“Biosolids”—the genteel-sounding moniker increasingly given to municipal sewage sludge—consist of domestic human waste and other municipal wastes that have been processed by a wastewater treatment facility.<sup>1</sup> Every year, the United States generates vast quantities of this sludge, contributing to a burgeoning total waste stream that exceeds 1 billion tons of manure, biosolids, and industrial and municipal wastes annually.<sup>2</sup> Most of the 1 billion annual tons of animal and human wastes generated are returned to agricultural soils as fertilizer, along with industrial byproducts from hospitals, factories, and the like that inevitably find their way into municipal wastewater.<sup>3</sup> In fact, an estimated fifty-nine percent of all municipally treated sewage sludge is returned to farmland for some form of agricultural use in crop production or grazing.<sup>4</sup> The land application<sup>5</sup> of biosolids to farmland takes place in all fifty states.<sup>6</sup>

Current legal and regulatory structures have failed to keep up with the increased application of municipal sewage sludge to agricultural soil. Federal law is outdated, states often fail to take advantage of opportunities to regulate, and courts are likely to find more stringent local ordinances preempted by state programs. As a result, there are limited routes to legal relief for those seeking to challenge biosolids practices.

Recently, however, a federal district court opened the door for citizen suits under the Resource Conservation and Recovery Act (“RCRA”)<sup>7</sup> in a manner that

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1. *Frequently Asked Questions About Biosolids*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/biosolids/frequently-asked-questions-about-biosolids> (last visited Apr. 9, 2016) [hereinafter *Biosolids FAQ*].

2. U.S. DEP’T OF AGRIC., NATIONAL PROGRAM 214 AGRICULTURAL AND INDUSTRIAL BYPRODUCTS NATIONAL PROGRAM ANNUAL REPORT: FY2014 at 1, <http://www.ars.usda.gov/SP2UserFiles/Program/214/NP%20214%20FY%202014%20Annual%20Rpt.pdf> [hereinafter USDA REPORT].

3. *Id.* at 1 (“Most animal manure and biosolids, along with significant amounts of other agriculture and industrial byproducts, are applied to agricultural land because of the benefits they can provide, including nutrients for crop production and organic matter to improve soil properties.”).

4. Estimates range from forty to fifty-nine percent of all sewage sludge. 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, 695 (1999) (“Since 1988, land application of sewage sludge has increased from thirty-three percent of all sewage sludge generated to fifty-nine percent today.”). *But see* Brief for Water Environment Federation as Amicus Curiae Supporting Appellees at \*3, *City of Los Angeles v. Cnty. of Kern*, 581 F.3d 84 (9th Cir. 2009) (No. 07-56564), 2008 WL 3312315 (“It is estimated that in the United States, approximately 40% of the municipally treated wastewater solids are land applied to farmland.”); Gayathri Vaidyanathan, *Biosolids Tracking Efforts a Jumble of Research With No Clear Answers*, N.Y. TIMES (Aug. 26, 2010), <http://www.nytimes.com/gwire/2010/08/26/26greenwire-biosolids-tracking-efforts-a-jumble-of-research-37390.html?pagewanted=all> (“About 55 percent of sludge is applied in the United States on primarily grazing land.”).

5. 40 C.F.R. § 503.11(h) (2015) (“Land application is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.”).

6. *Biosolids FAQ*, *supra* note 1 (“Land application of biosolids takes place in all 50 states.”).

7. Resource Conservation and Recovery Act of 1976, 42 U.S.C. §§ 6901–6992k (2012).

could hold implications for biosolids use. In *Community Association for Restoration of the Environment, Inc. v. Cow Palace, LLC*,<sup>8</sup> a judge on the U.S. District Court for the Eastern District of Washington extended RCRA liability to agricultural operations, holding for the first time that certain uses of manure can transform an otherwise “beneficial”<sup>9</sup> fertilizer into a “solid waste” under the Act.<sup>10</sup> Before *Cow Palace*, most courts considered agricultural byproducts, such as animal manure and other material destined for reuse as fertilizer, exempt from RCRA’s requirements for the handling and storage of solid waste.<sup>11</sup> Courts reasoned that these materials are not truly “discarded” as required by RCRA’s definition of solid waste, leaving open the question of whether these materials might be transformed into waste in certain circumstances.<sup>12</sup> In *Cow Palace*, the court took on this open question, finding that some manure handling and storage practices do transform otherwise beneficial fertilizer into solid waste.<sup>13</sup>

The court’s reasoning in *Cow Palace* looms large for the future of municipal biosolids as agricultural fertilizer. This note argues that *Cow Palace*’s approach to RCRA offers a template for extending RCRA liability beyond animal manure in general, and demonstrates how a court might apply *Cow Palace*’s analysis of RCRA’s citizen suit provisions to the emerging agricultural use of biosolids.

### I. QUAGMIRE IN THE MAKING

The laws governing the land application of biosolids have failed to keep pace with the expansion of this practice over the last two decades. The use of biosolids in agriculture provides unique benefits for American farmers, but comes with unique risks. Legal efforts aimed at reducing the use of other types of agricultural waste, such as manure, often overlook municipal biosolids. The risks and benefits of the land application of biosolids are currently balanced by a federal regulatory scheme created by the U.S. Environmental Protection Agency (“EPA”) to govern biosolids use, along with state laws and local ordinances. However, these current regulatory structures are inadequate to provide a protective federal floor because they are outdated and under-inclusive, regulating only some pollutants in biosolids and not addressing emerging chemicals of concern. Additional gaps are

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8. 80 F. Supp. 3d 1180 (E.D. Wash. 2015).

9. *Safe Air for Everyone v. Meyer*, 373 F.3d 1035, 1045 (9th Cir. 2004) (holding that a fertilizer “destined for beneficial reuse” in a contiguous process by its original owner was not “discarded” under RCRA and therefore not within RCRA’s definition of “solid waste.”).

10. 42 U.S.C. § 6903(27).

11. *See generally Safe Air*, 373 F.3d at 1045.

12. *Cnty. Ass’n for Restoration of the Env’t Inc. v. Cow Palace (Cow Palace I)*, LLC, No. 13-CV-3016-TOR, 2013 WL 3179575, at \*3 (E.D. Wash. June 21, 2013) (finding that other courts “expressly did not decide whether or under what circumstances . . . other material becomes a RCRA solid waste when it accumulates in the environment as a natural, expected consequence of the material’s intended use.”).

13. *Cnty. Ass’n for Restoration of the Env’t Inc. v. Cow Palace, LLC (Cow Palace II)*, 80 F. Supp. 3d at 1223–24 (E.D. Wash. 2015).

left by current trends in the courts toward preemption of local control. Taken together, courts often find progressive local controls preempted by state programs crafted pursuant to outdated federal standards—a quagmire for those seeking to combat pollution from this growing practice.

#### A. BIOSOLIDS: BALANCING BENEFITS AND RISKS

The use of municipal biosolids as fertilizer can offer unique benefits. Some see the agricultural use of biosolids as presenting an economically efficient and technologically viable solution for farmers,<sup>14</sup> while reusing material that municipalities would otherwise discard. The existence of vast quantities of sewage sludge is, after all, a testament to the success of federal laws like the Clean Water Act (“CWA”) that require pretreatment of municipal wastes.<sup>15</sup> Before the CWA’s enactment, these wastes were discharged directly into the nation’s waters, resulting in the severe impairment of rivers and lakes.<sup>16</sup> Municipal wastewater treatment facilities subject to these pollution controls must now properly dispose of the resulting sludge wastes, through incineration, landfilling, or land application (i.e., the spreading, or spraying on land for use as fertilizer).<sup>17</sup>

Like other fertilizers, biosolids provide beneficial organic matter and nutrients necessary for crop growth, such as nitrogen, phosphorus, and potassium.<sup>18</sup> Biosolids also allow farmers to remediate depleted soils and increase crop yield while reducing reliance on synthetic chemical fertilizers.<sup>19</sup> Municipal sewage sludge not used in agriculture takes up space in municipal landfills or is burned in incinerators, where it emits hazardous air pollutants and leaves behind toxic ash.<sup>20</sup>

However, the agricultural use of biosolids also presents unique risks by introducing various levels of toxic and chemical pollutants, pathogens, and other contaminants into soil and the food supply.<sup>21</sup> Unlike regular animal manure, sewage contains trace amounts of industrial waste, toxins, and synthetic chemicals that invariably enter municipal wastewater systems through residential and

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14. O’Brien v. Appomattox Cty., 293 F. Supp. 2d 660, 661 (W.D. Va. 2003) (“Application of sewage sludge represents a cheap and technologically viable option for farmers seeking to increase land productivity.”).

15. *Biosolids FAQ*, *supra* note 1 (“Thirty years ago, thousands of American cities dumped their raw sewage directly into the nation’s rivers, lakes, and bays. Through regulation of this dumping, local governments [are] now required to treat wastewater and to make the decision whether to recycle biosolids as fertilizer, incinerate it, or bury it in a landfill.”).

16. *Id.*

17. *See supra* note 5.

18. *Biosolids FAQ*, *supra* note 1.

19. *Id.*

20. 40 C.F.R. § 503.40 (2015); 40 C.F.R. § 503.43 (2015).

21. O’Brien v. Appomattox Cty., 293 F. Supp. 2d 660, 661 (W.D. Va. 2003) (“[H]owever the use of treated waste on agricultural land also has risks. Neighboring property owners often complain about odors. Additionally, pollutants (trace elements or persistent organic chemicals) and pathogens (viruses, bacteria, or parasites) in sewage sludge could potentially contaminate soils, crops, livestock, and even humans.”).

industrial drainpipes. Biosolids include toxic heavy metals, such as arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc.<sup>22</sup> Biosolids destined for land application also often contain emerging chemicals of concern such as flame-retardants,<sup>23</sup> pharmaceuticals,<sup>24</sup> and other endocrine-disrupting chemicals.<sup>25</sup>

Further, the agricultural use of biosolids can cause bioaccumulation of regulated and unregulated substances, meaning that toxins are detected in plant tissue in higher concentrations after being absorbed through the soil.<sup>26</sup> Many crops grown on soils treated with biosolids—including lettuce, chard, broccoli, beets, eggplants, potatoes, and string beans—have been found to contain these contaminants.<sup>27</sup> Humans can be exposed to toxins through consumption of plants that have absorbed the contaminants contained in biosolids or consumption of animals that have grazed on land fertilized with biosolids. The use of biosolids also contributes to air pollution (from dust), groundwater contamination (from soil penetration and runoff), and soil degradation (from oversaturation of contaminants).<sup>28</sup> Indeed, routine use can render soils too toxic for plant

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22. 40 C.F.R. § 503.13 (2015) (for these pollutants EPA has set ceiling concentrations, as well as cumulative pollutant loading rates, monthly average pollutant concentrations, and annual pollutant loading rates for arsenic, cadmium, copper, lead, mercury, nickel, selenium, and zinc.).

23. See Arjun K. Venkatesan & Rolf U. Halden, *Brominated Flame Retardants in U.S. Biosolids from the EPA National Sewage Sludge Survey and Chemical Persistence in Outdoor Soil Mesocosms*, 55 WATER RES. 133, 134 (2014) (discussing the presence and accumulation of brominated flame retardants (“BFRs”) in biosolids and concluding that “subsequent land application of biosolids . . . might result in a significant accumulation of BFRs in U.S. soils, thereby increasing opportunities for environmental dispersion of these compounds and associated human exposure risks.”).

24. Sarah C. Monteiro & Alistair B.A. Boxall, *Pharmaceuticals and Personal Care Products in the Environment: Factors Affecting the Degradation of Pharmaceuticals in Agricultural Soils*, 28 ENVTL. TOXICOLOGY & CHEMISTRY 2546, 2546 (2009) (“In biosolids destined for land application, a number of pharmaceuticals and personal care products have been detected.”).

25. See Gabriel Eckstein & George William Sherk, *Alternative Strategies for Addressing the Presence and Effects of Pharmaceutical and Personal Care Products in Fresh Water Resources*, 15 U. DENV. WATER L. REV. 369, 445 n.80 (2012) (describing reports that show “[t]reated wastewater frequently contains antioxidants, detergents and detergent metabolites, disinfectants, fire retardants, fragrances, insect repellants, pharmaceuticals (prescription and nonprescription drugs), pesticides, plasticizers, polycyclic aromatic hydrocarbons, and steroidal compounds . . . [and has] been shown to contain low, yet biologically active, concentrations of estrogenic compounds.”) (citations omitted).

26. Sue Smith-Heavenrich, *Accumulation of Heavy Metals by Plants from Sludge-Amended Soils*, MAINE ORGANIC FARMERS & GARDENERS ASS’N, available at <http://www.mofga.org/Publications/MaineOrganicFarmerGardener/Fall2003/Sludge/tabid/1447/Default.aspx> (last visited Mar. 19, 2016) (“In addition to decreasing crop yield, heavy metals can accumulate in the tissues of food crops grown on sludge-treated soils. Increased concentrations of cadmium, zinc and nickel were found in beets and chard grown on sludge-treated soils. Tackett found a 29.2% increase in lead concentrations in lettuce grown in sludge-amended soil vs. control soil; 8.3% increase in broccoli and eggplant; 7.7% in potatoes; 6.3% in tomatoes; 0% in cucumber; and 8% in string beans.”).

27. *Id.*

28. See USDA REPORT, *supra* note 2, at 1 (“However, improperly managed manure and other byproducts can be a source of pollution . . . posing a threat to soil, water, and air quality, and to human and animal health.”); *Id.* at 4 (“Over-application of manure or municipal biosolids can result in excess soil leaching or runoff of P[hosphorus], which can lead to degradation of ground or surface water.”).

growth.<sup>29</sup>

Despite the potential for unease over biosolids use, public health and environmental organizations that are concerned about agricultural wastes have primarily focused efforts on animal manure rather than municipal biosolids. This focus is understandable because animals produce nearly three times as much waste as humans do each year.<sup>30</sup> Human waste also requires at least some form of treatment before being applied to land,<sup>31</sup> whereas animal waste can be applied to fields untreated. Animal waste is left largely unregulated for runoff into water sources and air emissions due to agricultural exemptions and other regulatory carveouts for agriculture in the Clean Air Act and Clean Water Act.<sup>32</sup> To be sure, animal wastes account for a greater proportion of the overall problem of agricultural pollution than biosolids.<sup>33</sup> Yet the increasing prevalence of biosolids use over the last twenty years has silently outpaced the legal and regulatory landscape governing these practices, while garnering much less attention.<sup>34</sup>

#### B. CURRENT LEGAL AND REGULATORY STRUCTURES PROVIDE INSUFFICIENT PROTECTIONS

The existing federal regulatory scheme that governs biosolids use is outdated and not sufficiently comprehensive to serve as an adequate federal floor. EPA's standards for regulated contaminants are out of date. EPA's rule also fails to include standards for a wide array of emerging chemicals and pollutants known to be present in biosolids. Because this federal regulation is designed for cooperative federalism without top-down implementation, state regulators often choose to craft and implement biosolids permitting programs. Courts therefore often find that state and federal standards displace local ordinances.

This current regulatory scheme provides some legal relief, but only in limited circumstances. First, applications of biosolids that fail to comply with federal standards can be subject to citizen suits under the CWA. But far less legal relief is available when harms arise from applications of biosolids in conformity with lax state and federal laws. Plaintiffs may also bring more traditional common law tort

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29. Smith-Heavenrich, *supra* note 26 (“In some heavily sludged soils, the concentration of metals is high enough to render the soil unsuitable for food crop production.”).

30. Hannah Connor, *Comprehensive Regulatory Review: Concentrated Animal Feeding Operations Under the Clean Water Act from 1972 to the Present*, 12 VT. J. ENVTL. L. 275, 279 (2011) (“[B]ased on the USDA 500 million ton manure production estimate, it is likely that CAFOs produce roughly three times the [EPA] estimate of 150 million tons of human sanitary waste produced annually in the US.”).

31. *See id.* (“[U]nlike human sanitary waste, which is required by the Clean Water Act to be treated before release, [animal] waste . . . is subject to minimal or no treatment before it is spread or sprayed onto land.”).

32. *See id.* at 281.

33. *See generally id.* (“[A]nimals produced at least forty times the 7.6 million tons of human biosolids that are generated and disposed of by publicly owned treatment works.”).

34. Goldfarb et al., *supra* note 4, at 695 (“One of the reasons for this increase [in prevalence] is the comparative deregulation of land application of sewage sludge.”).

claims like negligence, private nuisance, or trespass for potential environmental harms from biosolids.<sup>35</sup> Yet common law claims address environmental problems only after they have occurred and on a case-by-case basis.<sup>36</sup> Overall, the current regulatory and legal structures leave a gap.

### 1. The Federal Biosolids Rule Is Outdated

EPA has the authority to set standards for the disposal and productive use of biosolids under Sections 405(d) and (e) of the CWA.<sup>37</sup> EPA first issued regulations pursuant to this authority in 1994. Also known as the “Biosolids Rule,” these regulations are contained in Part 503 of the Code of Federal Regulations.<sup>38</sup> The Biosolids Rule provides municipalities with three main alternatives for the disposal or use of sewage sludge: landfilling, incineration, and land application.<sup>39</sup>

The standards for land application contained in the rule include maximum daily and monthly concentrations for heavy metals, as well as “pathogen reduction standards, site restrictions, crop harvesting restrictions, and monitoring, record keeping, and reporting requirements.”<sup>40</sup> EPA considers this regulatory framework to be largely “self-implementing” and urges biosolids users and generators to follow the Part 503 standards whether or not a permit has been issued pursuant to the regulations.<sup>41</sup> EPA recently considered amending the rule to limit concentrations of dioxin and dioxin-like compounds, but ultimately determined the risks posed by these emerging chemicals did not justify additional regulation.<sup>42</sup>

Overall, the measures contained in the Biosolids Rule amount to the least stringent restrictions developed by any nation that uses biosolids in agriculture. For example, EPA’s standards allow for concentrations of heavy metals up to one

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35. *Id.* at 728.

36. Further, even these tort remedies may be limited or preempted by a comprehensive state or federal regulatory scheme. *See, e.g.*, BARRY A. LINDAHL, MODERN TORT LAW: LIABILITY & LITIGATION § 44:84 (2d ed. 2008) (describing specific circumstances under which a plaintiff’s common-law claim “may be precluded by the existence of various state or federal statutory remedies”).

37. 33 U.S.C. § 1345(d)(1), (e) (2015).

38. 40 C.F.R. §§ 503.40, 503.43 (2015).

39. *Id.*

40. *Biosolids FAQ*, *supra* note 1 (“The Part 503 rule governing the use and disposal of biosolids contain numerical limits, for metals in biosolids, pathogen reduction standards, site restriction, crop harvesting restrictions and monitoring, record keeping and reporting requirements for land applied biosolids . . .”).

41. Standards for the Use or Disposal of Sewage Sludge, 58 Fed. Reg. 9248, 9252 (Feb. 19, 1993) (to be codified at 40 C.F.R. pts. 257, 403, and 503) [hereinafter Sewage Sludge Standards] (“The final Part 503 rule is designed to be self-implementing, and therefore, clearly spells out how the requirements apply to persons using or disposing of sewage sludge.”).

42. *Biosolids FAQ*, *supra* note 1 (“Most recently, standards have been proposed to include requirements in the Part 503 Rule that limit the concentration of dioxin and dioxin like compounds in biosolids to ensure safe land application.”). *See also Decision Not to Regulate Dioxins in Land-Applied Biosolids*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/biosolids/dioxins-sewage-sludge> (last visited Mar. 19, 2016).

hundred times greater than the limits imposed by any other country.<sup>43</sup> Further, while EPA is required to conduct nationwide sludge surveys to determine what contaminants are in biosolids, it has only done so three times since 1988 and has not reexamined contaminant levels since 2009.<sup>44</sup> EPA tested samples for some emerging chemicals of concern in 2009—including flame-retardants, pharmaceuticals, industrial solvents, and personal care products found in biosolids—but has declined to set concentration limits for these chemicals.<sup>45</sup>

The CWA provides a citizen suit provision that allows claims against wastewater treatment facilities that generate or treat domestic sewage sludge, as well as against any person who uses or disposes of sewage sludge from such facility,<sup>46</sup> for violations of the standards, permits, or conditions in the Biosolids Rule.<sup>47</sup> However, these provisions provide no relief if the biosolids were used in conformity with these rules. The rule further provides that landowners using biosolids for agriculture in accordance with Part 503 are protected from liability under the Comprehensive Environmental Response, Compensation and Liability Act (“CERCLA”)<sup>48</sup> as well as shielded from any EPA enforcement action under the Part 503 rule.<sup>49</sup> Consequently, this regulatory scheme anticipates no relief without a violation of Part 503.

## 2. Lax State Regulations Displace Local Control

State laws governing biosolids are often too lax and are interpreted to displace local ordinances. EPA’s regulations were designed to maintain a role for more stringent state and local control. EPA recognized that the rules set a national baseline for “sewage sludge or sewage sludge products . . . sold or given away to the general public” and were “not designed to protect the public against every

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43. Rebecca Renner, *Sewage Sludge, Pros & Cons*, 34 ENVTL. SCI. & TECH. 430 (2000), <http://www.mindfully.org/Pesticide/Sewage-Sludge-Pros-Cons.htm> (“When it comes to spreading sludge on agricultural land, the United States has the most relaxed standards for metals among developed nations. Standards for heavy metals are up to 100 times higher than any other country has ever proposed.”).

44. *Sewage Sludge Surveys*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/biosolids/sewage-sludge-surveys> (last visited Mar. 12, 2016).

45. U.S. ENVTL. PROT. AGENCY, OCCURRENCE OF CONTAMINANTS OF EMERGING CONCERN IN WASTEWATER FROM NINE PUBLICLY OWNED TREATMENT WORKS (2009).

46. *Sewage Sludge Standards*, *supra* note 41, at 9248.

47. 33 U.S.C. § 1365(f)(7) (2015) (defining an “effluent standard or limitation” to include a regulation set by EPA pursuant to 1345(d), “Disposal or Use of Sewage Sludge”).

48. *Sewage Sludge Standards*, *supra* note 41, at 9262 (“Sludge placed on the land for such beneficial purpose and applied in compliance with the requirements for land application of sewage sludge . . . and in accordance with accepted agricultural practices using appropriate application rates, which constitutes the normal application of fertilizer, does not constitute a ‘release’ for the purposes of CERCLA liability.”). Further, “releases of hazardous substances from the land application of sewage sludge authorized under and in compliance with an NPDES permit would constitute a federally permitted release,” and thus are not subject to CERCLA liability for release of a hazardous substance. *Id.*

49. *See id.*

conceivable misuse of the product.”<sup>50</sup> The rule explicitly allowed states and political subdivisions to “retain the authority to adopt or enforce more stringent standards than those provided.”<sup>51</sup> Further, a stated goal of the rule is to “preserve a local community’s choice of a disposal practice.”<sup>52</sup>

In spite of this regulatory room left for state action, lax state oversight has created a “common perception that state control over the Part 503 process is insufficient to protect local health and safety.”<sup>53</sup> For example, “[d]ue to claimed administrative constraints, it is now common practice for some states to practice the ‘honor system’ with regard to land application of sewage sludge.”<sup>54</sup> Further, “most states will not keep track of how much waste is applied or where.”<sup>55</sup>

The envisioned framework by which a state would develop and implement a biosolids program with environmental protections beyond the EPA’s federal floor has not materialized, and instead, municipal ordinances have arisen to try to fill this regulatory gap. Therefore, many legal efforts aimed at curbing the use of biosolids in food production have focused on defending local and municipal ordinances that regulate or restrict biosolids use.<sup>56</sup> Other efforts have focused on establishing tort liability for parties applying biosolids to fields.<sup>57</sup> Yet, after two decades in the courts, advocates have failed to advance viable legal theories to protect community choice, and localities have been blocked by legal precedents favoring state regulation.

Local biosolids ordinances were initially challenged on federal preemption grounds.<sup>58</sup> In 1995, the first court to review the land application of biosolids upheld such local regulation in *Welch v. Board of Supervisors of Rappahannock County, Virginia*.<sup>59</sup> The court found that a Rappahannock County ordinance was not preempted by EPA’s Biosolids Rule “because the Act allows states and localities to enact requirements for the use or disposal of sewage sludge more stringent than the federal requirements.”<sup>60</sup> The court found that EPA’s “preference for land application over other methods” of disposal did not necessarily

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50. *Id.* at 9252.

51. *Id.* at 9262.

52. *Id.* at 9251.

53. Goldfarb et al., *supra* note 4, at 710. (“The popularity of local bans on sewage sludge land application is due primarily to the common perception that state control over the Part 503 process is insufficient to protect local health and safety.”).

54. *Id.*

55. *Id.*

56. *Id.* at 714–22, Parts A.I., B.I. (identifying existing preemption and dormant commerce clause jurisprudence as it has been applied to local ordinances in biosolids cases).

57. *Id.* at 687 (examining the “various siting and toxic tort liability issues associated with the land application of sewage sludge”).

58. *Id.* at 714–22, Parts A.I., B.I. (identifying existing preemption and dormant commerce clause jurisprudence as it has been applied in biosolids cases).

59. *See Welch v. Bd. of Supervisors of Rappahannock Cnty.*, 888 F. Supp. 753, 760 (W.D. Va. 1995).

60. *Id.*

amount to a prohibition against states banning the practice.<sup>61</sup> Further, the *Welch* court found that the ordinance did not violate the dormant commerce clause.<sup>62</sup> But *Welch* was unique in reaching the federal preemption questions because it was brought at a time when no state regulations existed under Part 503; therefore, no state preemption challenge arose.

More recently, courts considering these challenges have found that local biosolids ordinances are preempted by state law and, thus, reviewing judges have declined to reach the federal preemption question.<sup>63</sup> If *Welch* were heard today, the case could be resolved differently because of laws the Virginia legislature passed after *Welch* that regulate biosolids use statewide. For example, in the subsequent case of *O'Brien v. Appomattox County, Virginia*,<sup>64</sup> the court struck down local zoning ordinances that placed tight controls on areas where biosolids could be applied, including prohibiting the application of biosolids in some areas.<sup>65</sup> The court found that because biosolids application was permitted under Virginia state law, the ordinance's restrictions contradicted the state legislature's implicit endorsement of the practice within boundaries set by the state.<sup>66</sup> Similarly, in *City of Los Angeles v. County of Kern*, a federal district court invalidated a biosolids ordinance after finding that California's similar state law impliedly preempted more stringent local regulations.<sup>67</sup> This trend toward preempting local control in light of state laws has also played out in many state courts with the same effect: preempting local controls.<sup>68</sup> These holdings suggest that localities cannot prohibit or restrict biosolids application in states with

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61. *Id.*

62. *Id.* at 759 ("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.")

63. See *O'Brien v. Appomattox Cty.*, 293 F. Supp. 2d 660, 662 (W.D. Va. 2003); *Synagro-WWT, Inc. v. Rush Twp.*, 299 F. Supp. 2d 410, 424 (M.D. Pa. 2003); *City of Los Angeles v. Cty. of Kern*, 581 F.3d 841, 846 (9th Cir. 2009).

64. *Appomattox Cty.*, 293 F. Supp. 2d at 662.

65. *Id.* at 661–62 ("Land application of biosolids would be tightly regulated within the new zoning district and the use of biosolids would be prohibited elsewhere.")

66. *Id.*

67. *County of Kern*, 581 F.3d at 846. However, the Ninth Circuit again failed to reach the merits of the federal questions and the state law preemption issue was remanded for further consideration below. "Guided by the traditional principle that a federal court should not decide federal constitutional questions where a dispositive nonconstitutional ground is available," the court of appeals exercised its discretion addressing the question of prudential standing *sua sponte* and found the out-of-state challengers did not surmount the prudential standing hurdles to properly raise the dormant commerce clause challenges. *Id.* The court therefore vacated the lower court's judgment and remanded for reconsideration of the state law claim. But the reasoning employed in *County of Kern* demonstrates the current trend toward preempting local control in light of state laws.

68. See *Franklin Cty. v. Fieldale Farms Corp.*, 507 S.E.2d 460, 461 (Ga. 1988) (concluding that due to existing state law, the "General Assembly has failed to authorize local governments to regulate the application of sludge to land, except in the specific area of monitoring."); *Holgate Prop. Assocs. v. Twp. of Howell* 679 A.2d 613, 619 (N.J. 1996) (concluding that the state law "has preempted the area of solid waste management, including the regulation of sludge and sludge-derived products.")

existing state laws that implicitly endorse biosolids use by setting restrictions or administering permit systems to govern these practices. To date, most local ordinances have been overturned and tort plaintiffs have been further limited by “right to farm” statutes.<sup>69</sup>

## II. *COW PALACE*: A COURT APPLIES THE RESOURCE CONSERVATION AND RECOVERY ACT (“RCRA”) TO AGRICULTURAL WASTE

Recently, however, a U.S. district court opened the door for plaintiffs to use existing federal law to fill the gap in biosolids regulation. In *Cow Palace*, a judge in the Eastern District of Washington applied RCRA to animal manure, an agricultural waste product that is distinct from, but similar to, biosolids. RCRA’s citizen suit provisions provide an unexplored legal avenue for those aggrieved by biosolids use. RCRA provides a comprehensive waste management scheme with two distinct routes for citizen suits that may be appropriate for plaintiffs falling within the current gaps in biosolids regulation.

### A. AN INTRODUCTION TO RCRA

RCRA is a “comprehensive environmental statute that empowers EPA to regulate hazardous wastes from cradle to grave.”<sup>70</sup> The statute’s primary purpose is to “reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, ‘so as to minimize the present and future threat to human health and the environment.’”<sup>71</sup> Along with hazardous wastes, RCRA provides a framework for the management of non-hazardous “solid wastes.” RCRA is structured around the “twin goals of encouraging resource recovery and protecting against contamination.”<sup>72</sup>

In order for a non-hazardous material to fall under any subsection of RCRA’s citizen suit provision, it must first fit within RCRA’s broad definition of “solid waste,” set forth in subsection 6903(27). The statute’s definition of “solid waste” includes:

any garbage, refuse, *sludge from waste treatment plant, water supply treatment plant* or air pollution control facility and other discarded material, including solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges

69. See, e.g., *Gilbert v. Synagro Cent., LLC*, 131 A.3d 1, at \*23 (Pa. 2015) (“[W]e conclude . . . that biosolids land use is a ‘normal agricultural operation’ within the meaning of § 952 of the [Pennsylvania Right to Farm Act].”).

70. *Chicago v. Envtl. Def. Fund*, 511 U.S. 328, 331 (1994).

71. *Meghrig v. KFC, Western Inc.*, 516 U.S. 479, 483 (1996) (quoting 42 U.S.C. § 6902(b) (2012)).

72. *Chicago*, 511 U.S. at 339.

which are point sources subject to [CWA National Pollutant Discharge Elimination System (“NPDES”)] permits.<sup>73</sup>

This statutory definition appears to include biosolids on its face. Biosolids are materials derived from the “sludge” from a “waste treatment plant” or a “water supply treatment plant” as included in the definition. Further, biosolids may be viewed as “other discarded material” whose introduction into the human environment is the result of “agricultural operations” due to their direct application to cropland. And for the reasons described in Part III, the exemption provided for “solid or dissolved material in domestic sewage” does not cover biosolids.<sup>74</sup>

Once a non-hazardous material fits within this definition of “solid waste,” RCRA’s robust citizen suit provision includes three distinct pathways for a private citizen to seek relief. First, under subsection 6972(a)(1)(A), a general civil liability claim can be brought against a person alleged to be in violation of “any permit standard, regulation, condition, requirement, prohibition, or order which has become effective” under RCRA.<sup>75</sup> This kind of suit is typically used to enforce the violation of a permit issued under the statute or the failure to conform to other provisions of the Act. Second, in subsection 6972(a)(1)(B), RCRA’s citizen suit provides a special remedy for imminent hazards, allowing suits to be filed without alleging violation of a permit condition.<sup>76</sup> Under this broad standard, any person may commence a civil action “against any person . . . who has contributed or who is contributing to the past or present handling, storage, treatment, transportation, or disposal of any *solid* or hazardous waste which may present an imminent and substantial endangerment to health or the environment.”<sup>77</sup> Third, RCRA provides a pathway for citizen relief for any failure of the EPA Administrator to perform a nondiscretionary duty under the Act.<sup>78</sup> The first two citizen suit provisions—subsection 6972(a)(1)(A)’s general civil liability provision and subsection 6972(a)(1)(B)’s special remedy for imminent hazards—are the focus of this note.

## B. THE COW PALACE DECISION

### 1. Facts and Procedural History

Cow Palace Dairy (“Cow Palace” or “the Dairy”) is a large confined animal feeding operation located in the Lower Yakima Valley in Granger, Washington.<sup>79</sup> Cow Palace houses more than 11,000 animals, primarily confined in large open

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73. 42 U.S.C. § 6903(27) (emphasis added).

74. *Id.*

75. 42 U.S.C. § 6972(a)(1)(A).

76. *Id.* § 6972(a)(1)(B).

77. *Id.* § 6972(a)(1)(A)–(B) (emphasis added).

78. *Id.* § 6972(a)(2).

79. *Cow Palace II*, 80 F. Supp. 3d at 1187.

lot containment pens.<sup>80</sup> Like other large-scale industrial farming operations, Cow Palace generates a massive amount of animal waste—more than 100 million gallons of manure annually, not including contaminated storm-water runoff.<sup>81</sup> Cow Palace managed this vast quantity of animal waste in several ways, including: “transforming it into compost and selling it, applying it to agricultural fields as fertilizer, and storing liquid manure in lagoons until it is applied to agricultural fields.”<sup>82</sup> Along with its more traditional consumer products, such as milk, meat, and crops, the Dairy contended that the manure generated by its herd also constituted a valuable “product.”<sup>83</sup> Under Washington state law, Cow Palace was required to manage its millions of gallons of manure through a state-approved management plan in accordance with state laws.<sup>84</sup> Even with this state plan in place, the Dairy’s common practices included: applying millions of gallons of liquid waste directly to agricultural fields,<sup>85</sup> storing approximately 40 million gallons of liquid manure in a series of unlined earthen impoundments called lagoons,<sup>86</sup> and composting solid manure on unlined soil.<sup>87</sup>

After a series of reports discussing groundwater contamination by the *Yakima Herald Republic*, a local newspaper, EPA began to investigate potential sources of excess nitrate contamination by sampling drinking water wells.<sup>88</sup> EPA’s final report, published in March 2013, concluded that “cluster dairies,” including Cow Palace Dairy, were likely causing the high nitrate levels in downgradient drinking

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80. *Id.* at 1187 (“Cow Palace reported its herd size to number over 11,000, with 7,372 milking cows, 897 dry cows, 243 springers, 89 breeding bulls, and 3,095 calves predominately housed in open lot containment pens.”).

81. *Id.* at 1187 (“[T]he Dairy creates, on an annual basis, over 100 million gallons of this substance that must be managed: 61,026,000 gallons of manure-contaminated water from washing the cows and 40,383,850 gallons of liquid manure excreted by the herd.”).

82. *Cow Palace I*, 2013 WL 3179575, at \*1.

83. *See id.* at \*3.

84. *Cow Palace II*, 80 F. Supp. 3d at 1191. Under Washington state law, Cow Palace is required to manage its millions of gallons of manure through a state-approved Dairy Nutrient Management Plan (“DNMP”). The purpose of the DNMP is to provide “Best Management Practices (BMP’s) for the production, collection, storage, transfer, treatment, and agronomic utilization of the solid and liquid components of dairy nutrients in such a manner that will prevent the pollution or degradation of state ground waters and surface waters.” *Id.* at 1189–90. Under the plan, Cow Palace is required to: 1) “test the nutrient content of the manure generated by its herd” and verify the actual nutrient concentrations of the liquid contained in its lagoons, 2) regularly “test its soils for residual nutrients,” and 3) “consider average crop yields when determining manure application.” Further, the plan provides specific guidance on application rates, noting critical considerations for land application of wastes and advising caution when “applying manure to fields with long histories of manure application.” *Id.* at 1190–91. Thus, the plan “provides extensive information and guidance to the Dairy on how to apply its manure in a way that is both most beneficial to its crops and least likely to cause environmental harm.” *Id.* at 1191.

85. *Id.* at 1191.

86. *Id.* at 1194–95 (“Cow Palace Dairy stores the millions of gallons of liquid manure generated annually from its herd in a series of earthen impoundments, spanning just over 9 acres, which include four storage ponds, two settling basins, a safety debris basin, and several catch basins . . . . In total, the Dairy has the capacity to store only approximately 40 million gallons.”).

87. *Id.* at 1197.

88. *Id.* at 1202.

water.<sup>89</sup> Together, the EPA estimated that the dairies contributed sixty-five percent of the total contamination.<sup>90</sup> Around the time the agency issued these findings, Cow Palace and EPA entered into an Administrative Order on Consent (“AOC”) pursuant to EPA’s authority under section 1431 of the Safe Drinking Water Act (“SDWA”).<sup>91</sup>

On February 14, 2013, two nonprofit public interest groups filed a complaint against Cow Palace in the U.S. District Court for the Eastern District of Washington.<sup>92</sup> Community Association for Restoration of the Environment (“CARE”) was joined by the Center for Food Safety (“CFS”), a national nonprofit organization working to prevent negative impacts from industrial agricultural technologies.<sup>93</sup>

Rather than look to the SDWA or the CWA to remedy the contamination, CARE and CFS (collectively plaintiffs, or “CARE”) sought relief under RCRA. CARE alleged that Cow Palace’s manure management practices created an imminent and substantial endangerment to public health and the environment<sup>94</sup> and constituted illegal open dumping in violation of RCRA.<sup>95</sup> CARE argued that the manure produced at the farm was “less of a product than the unwanted byproduct of its primary milk operations”<sup>96</sup> and therefore could trigger liability as a solid waste under RCRA. Coupled with allegations that Cow Palace’s practices contributed to nitrate contamination of surface water and groundwater, CARE pointed to the public health harms associated with nitrate exposure, including increased cancer risk, hyperthyroidism, and increased mortality from strokes and heart disease.<sup>97</sup>

Noting this novel use of RCRA, Cow Palace initially asked the court to dismiss the action for failure to state a claim.<sup>98</sup> However, the court was not convinced that

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89. *Id.* at 1203.

90. *Id.*

91. *Cow Palace I*, 2013 WL 3179575, at \*1. The AOC required Cow Palace to: 1) take specific actions to reduce current levels of nitrogen pollution and prevent further contamination of drinking water, 2) establish a monitoring system to ensure nitrogen reduction was taking place, and 3) provide nearby residents with a supply of drinking water. *Cow Palace II*, 80 F. Supp. 3d 1180 at 1203. EPA updated the AOC in December of 2014 upon finding that data collected under the order’s monitoring requirement “supports its previous finding that the dairies, including Cow Palace Dairy, are the chief source of nitrate contamination in the area.” *Id.*

92. *See generally id.*

93. *Id.*

94. 42 U.S.C. § 6972(a)(1)(B) (2012).

95. *Id.* § 6945(a).

96. *Cow Palace II*, 80 F. Supp. 3d at 1187.

97. *Id.* at 1202.

98. The Dairy first argued that its manure could not be solid waste under RCRA because it is a beneficial product used as fertilizer that is not “discarded” as required by RCRA’s statutory definition. *Cow Palace I*, 2013 WL 3179575, at \*3. Because of its potential for beneficial reuse, Cow Palace argued, the manure could not be “transformed into ‘solid waste’ [even] if it is over-applied or leaked as an unintended consequence of its intended use.” *Id.* Further, Cow Palace argued that if CARE’s theory of liability were to prevail in court the precedent could have the “‘untenable result’ of requiring every dairy in the nation to operate as a sanitary landfill.” *Id.* Cow Palace also pointed out that it had already entered into an AOC with EPA under the SDWA.

it could properly dispose of this citizen suit at such a preliminary stage.<sup>99</sup> On June 21, 2013, the court denied Cow Palace's motion to dismiss, finding that CARE had successfully pleaded "a plausible claim for relief under the tenets of RCRA."<sup>100</sup> Both parties eventually filed motions for summary judgment and on January 14, 2015, the court granted CARE's motion finding Cow Palace liable under RCRA.<sup>101</sup> With the case moving toward a trial on damages, Cow Palace appealed the finding of liability to the Ninth Circuit Court of Appeals and asked the district court to stay the proceedings pending the appeal. The trial court denied the Dairy's motion for certification for interlocutory appeal and declined to stay the proceedings so close to the scheduled trial on damages.<sup>102</sup> Within days of the impending trial, the parties announced a settlement, avoiding a potentially precedent-setting appeal to the Ninth Circuit and a full trial on damages.<sup>103</sup>

## 2. *Cow Palace's* Determination of Liability Under RCRA

Even though the summary judgment liability finding was not heard by the Ninth Circuit, the liability determination in *Cow Palace* is notable for its broad application of RCRA. The court held, among other things, that: 1) the animal waste stored in Cow Palace's lagoons was "solid waste" under RCRA; 2) Cow Palace's manure practices may have presented an imminent and substantial endangerment to the public in violation of RCRA; and 3) current and past owners of the Dairy could be held liable under RCRA for contributing to the disposal of a solid or hazardous waste.<sup>104</sup>

While the settlement avoided a trial and possible appeal, the liability determination itself could be persuasive to courts examining RCRA in similar agricultural contexts.<sup>105</sup> The court's reasoning in *Cow Palace* demonstrates the broad

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Because of the existing agreement with the agency to address the same contamination at issue here, Cow Palace argued that the additional claims under RCRA's citizen suit should be barred by the anti-duplication provisions in RCRA.

99. On the question of duplicative relief with the SDWA AOC, the court found that "it remains to be seen what remedies could be supplemental to the [AOC] without conflict or duplication." *Id.* at \*6.

100. *Id.* at \*5. The case proceeded amid a flurry of *Daubert* motions to admit or exclude various experts and scientific reports. Central to the factually intensive inquiries before the court was a debate about the nitrogen cycle. *Id.* at \*2.

101. *Cow Palace II*, 80 F. Supp. 3d 1180.

102. Concerned for the nearby residents who had been "consuming the nitrate-contaminated groundwater" throughout two years of extensive discovery, the court found that "public interest in addressing current levels of contamination and minimizing any further risk of harm immeasurably outweighs any argument in favor of staying these proceedings pending appeal." *Cnty. Ass'n for Restoration of the Env't Inc. v. Cow Palace (Cow Palace III)*, LLC, No. 2:13-CV-3016-TOR, 2015 WL 403178, at \*1 (E.D. Wash. Jan. 28, 2015).

103. *Settlement In RCRA Manure Rule Suit Will Avert Precedent-Setting Ruling*, INSIDE EPA.COM (May 8, 2015), <http://insideepa.com/daily-news/settlement-rcra-manure-rule-suit-will-avert-precedent-setting-ruling>.

104. *Cow Palace II*, 80 F. Supp. 3d at 1180.

105. *RCRA Settlement May Boost Waste Law Suits Despite Averting Precedent*, INSIDE EPA.COM (May 21, 2015), <http://insideepa.com/daily-news/rcra-settlement-may-boost-waste-law-suits-despite-averting-precedent> ("But one law professor says [*Cow Palace*]’s liability ruling, along with other case law on what constitutes a

reach of RCRA's citizen suit provision and, alongside other RCRA case law, could fuel a new wave of RCRA challenges to agricultural practices brought by environmental and public health groups.<sup>106</sup>

The district court's analysis distilled elements relevant for future RCRA liability determinations in similar factual situations. The court examined the necessary elements for liability under two parts of RCRA's citizen suit: the powerful "imminent and substantial endangerment" provision of subsection 6972(a)(1)(B), as well as the general civil liability provision in subsection 6972(a)(1)(A) for an alleged violation of "any permit standard, regulation, condition, requirement, prohibition" under RCRA.<sup>107</sup>

First, to establish liability for an "imminent and substantial endangerment," the court held that a private citizen must demonstrate only that: "(1) a 'person,' as defined under RCRA, has 'contributed' or 'is contributing' to, (2) the 'past or present handling, storage, treatment, transportation, or disposal of' any 'solid or hazardous waste,' and (3) the waste in question 'may present an imminent and substantial endangerment to health or the environment.'"<sup>108</sup>

Next, the violation of the general liability citizen suit provision was premised on an alleged violation of RCRA's open dumping prohibition. Even though the facility was not subject to a RCRA permit, CARE claimed that Cow Palace violated RCRA's prohibition against waste management practices that "constitute the open dumping of solid waste."<sup>109</sup> CARE alleged that Cow Palace's manure storage amounted to the "violation of any . . . prohibition" under RCRA's general citizen suit provision.<sup>110</sup> In examining this claim, the court looked to other EPA regulations under RCRA for further guidance on the regulatory definitions of "open dump," "disposal," and "contaminate."<sup>111</sup> EPA regulations clarify which waste practices constitute open dumping and prohibit actions that "contaminate an underground drinking water source beyond the solid waste boundary,"<sup>112</sup> meaning that the pollution is detected beyond the "'outermost perimeter' of where waste is disposed."<sup>113</sup> Therefore, for CARE to prevail on the open dumping claim in light of these regulations, the court found that CARE needed to

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'discarded' material under RCRA and other statutes, is enough to support suits in other jurisdictions even without a ruling. 'The fact that there's a settlement, the fact that the 9th Circuit hasn't spoken on the subject and it's only a district court ruling, it doesn't change the mosaic at all. Other courts will either be persuaded by that broader mosaic or they won't, and my sense is that most of them will,' the professor says."

106. *Id.* (According to the same law professor quoted above, "[t]here are a number of cases around the country where this issue could be revisited. People in the environmental movement are certainly hoping to apply that precedent elsewhere.")

107. *Cow Palace II*, 80 F. Supp. 3d at 1218.

108. *Id.* at 1218 (quoting *Ecol. Rights Found. v. Pac. Gas & Elec. Co.*, 713 F.3d 502, 514 (9th Cir. 2013)).

109. *Id.* at 1218 (referencing section 6945(a)).

110. 42 U.S.C. 6972(a)(1)(A).

111. *Cow Palace II*, 80 F. Supp. 3d at 1218–19.

112. *Id.* at 1127 (citing 40 C.F.R. § 257.3-4(c)(5) (2015)).

113. *Id.* at 1219 (citing 40 C.F.R. § 257.3-4(a) (2015)).

establish that: “(1) a solid waste is managed or disposed [of] . . . (2) that ‘contaminates’ an ‘underground drinking water source’ (3) beyond the solid waste boundary.”<sup>114</sup>

Due to the overlap in the two claims, the court proceeded with a combined analysis, centering its inquiry on three determinative factors for both citizen suit claims:

- (1) whether the manure [management practices] at the Dairy . . . constitutes the ‘handling, storage, treatment, transportation, or disposal of . . . solid waste;’
- (2) whether the manure ‘contaminates’ the groundwater or surface water, . . . [or] is ‘beyond the solid waste boundary;’
- (3) whether . . . this contamination is posing an ‘imminent and substantial endangerment’ to human health or the environment; and
- (4) whether the Defendants are all responsible parties under RCRA.<sup>115</sup>

Accordingly, the opinion charts a course for future claimants seeking relief under either part of RCRA’s citizen suit provision, or both parts.

### III. AN EXTENSION OF *COW PALACE*: APPLYING RCRA TO BIOSOLIDS

The *Cow Palace* decision paves the way for similar novel applications of RCRA. Municipal biosolids used in agriculture share factual and regulatory similarities with the animal waste at issue in *Cow Palace*. A court mirroring *Cow Palace*’s analysis could hold that RCRA’s requirements are broad enough to encompass threats of environmental harms from the use of biosolids as fertilizer. First, this note demonstrates that, like manure, biosolids could meet RCRA’s definition of “solid waste.” Next, a court may find that biosolids may present an “imminent and substantial endangerment” to human health and the environment. Finally, a court could also hold that biosolids practices may contribute contaminants “beyond the solid waste boundary” in violation of RCRA’s prohibition against open dumping.

Lastly, this note addresses counterarguments and practical concerns that weigh against extending RCRA to biosolids. RCRA’s statutory exemption of “domestic sewage” likely would not foreclose liability for biosolids based on courts’ prevailing understanding of this phrase. RCRA’s anti-duplication provision and interaction with the CWA is also not likely to preclude RCRA citizen suit claims.

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114. *Id.* at 1219.

115. *Id.* This note does not address the court’s fourth prong, the question of whether a potential defendant is a “person” for the purposes of being held liable under RCRA.

A. BIOSOLIDS FALL WITHIN THE *COW PALACE* TEMPLATE

In order to bring a RCRA claim, a potential plaintiff must show that the non-hazardous substance is a discarded material that falls within RCRA's definition of "solid waste." Next, to sustain a citizen suit under subsection 6972(a)(1)(B), a plaintiff must show that this waste may present an imminent and substantial endangerment to health or the environment. Alternatively, to sustain a suit under subsection 6972(a)(1)(A), a plaintiff could demonstrate that this waste has contributed contaminants "beyond the solid waste boundary," violating RCRA's ban on open dumping. Using the factors examined in *Cow Palace*, a court could find that each of the three required elements are satisfied in examining biosolids use.

## 1. Biosolids May Be Solid Waste Under RCRA

In *Cow Palace*, the court flatly rejected the Dairy's contention that reviewing courts should adopt a "blanket interpretation that manure, used as a fertilizer, can never be considered a 'solid waste' under RCRA."<sup>116</sup> For each of the Dairy's main manure practices—land application, storage in lagoons for future application or use, and composting—*Cow Palace* argued that the manure was being put to beneficial use as a fertilizer product, and was therefore outside of RCRA's definition of solid waste because it was not discarded.

The court first examined *Cow Palace*'s land application practices. It found that *Cow Palace*'s practices resulted in excess application of manure and "provide[d] strong evidence that the Dairy's application of manure was not 'useful' or 'beneficial' but rather constituted discard."<sup>117</sup> Central to the court's reasoning was the uncontroverted evidence that these practices resulted in excess nutrients in the soil. In the court's view, the application of excess nutrients untethered to the amounts that crop cover could use effectively eliminated "the otherwise beneficial purpose of manure as fertilizer" and resulted in the discard of waste.<sup>118</sup>

Similarly, in examining whether the lagoon storage practices allowed otherwise beneficial manure to be "transformed" into solid waste, the court found that the waste could be properly characterized as discarded material because it had been allowed to "leak and accumulate into the soil," beyond what accumulations might be the "natural, expected consequence of the manure's use or intended use."<sup>119</sup>

Finally, in examining the practices of composting on unlined soils, the court again emphasized the accumulation of pollutants in the environment as a result of this practice. The court found that composting on unlined surfaces "converts

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116. *Id.* at 1220.

117. *Id.* at 1221 (quoting *Ecol. Rights Found.*, 713 F.3d at 515).

118. *Id.* at 1223.

119. *Id.* at 1223–24.

what would otherwise be a beneficial product (the composted manure) into a solid waste (the discarded, leaching constituents of manure) under RCRA because those constituents are knowingly abandoned to the underlying soil.”<sup>120</sup> Accordingly, through all three of these practices, *Cow Palace* had “transformed its manure, an otherwise beneficial and useful product, into a discarded material and thus a RCRA solid waste.”<sup>121</sup>

Like animal waste, biosolids use can result in accumulations of nutrients beyond what plant matter can put to beneficial use. Biosolids are highly concentrated, nutrient-dense materials. Even when used as directed, “successive sewage sludge applications to land can result in an accumulation of heavy metals in the soil” and excessive buildup of beneficial nutrients.<sup>122</sup> By any measure, biosolids contain high concentrations of nutrients and other compounds, including toxins, unknown concentrations of emerging chemicals of concern, and contaminants with a tendency to accumulate and persist in the soil.<sup>123</sup> Free of prior conceptions that fertilizer is exempt from RCRA because of its potential for beneficial use,<sup>124</sup> a court accepting *Cow Palace*’s broad understanding that “discarded” means any material in excess of what is immediately useful could naturally extend this standard to the over-application of biosolids. This standard may also provide a legal foothold for advocates seeking to regulate *all* biosolids practices, not merely over-application. The application of biosolids to farmland—even when done in conformity with best management practices—results not just in the accumulation of excess nutrients, but also high concentrations of harmful contaminants. Thus, biosolids’ excess nutrients and harmful contaminants potentially satisfy RCRA’s definition of solid waste.

Further, the *Cow Palace* court emphasized that accumulation of substances amounts to “waste” when it is not the natural, expected result of the originally intended beneficial use. Beyond the buildup of nutrients and other compounds known to persist in biosolids and regulated by EPA, several studies conducted by the U.S. Geological Survey (“USGS”) indicate the presence and accumulation of many new, unregulated contaminants—including organic chemicals, pharmaceuticals, and other emerging contaminants of concern.<sup>125</sup> One study concluded “that

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120. *Id.* 1224 (citing *Ecol. Rights Found.*, 713 F.3d at 515 (noting the plain meaning of “discarded” includes “abandon”).

121. *Id.* at 1225.

122. Goldfarb et al., *supra* note 4, at 696.

123. *Chemicals from Land-Applied Biosolids Persist in Soil*, U.S. GEOLOGICAL SURV., [http://toxics.usgs.gov/highlights/2014-06-10-biosolids\\_leach.html](http://toxics.usgs.gov/highlights/2014-06-10-biosolids_leach.html) (last visited Mar. 13, 2016) [hereinafter *Land-Applied Biosolids*].

124. For example, before *Cow Palace*, some courts did not even delve into this inquiry beyond finding that agricultural manure was exempted from RCRA’s waste definition because it was not “discarded.” See *Novel Court Ruling Subjects Manure To RCRA Regulation As ‘Solid Waste,’* INSIDE EPA.COM (Jan. 21, 2015), <http://insideepa.com/inside-epa/novel-court-ruling-subjects-manure-rcra-regulation-solid-waste>.

125. *Household Chemicals and Drugs Found in Biosolids from Wastewater Treatment Plants*, U.S. GEOLOGICAL SURV., <http://toxics.usgs.gov/highlights/biosolids.html> (last visited Mar. 12, 2016) [hereinafter *Household Chemicals*].

biosolids contain relatively high concentrations . . . of the active ingredients commonly found in a variety of household products and drugs.”<sup>126</sup> This includes high concentrations of targeted estrogenic and pharmaceutically active compounds.<sup>127</sup> Future components of this study also seek to demonstrate the potential for bioaccumulation in animal tissue by testing for indications of endocrine disruption in animals exposed to biosolids.<sup>128</sup>

Another independent study indicated that biosolids contain highly concentrated brominated flame retardants (“BFRs”), “persistent chemicals with a tendency to partition to solids (such as sediments and sewage sludge) and persist and accumulate in the environment upon release.”<sup>129</sup> The authors of this study concluded that “subsequent land application of biosolids . . . might result in a significant accumulation of BFRs in U.S. soils, thereby increasing opportunities for environmental dispersion of these compounds and associated human exposure risks.”<sup>130</sup> While these are the first comprehensive studies being conducted, “results indicate that biosolids have high concentrations of these emerging contaminants.”<sup>131</sup>

The accumulation and persistence of heavy metals, BFRs, pharmaceuticals, and other emerging contaminants is hardly a “natural, expected consequence” of the use of a typical agricultural fertilizer.<sup>132</sup> A court following *Cow Palace* by

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126. *Id.* (After examining municipal biosolids samples for “87 organic chemicals found in cleaners, personal care products, pharmaceuticals, and other products . . . U.S. Geological Survey (USGS) scientists found that biosolids contain relatively high concentrations (hundreds of milligrams per kilogram) of the active ingredients commonly found in a variety of household products and drugs.”).

127. *Id.* (“Fifty-five of the 87 organic chemicals measured were detected in at least one of the nine biosolids collected, with as many as 45 chemicals found in a single sample. Twenty-five of the chemicals were present in every biosolid sample including compounds that are pharmaceutically and hormonally active, such as an antimicrobial disinfectant (triclosan), a musk fragrance (tonalide), an antihistamine (diphenhydramine), and an antiepileptic drug (carbamazepine).”). The full list can be found at: *The 25 Chemicals Found in All Nine of the Biosolids Studied*, U.S. GEOLOGICAL SURV., [http://toxics.usgs.gov/highlights/compounds\\_biosolids\\_study.html](http://toxics.usgs.gov/highlights/compounds_biosolids_study.html) (last visited Mar. 12, 2016). The full study can be found at: Kinney, C.A. et al., *Survey of Organic Wastewater Contaminants in Biosolids Destined for Land Application*, 40 ENVTL. SCI. & TECH. 23, 7207–15 (2006).

128. *Land Application of Municipal Biosolids*, U.S. GEOLOGICAL SURV., [http://toxics.usgs.gov/regional/emc/municipal\\_biosolids.html](http://toxics.usgs.gov/regional/emc/municipal_biosolids.html) (last visited Mar. 19, 2016). This study also aims to increase the scientific “understanding of the fate and occurrence of pharmaceuticals in the wastewater effluent and biosolids” and demonstrate the potential for bioaccumulation by testing for indications of endocrine disruption in animals exposed to biosolids. *Id.* “In addition, the study will provide a bioassay-based measure of total estrogenic activity of biosolids samples. Bioassays are laboratory tests that use biological material (tissue, cells, plants, . . .) to test for chemical toxicity or, in this case, the potential for estrogenic activity. Total estrogenic activity will give an indication of the potential for endocrine disruption in animals exposed to biosolids.” *Id.*

129. See Venkatesan & Halden, *supra* note 23, at 134 (2014) (discussing the presence and accumulation of brominated flame retardants (“BFRs”) in biosolids: “BFRs are hydrophobic and persistent chemicals with a tendency to partition to solids (such as sediments and sewage sludge) and persist and accumulate in the environment upon release. Concentrations of total [polybrominated diphenyl ethers] PBDEs as high as 7,180 µg/kg dry weight (dw) of sewage sludge have been reported in U.S. sewage sludges.”).

130. *Id.*

131. *Household Chemicals*, *supra* note 119.

132. *Cow Palace II*, 80 F. Supp. 3d at 1223–24.

adopting this pollutant accumulation standard and excusing only nutrient buildup thought to be a natural consequence of fertilizer use may have significant latitude to sweep all biosolids use under RCRA's definition of solid waste. Applying this reasoning, a court could conclude that pollutants known to persist in biosolids, once applied to land in high concentrations without any potential benefits as fertilizer, are knowingly abandoned to the underlying soil as waste. This conclusion would be a reasonable construction of RCRA's definition in light of the statute's inclination toward erring on the side of caution in covering hazardous substances and solid wastes.<sup>133</sup>

## 2. Biosolids May Present an Imminent and Substantial Endangerment to Public Health and the Environment

To satisfy the next element of a RCRA subsection 6972(a)(1)(B) citizen suit claim, the court in *Cow Palace* looked at whether the contamination “may present an imminent and substantial endangerment to health or the environment.”<sup>134</sup> More so than the previous inquiry, the court's analysis here demonstrated the breadth of RCRA's endangerment standard and the tilt of its statutory inquiry “in favor of protecting public health, welfare, and the environment.”<sup>135</sup> The court held that under RCRA, “proof of actual or immediate harm is not necessary; rather, Plaintiffs need only present evidence that the contamination currently poses ‘threatened or potential harm.’”<sup>136</sup> To require an actual demonstration of harms that have already occurred, the court held, would “misstate the requirements of RCRA.”<sup>137</sup> Instead, “Congress provided that a party violates RCRA when its actions ‘may’ be endangering public health, welfare, or the environment.”<sup>138</sup>

Under this application of RCRA, the potential or threatened harm resulting from biosolids use may similarly be shown to endanger public health, welfare, or

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133. Courts generally accept the notion that Congress intended EPA to “err on the side of caution” in deciding what materials should be regulated under RCRA. *See Solvay USA Inc. v. EPA*, 608 F. App'x 10, 13 (D.C. Cir. 2015) (citations omitted) (“In deciding which materials to regulate under RCRA, Congress wanted EPA to err on the side of caution. Thus, EPA may place the burden upon the regulated entity to show that its material should not be regulated[.]”). Further, RCRA does not contain an implicit presumption that material for a transferred secondary use is not solid waste. *Id.* (“EPA is well within its statutory authority to assume that transferred material is solid waste until an interested party demonstrates that the material has not been discarded and is indistinguishable in all relevant aspects from a [useful] product.”).

134. *Cow Palace II*, 80 F. Supp. 3d at 1227.

135. *Id.* (quoting *Burlington N. & Santa Fe Ry. v. Grant*, 505 F.3d 1013, 1021 (10th Cir. 2007)) (“[I]f an error is to be made in applying the endangerment standard, the error must be made in favor of protecting public health, welfare, and the environment.”).

136. *Id.* at 1228.

137. *Id.*

138. *Id.* (quoting *Maine People's All. v. Mallinckrodt, Inc.*, 471 F.3d 277, 288 (1st Cir. 2006)); *see also* Mitchell S. Bernard and Jared J. Thompson, *Lessons from Using RCRA to Seek an Ecosystem Level Remediation*, 28 GEO. ENVTL. L. REV. 485 (2016).

the environment. The studies discussed above indicate that the application of municipal biosolids results in the presence, accumulation, and movement of an array of pollutants. Biosolids use introduces foreign heavy metals and other toxins into farm soils that are known to endanger human health. EPA identifies potential risks to “plants, soil organisms, animals, and humans along the food chain” from fourteen potential exposure pathways resulting from land application of biosolids alone.<sup>139</sup> Emerging chemicals in biosolids, such as hormonal pharmaceuticals containing estrogen, are known to have endocrine-disrupting effects and recent studies have shown that “these chemicals have caused endocrine disruption in aquatic organisms.”<sup>140</sup> While research is still ongoing, “[i]t is generally accepted that low-level exposure to some [endocrine-disrupting] contaminants can disrupt animal reproduction and development by modulating, mimicking, or interfering with normal hormonal function.”<sup>141</sup>

The *Cow Palace* court also rejected the notion that one must wait for serious harms to occur for a RCRA claim to ripen.<sup>142</sup> Potential plaintiffs do not have to wait to demonstrate harms that have occurred, only that the practices currently pose a threat or potential harm to human health or the environment due to exposure to pollutants contained in biosolids. Even so, some evidence indicates that serious harms have already occurred. Organizations engaged in this area, such as CFS, contend that “[h]undreds of people have fallen ill after being exposed to sewage sludge fertilizer, suffering from respiratory distress, headaches, nausea, rashes, reproductive complications, cysts and tumors.”<sup>143</sup> A court following the *Cow Palace* template could find these possible harms associated with biosolids use more than sufficient to satisfy RCRA’s broad 6972(a)(1)(B) citizen suit provision under this standard. A court could likely find that the pollutants in biosolids may present an imminent and substantial endangerment both to human health and the environment based on current scientific understanding.<sup>144</sup>

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139. See Goldfarb et al., *supra* note 4, at 696 (“This accumulation [of heavy metals in the soil] can potentially result in soil concentrations of metals that are toxic to plants, soil organisms, animals, and humans along the food chain. In a report assessing the risks of sewage sludge land application, EPA identified fourteen potential exposure pathways resulting from such land application.”).

140. *Hormones in Land-Applied Biosolids Could Affect Aquatic Organisms*, U.S. GEOLOGICAL SURV., [http://toxics.usgs.gov/highlights/biosolids\\_runoff.html](http://toxics.usgs.gov/highlights/biosolids_runoff.html) (last visited Mar. 19, 2016).

141. *Endocrine Disruption*, U.S. GEOLOGICAL SURV., [http://toxics.usgs.gov/regional/emc/endocrine\\_disruption.html](http://toxics.usgs.gov/regional/emc/endocrine_disruption.html) (last visited Mar. 19, 2016).

142. *Cow Palace II*, 80 F. Supp. 3d at 1228 (“Alarmingly, Defendant *Cow Palace*’s briefing seems to suggest that this Court wait to act until a young infant in the area is first diagnosed with methemoglobinemia, a health effect that occurs at the lowest dose of nitrate consumption.”).

143. *Sewage Sludge*, CTR. FOR FOOD SAFETY, [www.centerforfoodsafety.org/issues/1039/food-irradiation/issues/1050/sewage-sludge](http://www.centerforfoodsafety.org/issues/1039/food-irradiation/issues/1050/sewage-sludge) (last visited Mar. 19, 2016).

144. See *supra* Part I.A.

### 3. Biosolids May Constitute Open Dumping Under RCRA Subsection 6972(a)(1)(A)

Next, on the claim under RCRA's more general citizen suit provision, subsection 6972(a)(1)(A), for the alleged violation of the open dumping prohibition, the court focused on the question of whether Cow Palace's practices may be contributing to "contamination" of groundwater and whether this contamination reached "beyond the solid waste boundary."<sup>145</sup> First, to determine whether the nitrates at issue extended beyond the solid waste boundary, the court defined this boundary as the "'outermost perimeter' of where waste is disposed."<sup>146</sup> The undisputed presence of nitrates in the groundwater and the ability of these pollutants to migrate into the aquifer was enough to convince the court that this boundary had been breached. Mobility was key to this analysis. Because nitrates migrate once they reach the groundwater and can subsequently be extracted by wells and discharged into surface water, the Dairy's "activities [were] contaminating an area 'beyond the solid waste boundary.'"<sup>147</sup> Throughout this analysis the court also stressed that RCRA's "statutory standard does not require that Plaintiffs quantify Defendants' contribution or demonstrate that Defendants are the *sole cause* of the contamination; rather, Plaintiffs need only show that the Dairy's operations 'contributed' or are 'contributing' to disposal of solid waste which 'may' be posing a serious threat to public health."<sup>148</sup> Looking to EPA regulations that define "contaminating to mean causing . . . groundwater to exceed the MCL [maximum contaminant load] *or cause a further increase* in groundwater that already exceeds the MCL,"<sup>149</sup> the court's reasoning employed a broad standard for what additions of pollutants into the environment constitute the "contribution" of "contamination."

Under this analysis, a potential plaintiff could invoke RCRA's subsection 6972(a)(1)(A) citizen suit provision to challenge biosolids' use as a violation of RCRA's ban on open dumping. Such a plaintiff would have to show that the practices cause an increase in existing contamination levels and the addition of pollutants that have the ability to migrate beyond the outermost perimeter of their disposal. This inquiry will depend on the available evidence of pollution, but emerging scientific findings again suggest that this interpretation of RCRA could sweep in even typical biosolids use.

First, some pollutants in biosolids have been shown to be mobile, with a tendency to migrate into soils and, potentially, aquifers. For example, another recent USGS study concluded that "some chemicals in biosolids that are applied

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145. *Cow Palace II*, 80 F. Supp. 3d at 1227.

146. *Id.* at 1127 (citing 40 C.F.R. § 257.3-4(c)(5) (2015)).

147. *Id.*

148. *Id.* at 1226 (emphasis added).

149. *Id.* at 1226 (citing 40 C.F.R. § 257.3-4(a) (2015)).

to nonirrigated farmland are sufficiently *persistent and mobile to move into the soil beneath farm fields.*<sup>150</sup> After only a year and a half of monitoring, the study demonstrated persistence and movement of contaminants present in biosolids into the soil.<sup>151</sup> Results indicated that contaminants, such as nonylphenols, benzo[a]pyrene, diethyl phthalate, d-limonene, HHCB, and triclosan, were able to migrate down into soils, and were detectable more than a year after surface application of biosolids.<sup>152</sup> Much is still unknown about the fate and transport of these substances. However, a court focusing its inquiry on the movement of contaminants beyond the boundary where biosolids are applied could see biosolids fitting naturally within this standard as studies begin to indicate that contaminants present in biosolids are mobile and detectable beyond the area of initial application to surface soils.

Moreover, a plaintiff does not need to show that all contamination in farm soils or groundwater is the result of biosolids application,<sup>153</sup> only that the biosolids use has contributed to contamination that is present, and that the pollution is mobile. This lenient standard, while not binding precedent, is a boon to future biosolids plaintiffs, as it may be easier to detect and demonstrate the presence and movement of many of the pollutants contained in biosolids. Unlike some organic constituents in manure that lack a unique chemical signature and thus make tracing causation difficult, many contaminants present in biosolids are not naturally occurring, and contain a traceable, distinct mix of pollutants and nutrients depending on the municipal wastewater source from which they are derived.

Overall, a court adopting *Cow Palace*'s focus on the addition or contribution of contaminants to a greater pollution problem and the migration and movement of these potential contaminants will have significant latitude to extend this standard to biosolids use as studies continue to demonstrate the persistence and migration of the chemicals present in municipal biosolids.

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150. *Land-Applied Biosolids*, *supra* note 123 (emphasis added).

151. *Id.*

152. *Id.* (“Measurements indicate that nonylphenols (commonly used in detergents and other manufacturing), benzo[a]pyrene (a polycyclic aromatic hydrocarbon and byproduct of incomplete combustion of organic matter), diethyl phthalate (commonly used in plastics), d-limonene (a solvent obtained from citrus fruits), HHCB (galaxolide, a polycyclic organic musk used in fragrances), and triclosan (an antimicrobial) had migrated downward through the soil by 468 days after application.”).

153. Biosolids use may not contribute any additional contamination to groundwater. *See* 40 C.F.R. § 257.3–4 (2015) (“The regulations prohibit any use or disposal of sewage sludge that causes the concentrations of ten trace elements and six organic chemicals in an underground drinking water source to exceed maximum contaminant levels under the Safe Drinking Water Act.”). Just as CARE was able to show contamination had reached drinking water wells, if the material from biosolids is detected in groundwater, an open dumping claim can be shown in addition to a SDWA violation.

## B. RESPONDING TO COUNTERARGUMENTS

There are at least three counterarguments against applying RCRA to biosolids that this Part addresses. First, RCRA's definition of "solid waste" exempts "domestic sewage."<sup>154</sup> Possible interpretations of this basic definition could prevent the statute from being applied to biosolids. However, this argument is likely to be unsuccessful because this exemption has been interpreted narrowly and the prevailing view only excludes wastes originating from domestic septic systems. Second, RCRA contains a provision that prevents the statute from causing "duplication" with the CWA's regulatory programs. This anti-duplication provision is not likely to preclude relief under RCRA, as it has been interpreted, primarily to foreclose statutory conflicts contrary to the spirit of the CWA's regulatory scheme or remedies otherwise inconsistent with relief provided by the CWA. This provision should not preclude RCRA citizen suit claims. Finally, invoking RCRA for biosolids use has obvious practical limitations. Drawbacks of this approach include possible implications from the CWA's permit shield.

### 1. RCRA's Domestic Sewage Exemption

While "sludge from a waste treatment plant" is included in RCRA's definition of solid waste, among the first wastes enumerated, the statute goes on to exclude "solid or dissolved material in domestic sewage."<sup>155</sup> Biosolids are organic materials extracted from a mixture of municipal wastewater solids that, of course, include domestic sewage. But this exclusion should not impact RCRA claims relating to biosolids. In the few instances in which federal courts of appeals have reviewed this exception, they have adopted a limited view of the phrase "domestic sewage." These courts have held that this exception's meaning hinges not just on the type of sewage, but on whether the waste has a domestic source.<sup>156</sup> For example, the First Circuit Court of Appeals held in *Comite Pro Rescate De La Salud v. Puerto Rico Aqueduct and Sewer Authority* that the "domestic sewage" exempted by RCRA included only wastes originating at private residences and did not exempt domestic wastes that had been mixed with untreated sanitary waste from facilities other than domestic residences. The court—emphasizing the point of origin, coupled with its reliance on EPA interpretations of other RCRA regulations—viewed RCRA as exempting only residential waste that is untreated *before* it passes into a municipal treatment plant.<sup>157</sup>

Further, RCRA's definition of "solid waste" clearly distinguishes domestic sewage from the post-treatment sludge mixture that becomes biosolids. The D.C.

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154. 42 U.S.C. § 6903(27).

155. *Id.*

156. *Comite Pro Rescate De La Salud v. Puerto Rico Aqueduct & Sewer Auth.*, 888 F.2d 180, 185 (1st Cir. 1989) ("In context, exempt 'domestic sewage' therefore seems to refer, not simply to *type*, but also to *source*.").

157. *See id.* at 186 ("Domestic sewage means untreated sanitary wastes that pass through a sewer system.").

Circuit Court of Appeals, a court well versed in RCRA's nuances, recently provided some clarity on this definition. In *Solvay USA Inc. v. EPA*, the court rejected a reading of RCRA that would conflate material resulting from the treatment of domestic sewage at a treatment plant with domestic sewage generally, holding that such a reading "would render the definition of sludge meaningless."<sup>158</sup> The court reasoned that:

RCRA defines solid waste as including 'sludge from a waste treatment plant' while excluding 'solid or dissolved material in domestic sewage.' It defines 'sludge' as 'waste generated from a municipal, commercial, or industrial wastewater treatment plant.' Although sludge is generated from the treatment of domestic sewage, sludge is plainly not the same as 'solid or dissolved material in domestic sewage' under § 6903(27).<sup>159</sup>

Accordingly, biosolids fall squarely under the first category of included wastes from a treatment plant and are legally defined as sewage sludge.<sup>160</sup> Though nicknamed "biosolids" in informal EPA publications,<sup>161</sup> the regulations governing the use and disposal of these materials under the CWA have not yet adopted this industry term of art and biosolids remain "sludge."<sup>162</sup> Biosolids undoubtedly contain domestic sewage; however, they do not originate only from domestic residences and are primarily defined by the process by which they are created—that is, materials "generated during the treatment of domestic sewage in a treatment facility."<sup>163</sup> For purposes of RCRA, biosolids should therefore be treated as "sludge" rather than exempted as domestic waste.

## 2. RCRA's Anti-Duplication Provision

RCRA provides that: "The Administrator . . . shall avoid duplication, to the maximum extent practicable, with the appropriate provisions of . . . the [CWA or SDWA]."<sup>164</sup> Courts have recognized RCRA's anti-duplication efforts and have concluded that "[n]othing in [RCRA] shall be construed to apply to . . . any activity or substance which is subject to the [CWA or SDWA] . . . except to the extent that such application (or regulation) is not inconsistent with the requirements of [the CWA or SDWA]."<sup>165</sup> Here, the agricultural use of biosolids for land

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158. See *Solvay USA Inc. v. EPA*, 608 F. App'x 10, 13 (D.C. Cir. 2015).

159. *Id.* at 11.

160. 40 C.F.R. § 503.9 (2015) ("Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge.").

161. See generally *Biosolids FAQ*, *supra* note 1 ("Biosolids are treated sewage sludge.").

162. 40 C.F.R. § 503.9 (2015).

163. See generally *Sewage Sludge Standards*, *supra* note 41.

164. 42 U.S.C. § 6905 (b)(1) (2012).

165. See *Coon ex rel. Coon v. Willet Dairy, LP*, 536 F.3d 171, 174 (2d Cir. 2008) (quoting 42 U.S.C. § 6905(a)) ("RCRA also provides that '[n]othing in this chapter shall be construed to apply to . . . any activity or

application is subject to EPA regulations under the CWA, and limited relief is available under the CWA's citizen suit. However, RCRA's anti-duplication provision should not preclude complimentary RCRA citizen suits.

First, the *Cow Palace* court's reasoning suggests that the anti-duplication provision analysis should turn on whether the statutory provisions "are capable of coexistence."<sup>166</sup> Looking at the broad framework of RCRA alongside the narrowly-constructed, pollutant-specific provisions of the SDWA, the *Cow Palace* court determined that the two statutes could be viewed as complementary and that the court should give both statutes effect unless expressly directed not to by Congress.<sup>167</sup> At least one other court has employed this approach in looking at the SDWA and RCRA.<sup>168</sup>

Under this approach, RCRA's aims are complementary and "not inconsistent" with the CWA regulatory scheme for biosolids.<sup>169</sup> EPA's Biosolids Rule is a regulatory scheme aimed at protecting public health by curbing risks of exposure to specific toxins in biosolids. The rule simultaneously encourages the productive reuse of these substances through land application by setting specific application and reporting standards. RCRA's comprehensive framework aims to protect public health by setting standards for the lifecycle of all solid and hazardous substances while encouraging productive resource reuse. These laws aim to accomplish similar goals but on different levels of generality. Like the SDWA in *Cow Palace*, the Biosolids Rule sets specific limits for substances. At the same time, RCRA provides an overarching national framework to protect the public from waste hazards more broadly.

Moreover, nothing in RCRA or the Biosolids Rule indicates that these regulations cannot effectively coexist. In crafting the Biosolids Rule, EPA relied on existing federal standards where natural crossovers existed in order to "minimize duplicative, overlapping, and conflicting policies and programs," and directly stated that "nothing in [CWA section] 405(d) [authorizing the Biosolids Rule] is intended to waive more stringent requirements established under other statutes."<sup>170</sup> The Agency went on to exempt biosolids users from CERCLA liability for the potential releases of hazardous substances, demonstrating its awareness of existing legal regimes that might be implicated in the disposal of sewage sludge.<sup>171</sup> Yet the rule does not shield users from RCRA's protective

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substance which is subject to the [CWA] . . . except to the extent that such application (or regulation) is not inconsistent with the requirements of [the CWA].")

166. *Cow Palace III*, 2015 WL 403178, at \*6.

167. *Id.* at \*6 ("[I]t is the duty of the courts, absent a clearly expressed congressional intention to the contrary, to regard each as effective.")

168. *Vernon Village, Inc. v. Gottier*, 755 F. Supp. 1142, 1154 (D. Conn. 1990).

169. *See Cow Palace III*, 2015 WL 403178, at \*6.

170. Sewage Sludge Standards, *supra* note 41, at 9262.

171. *Id.* ("If the placement of sludge on land were considered to be "the normal application of fertilizer," that placement could not give rise to liability under CERCLA . . . Sludge placed on the land for such beneficial

framework for the handling of hazardous or solid wastes, even though RCRA's requirements pre-date CERCLA and existed at the time the Biosolids Rule was crafted. EPA was likely aware that this complementary regime existed and that relief might be necessary in instances where relief under the CWA was not available.

Finally, while RCRA's anti-duplication provision references the CWA at large, RCRA's citizen suit provision specifically exempts only NPDES permits from duplicative claims. This suggests that the congressional drafters intended to avoid duplication of RCRA with respect to this category of CWA programs alone.

Taken together, the availability of citizen suit relief under RCRA complements and strengthens the CWA's regulatory scheme without creating impermissible regulatory duplication.

### C. DRAWBACKS TO A RCRA APPROACH

The novel application of RCRA to biosolids has obvious limits. First, RCRA cannot directly *prevent* the application of biosolids. Like common law tort claims, these claims are restorative in nature, allowing plaintiffs to react to existing contamination from the application of biosolids, not deter these practices altogether. Still, the threat of liability from looming RCRA suits could have a regulatory effect because agricultural operations may want to avoid using biosolids altogether or seek out only highly treated biosolids to avoid potential liability.

Additionally, while a surge in RCRA claims might provide some relief to communities whose water supplies or soils are tainted with pollutants from fertilizers, this legal workaround might allow lawmakers to continue to overlook the overarching structural issue—lack of local control over these practices.<sup>172</sup>

A final concern about this approach is the potential for claims to be narrowed as a result of RCRA's "permit shield." While regulation under the CWA should not preclude RCRA claims altogether,<sup>173</sup> other crossover provisions between the CWA and RCRA may narrow relief. For example, agricultural users of biosolids could defend against such suits by seeking permits under the CWA NPDES program, which courts have held provide a "shield" from private enforcement actions under RCRA and other laws. RCRA's definition of solid wastes exempts "solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under [the CWA NPDES program of

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purpose and applied in compliance with the requirements for land application of sewage sludge provided in §§ 503.13(b) (2) and (4), § 503.14 and § 503.15 (where applicable) of the final rule today, and in accordance with accepted agricultural practices using appropriate application rates, which constitutes the normal application of fertilizer, does not constitute a "release" [under CERCLA]."). *See also supra* note 48.

172. *See generally* 40 C.F.R. § 503 (2015).

173. *See supra* Part III B. 2.

the CWA].”<sup>174</sup> Savvy biosolids users may be able to abate the risk of potential RCRA litigation by applying for a permit under the NPDES program if their applications of biosolids could amount to a point source discharge under that program. But this response is unlikely, and in any case would be beneficial for environmental quality. Farmers have embraced biosolids as a fertilizer primarily because they typically receive the treated sewage sludge from municipal wastewater treatment facilities at little or no charge, as municipalities would otherwise have to pay to dispose of the hazardous wastes. The added expense of a NPDES permit may prove more costly to a farm business than the initial savings from a cheap fertilizer source. These added costs make this line of defense unlikely, as well. Moreover, compliance with the NPDES program would help abate fears about any pollutants from biosolids entering the water supply because farmers would be subject to discharge standards under the CWA.

#### CONCLUSION

The practice of applying municipal sewage sludge to cropland as fertilizer has emerged at the same time that trends in case law have narrowed the avenues of relief available to communities worried about environmental and public health risks associated with these practices. The CWA can provide relief only when biosolids users violate a standard or permit under the Biosolids Rule. Therefore, harms are without redress if they result from uses that nevertheless conform to the lax regulations. Most courts have found that local ordinances attempting to restrict biosolids use are preempted by state regulation, leaving many more potential plaintiffs without legal recourse. To bridge these legal gaps, advocates might begin applying RCRA’s broad citizen suit provisions as potential routes to challenge biosolids practices. Indeed, the court’s novel approach in *Cow Palace* presents an effective template for future biosolids claims under RCRA.

As *Cow Palace* demonstrates, normal biosolids use could result in materials that likely fall within RCRA’s statutory definition of “solid waste,” and new research might suggest that contaminants in municipal sludge may present an imminent and substantial danger to human health and the environment. Moreover, *Cow Palace* identifies a second viable hook: advocates could claim that biosolids practices effectively violate RCRA’s ban on open dumping, opening up possible claims under RCRA’s general civil liability citizen suit provision. Although farms will likely mount the same defenses asserted in *Cow Palace*, biosolids practices are unlikely to be directly exempted from RCRA or precluded by current standards set under EPA’s CWA authority. As a result, RCRA may present a viable avenue for advocates who seek to curb the use of biosolids and find relief from harmful biosolid applications.

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174. 42 U.S.C § 6903(27).