

# THE “NATIONAL” ORGANIC PROGRAM: THE INCONSISTENT STANDARD OF WASTEWATER REUSE

## I. INTRODUCTION

Agriculture is one of the largest consumers of water in the United States, second only to thermoelectric power.<sup>1</sup> Agriculture in the United States consumes nearly three times the amount of water used for domestic purposes.<sup>2</sup> In a perfect world, there is enough water to serve everyone’s need, since water is an abundant, renewable resource. The fatal flaw in this idea is that water can quickly become a scarce resource by natural events, such as droughts, or man-made events, such as excessive use or environmental regulations.<sup>3</sup> For farmers, finding a reliable water source during these times can become a daunting task – when surface water runs dry, they build a groundwater well; when the well runs dry, they find another occupation.<sup>4</sup>

Agriculture consumes the largest amount of fresh water in the United States.<sup>5</sup> The unrestrained use of water is inefficient and wasteful, violating fundamental concepts of various agricultural practices, but the quality of the water used in their operations is not in accord – specifically for

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<sup>1</sup> U.S. GEOLOGICAL SURVEY, U.S. DEP’T OF THE INTERIOR, CIRCULAR 1344, ESTIMATED USE OF WATER IN THE UNITED STATES IN 2005 4 (2009) [hereinafter ESTIMATED USE OF WATER].

<sup>2</sup> In 2005, withdrawals from agricultural categories (irrigation, livestock and aquaculture) totaled approximately 138.9 million gallons per day, compared to 48 million gallons per day for domestic categories (public and domestic), *id.* at 7.

<sup>3</sup> U.S. ENVTL. PROT. AGENCY, EPA/625/R-04/108, GUIDELINES FOR WATER REUSE 178 (rev. 2004) [hereinafter GUIDELINES].

<sup>4</sup> See generally Press Release, Westlands Water Dist., California Needs a Water System for the 21st Century (Apr. 21, 2009) (on file with author) (discussing water shortages and the adverse effect on farming employment).

<sup>5</sup> ESTIMATED USE OF WATER, *supra* note 1, at 23 (defining the irrigation category as “water that is applied by an irrigation system to sustain plant growth in all agricultural and horticultural practices... [and accounted for] sixty-two percent of total freshwater withdrawals for all categories excluding thermoelectric power.”); *Id.* at 38 (stating that the most water used for thermoelectric power is not consumed, but used and returned to their sources).

sustainable and organic agricultural practices. The highest quality water is used for drinking or other potable purposes,<sup>6</sup> while lesser quality water is allowed in nonpotable applications, such as commercial and industrial uses.<sup>7</sup> Sustainable agricultural practices aim to allow water that meets the minimum standards for its purpose to be used, in order to promote the efficient use of this existing resource.<sup>8</sup> One example of this is the beneficial use of treated wastewater, in lieu of potable water, for irrigation purposes.<sup>9</sup> Organic agricultural practices impose strict purity criteria, requiring the highest level of quality for their inputs in order to limit potential exposure to contaminants and synthetics.<sup>10</sup> Since treated wastewater is inherently contaminated and may require the use of synthetics during treatment,<sup>11</sup> it is unclear as to whether it can be used in organic farming applications.

In general agricultural applications, states have considered various policies for and against the beneficial use of treated wastewater. Some take the sustainable approach, by preserving existing resources through supplementation with alternatives, while others take the purity approach and maintain the status quo in water use.<sup>12</sup> These differences have a substantial effect on products certified under a national program that cross state lines without consumer knowledge that the product does not meet their own state's standards. The attempt to create a consistent standard at the national level fails due to inconsistent standards among the states

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<sup>6</sup> *Terms of Environment: Glossary, Abbreviations and Acronyms, P*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/OCEPATERMS/PTERMS.HTML> (last visited Dec. 13, 2010) (defining potable water as "water that is safe for drinking and cooking.").

<sup>7</sup> *Terms of Environment: Glossary, Abbreviations and Acronyms, N*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/OCEPATERMS/NTERMS.HTML> (last visited Dec. 13, 2010) (defining nonpotable water as "water that is unsafe or unpalatable to drink.").

<sup>8</sup> 7 U.S.C. § 3103(19) (2008).

<sup>9</sup> The beneficial use of treated wastewater has different definitions and carries different connotations, based on each jurisdiction's definition. Treated wastewater can be referred to as recycled water (California), reclaimed water (Florida), treated effluent (Nevada) and many other names. For the purpose of this paper, treated wastewater refers to the water obtained through wastewater treatment and used for beneficial purposes, namely agricultural irrigation applications. See discussion *infra* Part IV.

<sup>10</sup> See NAT'L ORGANIC STDS. BOARD, POLICY AND PROCEDURES MANUAL 29 (Apr. 29, 2010), available at <http://www.ams.usda.gov/AMSv1.0/NOSB>. See also 7 U.S.C. § 6502(21) (1990) (describing a synthetic as "a substance that is formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from naturally occurring plant, animal, or mineral sources, except that such term shall not apply to substance created by naturally occurring biological processes.").

<sup>11</sup> See discussion *infra* Part III.

<sup>12</sup> See discussion *infra* Part IV.

and, to an extent, the lack of federal regulations.<sup>13</sup> The National Organic Program (“NOP”) exemplifies this scenario.<sup>14</sup>

This Comment will show that the balance between the purity of organic products and sustainable agricultural practices related to water use can be met by allowing treated wastewater use in organic farming applications, but only by enforcing a national standard.<sup>15</sup> Next, it will examine some of the more prevalent policies among the states and analyze the lack of federal regulation.<sup>16</sup> Finally, this Comment will propose a congruent national policy that allows and encourages alternative sources for water, namely treated wastewater, to be used.<sup>17</sup> Ultimately, using treated wastewater will help the agricultural community secure a safe, reliable supply of water for years to come. With the increasing demand and limited supply of water, an enforceable national policy for the use of alternative sources is long overdue.

## II. WASTEWATER REUSE BACKGROUND

Logically, an agricultural policy that allows a potable water supply to be supplemented by a lower quality, although safe and reliable, alternative source makes economic sense because “food grows where water flows.”<sup>18</sup> The beneficial use of treated wastewater, by supplementing or replacing potable water sources, is common in many states.<sup>19</sup> Applying treated wastewater through various methods of irrigation creates numerous benefits for farmers, primarily by providing a reliable resource.<sup>20</sup> The negative effect of applying the treated wastewater, however, is the potentially adverse chemical composition of the water, which is entirely dependent on the source and level of treatment.<sup>21</sup>

As the source for treated wastewater in the United States is limited to effluent<sup>22</sup> from domestic wastewater treatment plants,<sup>23</sup> the level of

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<sup>13</sup> See discussion *infra* Part II.

<sup>14</sup> See discussion *infra* Part III.B.

<sup>15</sup> See discussion *infra* Parts II – III.

<sup>16</sup> See discussion *infra* Part IV.

<sup>17</sup> See discussion *infra* Part V.

<sup>18</sup> CALIFORNIA FARM WATER COALITION, <http://www.farmwater.org> (last visited Dec. 13, 2010).

<sup>19</sup> See GUIDELINES, *supra* note 3, at 2. See also ESTIMATED USE OF WATER, *supra* note 1, at 2.

<sup>20</sup> See generally GUIDELINES, *supra* note 3, at 2 (discussing the use of reclaimed water as “source substitution”).

<sup>21</sup> See *id.* § 3.4.

<sup>22</sup> *Terms of Environment: Glossary, Abbreviations and Acronyms, E.* U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/glossary/eterms.html> (last visited Dec. 13, 2010)

treatment has the greatest influence on the quality of the water.<sup>24</sup> The level of treatment varies with each domestic wastewater treatment plant, but can be achieved in a series of five stages: preliminary, primary, secondary, tertiary and disinfection.<sup>25</sup> The regulation of this process diverges at the intended use of the end product: when used for disposal, federal regulations govern;<sup>26</sup> when beneficially reused, state regulations govern.<sup>27</sup>

### A. Treated Wastewater Disposal

The preliminary and primary stages of wastewater treatment remove suspended solids<sup>28</sup> by screening and settling processes.<sup>29</sup> Secondary treatment introduces microorganisms to remove dissolved solids<sup>30</sup> from the wastewater by natural processes of organic digestion.<sup>31</sup> The byproducts of the secondary treatment process are effluent and sewage sludge.<sup>32</sup> Sewage sludge represents approximately 85-90% of the waste removed from the wastewater at this point.<sup>33</sup> Sewage sludge and effluent are dealt with separately beyond this stage, due to their physical/chemical compo-

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(defining effluent as “Wastewater--treated or untreated--that flows out of a treatment plant.”).

<sup>23</sup> GUIDELINES, *supra* note 3, at 2. In the United States, recycled wastewater originates from effluent generated by domestic wastewater treatment plants, *id.* While other sources of wastewater exist, such as industrial processing and agricultural irrigation runoff, the Environmental Protection Agency and the states have limited the beneficial use of wastewater to domestic wastewater sources, *id.*

<sup>24</sup> See *id.* § 3.4. See also *id.* at 87.

<sup>25</sup> See WATER ENV'T FED'N, FOLLOWING THE FLOW AN INSIDE LOOK AT WASTEWATER TREATMENT 6 (2009), <http://www.wef.org/communications> (select “Public Information”; then select “Water Quality Professionals”; then follow “Follow the Flow” hyperlink) [hereinafter FOLLOWING THE FLOW].

<sup>26</sup> See generally *Terms of Environment: Glossary, Abbreviations and Acronyms, D*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/OCEPaterms/dterms.html> (last visited Dec. 13, 2010) (defining disposal as the final placement of waste and that wastewater disposal is typically done by discharging to a body of water or various land applications).

<sup>27</sup> See generally GUIDELINES, *supra* note 3, § 4.

<sup>28</sup> *Terms of Environment: Glossary, Abbreviations and Acronyms, S*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/glossary/sterms.html> (last visited Dec. 13, 2010) (defining suspended solids as “small particles of solid pollutants that float on the surface of, or are suspended in, sewage or other liquids.”).

<sup>29</sup> See FOLLOWING THE FLOW, *supra* note 25, at 6-7.

<sup>30</sup> See *Terms of Environment: Glossary, Abbreviations and Acronyms, D*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/glossary/dterms.html> (last visited Dec. 13, 2010) (Dissolved solids are “disintegrated organic and inorganic material in water.”).

<sup>31</sup> See FOLLOWING THE FLOW, *supra* note 25, at 7-8.

<sup>32</sup> See generally *id.*

<sup>33</sup> See *id.* at 8.

sition and potential for disposal or reuse.<sup>34</sup> Sewage sludge may be treated further, by separate processes, to produce biosolids.<sup>35</sup> Effluent may be discharged for disposal purposes or placed through another stage of treatment, tertiary treatment, to further refine the effluent.<sup>36</sup>

Regardless of the final use for treated wastewater, the National Pollutant Discharge Elimination System ("NPDES"), a component of the Clean Water Act ("CWA"), requires a domestic wastewater treatment facility to obtain a permit issued by the United States Environmental Protection Agency ("EPA").<sup>37</sup> In general, each state is required to establish and submit water quality standards to the EPA for review and approval,<sup>38</sup> but they are subject to minimum requirements developed by the EPA.<sup>39</sup> In order to ensure minimum water quality standards among the states, the EPA requires that effluent receive secondary treatment.<sup>40</sup> The EPA's secondary treatment standards set the minimum level of effluent quality, based on identified contaminants or pollutants.<sup>41</sup> Coliform is included because it is considered a strong indicator of contamination.<sup>42</sup> The federal limit of coliform in effluent disposal is 200/100 mililiters (mL).<sup>43</sup>

Once approved, the EPA enforces the state-defined standards to protect water quality through the NPDES permitting process.<sup>44</sup> Each NPDES

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<sup>34</sup> See *id.* at 7-8.

<sup>35</sup> See *Frequently Asked Questions: Sewage Sludge*, U.S. ENVTL. PROT. AGENCY, <http://water.epa.gov/polwaste/wastewater/treatment/biosolids/genqa.cfm> (last visited Dec. 13, 2010) (describing biosolids as concentrated residuals of treated waste that have potential for reuse, with proper treatment, typically as fertilizers).

<sup>36</sup> See FOLLOWING THE FLOW, *supra* note 25, at 8-9.

<sup>37</sup> See generally 33 U.S.C. § 1342 (2008).

<sup>38</sup> 40 C.F.R. §§ 131.4, 131.5 (1992).

<sup>39</sup> *Id.* § 131.5.

<sup>40</sup> 33 U.S.C. § 1311(b)(1)(B-C) (1995).

<sup>41</sup> See generally 40 C.F.R. § 133 (1984).

<sup>42</sup> *Terms of Environment: Glossary, Abbreviations and Acronyms, C*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/glossary/cterm.html> (last visited Dec. 13, 2010) (defining coliform as a "microorganism found in the intestinal tract of humans and animals. [The] presence in water indicates fecal pollution and potentially adverse contamination by pathogens.").

<sup>43</sup> Memorandum from the Deputy Assistant Administrator for Water Enforcement (EN-355), U.S. Environmental Protection Agency, on Fecal Coliform Bacteria Limits to Regional Enforcement Directors, Regional Permit Branch Chiefs and NPDES State Directors (Feb. 14, 1977), available at [http://cfpub.epa.gov/npdes/docs.cfm?program\\_id=0&view=allnpdes&sort=name&amount=all](http://cfpub.epa.gov/npdes/docs.cfm?program_id=0&view=allnpdes&sort=name&amount=all).

<sup>44</sup> *NPDES Overview*, U.S. ENVTL. PROT. AGENCY, <http://cfpub.epa.gov/npdes> (last visited Dec. 13, 2010) ("As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.").

permit defines limits for discharge (quality based requirements),<sup>45</sup> monitoring and reporting requirements and other tailored provisions necessary to protect water quality and public health for each individual permit.<sup>46</sup> The genesis of federal regulation is within the state's power,<sup>47</sup> but the federal government is responsible for oversight and enforcement.<sup>48</sup> As the states are responsible for determining and setting wastewater regulations, with the approval and enforcement provided by the EPA,<sup>49</sup> they also determine the property rights of the treated wastewater.<sup>50</sup>

Apart from the number of stages a specific wastewater treatment plant may employ, disinfection is used to reduce the amount of remaining bacteria, viruses and other potentially pathogenic organisms that may remain in the effluent.<sup>51</sup> Although within the acceptable limits for disposal purposes, some types of substances may remain in the effluent, such as high concentrations of phosphorous and nitrogen that are potentially damaging to crops, which require further treatment to make the water appropriate for reuse.<sup>52</sup>

### B. Treated Wastewater Reuse

When beneficially reused, effluent must meet the minimum federal/state requirements for disposal, then meet further state regulations/guidelines for reuse.<sup>53</sup> Each wastewater treatment plant produces a

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<sup>45</sup> See generally WATER PERMITS DIV., U.S. ENVTL. PROT. AGENCY, EPA-833-K-10-001, NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT WRITERS' MANUAL (Sept. 10, 2010) § 6.1.1.2 ("water quality criteria sufficient to support the designated uses of each waterbody."), available at [http://cfpub.epa.gov/npdes/writermanual.cfm?program\\_id=45](http://cfpub.epa.gov/npdes/writermanual.cfm?program_id=45).

<sup>46</sup> *Frequently Asked Questions: NPDES*, U.S. ENVTL. PROT. AGENCY, <http://cfpub.epa.gov/npdes/faqs.cfm> (What is an NPDES permit, What is a point source, What is a water of the United States, What is a pollutant.) (last visited Dec. 13, 2010).

<sup>47</sup> 40 C.F.R. § 131.4 (1992).

<sup>48</sup> 40 C.F.R. § 131.5 (1992). See also 33 U.S.C. §§ 1313(a-c) (2000).

<sup>49</sup> *Id.* § 131.5.

<sup>50</sup> 33 U.S.C. § 1251(b) (1987) ("It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of . . . water resources.") (emphasis added). See also GUIDELINES, *supra* note 3, at 178.

<sup>51</sup> GUIDELINES, *supra* note 3, at 107 ("The most important process for the destruction of microorganisms is disinfection.").

<sup>52</sup> See generally *id.* at 109.

<sup>53</sup> *Id.* at 149 ("[T]here are no federal regulations directly governing water reuse practices in the U.S. Water reuse regulations and guidelines have, however, been developed by many individual states.").

different quality of effluent,<sup>54</sup> which may require an additional stage of treatment for reuse, tertiary treatment, tailored to the specific needs of each wastewater treatment plant.<sup>55</sup> The most common applications are for nutrient removal, such as phosphorous and nitrogen, and further filtration (i.e. suspended solid removal).<sup>56</sup> Tertiary treatment is common in wastewater reuse distribution facilities since the treated wastewater needs to meet certain maximum contamination levels for specific types of substances.<sup>57</sup> As the quality of effluent varies between treatment plants, so too do the regulations among the states.<sup>58</sup>

### C. Wastewater Reuse Regulation

Ideally, the standards regulating the level of treatment for reuse would be governed by a single federal agency, such as the EPA, or at least be consistent among the states. The harsh reality is that no federal regulations of treated wastewater reuse exist;<sup>59</sup> however, some states have filled this void by developing reuse standards applicable within the state, while other states have not.<sup>60</sup> A serious problem for the consumer arises when products, under the guise of a national label, enter the stream of interstate commerce having been produced in full compliance with another state's regulations, but in direct conflict with their own state's regulations.

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<sup>54</sup> *Id.* at 106 ("The quantity and quality of wastewater derived from each source will vary among communities.").

<sup>55</sup> FOLLOWING THE FLOW, *supra* note 25, at 8-9.

<sup>56</sup> *Id.*

<sup>57</sup> *Terms of Environment: Glossary, Abbreviations and Acronyms, M*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/OCEPAterms/mterms.html> (last visited Dec. 13, 2010) (stating that maximum contamination levels, or commonly MCLs, represent enforceable standards for maximum permissible levels of contamination, as defined by the governing agency, typically the EPA.).

<sup>58</sup> See discussion *infra* Part IV.

<sup>59</sup> GUIDELINES, *supra* note 3, at 149 ("[T]here are no federal regulations directly governing water reuse practices in the U.S. Water reuse regulations and guidelines have, however, been developed by many individual states.").

<sup>60</sup> Some states have instituted statutory regulations, while some have issued technical reports providing suggested guidelines, with no legal authority, and some have not done either. See *id.* See also *Frequently Asked Questions: Water Reuse*, WATER REUSE ASS'N, <http://www.watereuse.org/information-resources/about-water-reuse/faqs-0> (last visited Dec. 13, 2010).

## III. ORGANIC AGRICULTURE LEGISLATIVE BACKGROUND

A. *Organic Foods Production Act of 1990*

When Congress conceived the NOP, their purpose was to establish national standards governing organic food production and to create a consistent standard for consumers purchasing such products.<sup>61</sup> The standards established in the Organic Foods Production Act of 1990 (“OFPA”) tend to favor the purity of organics because the requirements for organic products specifically relate to regulating inputs used in their production.<sup>62</sup> A broader policy encompassing sustainable practices, such as the efficient use of available resources, renewable or not, is wanting.

The goal of purity is emphasized by the restriction that water must meet Safe Drinking Water Act (“SDWA”)<sup>63</sup> requirements when used in a certified handling operation.<sup>64</sup> This is the period when water comes into direct contact with the edible portion of the crop and may be incorporated in the final product.<sup>65</sup> In order to control the quality of the inputs, the water being used in or on the organic product must meet the highest standard for water quality.<sup>66</sup> Water used in the finished product must be potable, which specifically excludes treated wastewater.<sup>67</sup> Requiring potable water to be used on the finished product, however, is overly restrictive because water may come into contact with the edible portion of the crop at any point of the agricultural process, such as irrigation during production or washing during handling. Specifically requiring a certain water quality during the handling process leaves an ambiguous standard for the production process, especially since the OFPA does not specifi-

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<sup>61</sup> 7 U.S.C. § 6501 (1990).

<sup>62</sup> *Id.* § 6504(1) (“Organically produced agricultural product[s] . . . shall have been produced and handled without the use of synthetic chemicals”).

<sup>63</sup> See 42 U.S.C. § 300f (1996). See generally: *Understanding the Safe Drinking Water Act*, SAFE DRINKING WATER ACT FACT SHEET (U.S. Env’tl. Prot. Agency, Wash. D.C.), June 2004, available at <http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm>.

<sup>64</sup> 7 U.S.C. § 6510(a)(7) (2005).

<sup>65</sup> *Id.* § 6502(8) (Handle: “to sell, process or package agricultural products”); *Id.* § 6502(17) (Processing: “cooking, baking, heating, drying, mixing, grinding, churning, separating, extracting, cutting, fermenting, eviscerating, preserving, dehydrating, freezing, or otherwise manufacturing, and includes the packaging, canning, jarring, or otherwise enclosing food in a container”).

<sup>66</sup> See *supra* text accompanying note 6.

<sup>67</sup> See GUIDELINES, *supra* note 3, at 46–48 (stating that treated wastewater use for direct potable purposes is generally not an accepted practice in the United States, regardless of the level of treatment). See also WATER DIV. REGION IX, U.S. ENVTL. PROT. AGENCY, EPA 909-F-98-001, WATER RECYCLING AND REUSE: THE ENVIRONMENTAL BENEFITS, available at <http://www.epa.gov/region9/water/recycling/index.html>.

cally limit or exclude water from any source for any other purpose. The water quality for production purposes (e.g. irrigation) is not defined.

The legislative history, however, contains an additional purpose for the OFPA, removed from the final language of the approved bill: “to encourage environmental stewardship.”<sup>68</sup> This additional purpose reflects one of the overall purposes of the larger piece of legislation that created the OFPA, the Food, Agriculture, Conservation and Trade Act of 1990: “to conserve the natural resources which serve as the basis for all agricultural production.”<sup>69</sup> Congress has put forward two methods of achieving this goal: sustainable practices, which emphasize the efficient use of natural resources with the goal being profitability,<sup>70</sup> and organic practices, which emphasize the limited use of natural resources and prohibit the use of synthetic materials with the goal being purity.<sup>71</sup> The original purpose of the OFPA, it would appear, was to encourage a balance between the purity of the product and sustainability in organic farming practices.

As public comments came in, mainly from active farmers in the existing organic industry, the OFPA was modified to reflect the organic industry’s need for a “natural” agricultural policy<sup>72</sup> – the abandonment of the “conservation” aspect of organic farming practices appears to be only incidental, done in order to emphasize the importance of limiting inputs.<sup>73</sup> Whether intentional or not, Congress was explicit in stating that organic practices do encompass sustainable practices, but only in a way that limits synthetic inputs to maintain the purity of organic products.<sup>74</sup> The purity emphasis was ultimately reinforced when the United States Department of Agriculture (“USDA”) created the regulations governing the organic industry and the governing body designed to oversee them, the NOP.<sup>75</sup>

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<sup>68</sup> S. REP. NO. 101-357, at 523 (1990). See also H.R. REP. NO. 101-916, at 526 (1990) (Conf. Rep.).

<sup>69</sup> S. REP. NO. 101-357, at 1.

<sup>70</sup> 7 U.S.C. § 3103(19) (2008).

<sup>71</sup> *Id.* § 6504(1).

<sup>72</sup> S. REP. NO. 101-357, at 268 (“Several major organic industry trade associations and certification organizations have testified before the Congress that their industry desires Federal regulation.”).

<sup>73</sup> Limitations on input methods and products was done to limit the potential for misuse of the “organic” label in products that could potentially bypass areas of the originally proposed regulations, *id.*

<sup>74</sup> *Id.* at 269 (“Organic food is food produced using sustainable production methods that rely primarily on natural materials.”).

<sup>75</sup> 7 C.F.R. § 205 (2001).

### B. National Organic Program Regulations

Nearly a decade after the OFPA was enacted, the USDA's Agricultural Marketing Service prescribed regulations governing the NOP.<sup>76</sup> This framework added further restrictions to inputs and emphasized the need for continuous evaluation of prohibited substances, methods and ingredients in organic products by creating the National List.<sup>77</sup> The National List is continuously updated to identify substances that meet or contradict with the requirements of the OFPA/NOP.<sup>78</sup> Treated wastewater is not listed.<sup>79</sup>

The strict language that handling operations use only SDWA quality water is not present within the regulations governing the NOP – the OFPA's requirement was neither expanded nor extrapolated.<sup>80</sup> Allowed and prohibited substances were placed in an all-encompassing "production and handling" category,<sup>81</sup> suggesting that regulations imposed on handling were applicable to production and vice versa. This implies a statutory imposition that water used in production must meet SDWA standards, which would prohibit treated wastewater.<sup>82</sup> The only other area within the regulations related to water use is the strict regulation on sewage sludge;<sup>83</sup> the NOP defines sewage sludge as: "a solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works."<sup>84</sup>

This is somewhat ambiguous as to whether water produced from domestic sewage (i.e. effluent) falls within the category of sewage sludge.

<sup>76</sup> See generally *id.* See also Rules and Regulations: National Organic Program, 65 Fed. Reg. 80548, 80550 – 80551 (Dec. 21, 2000) (to be codified at 7 C.F.R. pt. 205).

<sup>77</sup> 7 C.F.R. § 205.600.

<sup>78</sup> See NAT'L ORGANIC STDS. BOARD, POLICY AND PROCEDURES MANUAL 55-56 (Apr. 29, 2010), available at <http://www.ams.usda.gov/AMSV1.0/NOSB> (discussing the importance of the "sunset provision," requiring review of previously approved or prohibited substances in order to conform to current market and technology trends.).

<sup>79</sup> *National List of Allowed and Prohibited Substances*, U.S. DEP'T OF AGRIC., <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateN&naviID=NationalListLinkNOPNationalOrganicProgramHome&rightNav1=NationalListLinkNOPNationalOrganicProgramHome&topNav=&leftNav=&page=NOPNationalList&resultType=&acct=nopgeninfo> (last visited Dec. 13, 2010).

<sup>80</sup> Additional references to Safe Drinking Water Act standards were made for the distinct purpose of guidance related to maximum chlorine residual levels in water used for disinfecting purposes. See *id.* § 205.605(b). See also *id.* § 205.603(a)(7) (sanitizing water used in livestock production facilities and equipment); *id.* § 205.601(a)(2) (sanitizing water used in irrigation system cleaning).

<sup>81</sup> *Id.* § 205.105.

<sup>82</sup> See sources cited *supra* note 67.

<sup>83</sup> 7 C.F.R. §§ 205.105(g), 205.301(f)(2) (2001).

<sup>84</sup> *Id.* § 205.2.

"Sewage sludge includes, but is not limited to... a material derived from sewage sludge."<sup>85</sup> The regulation does not clearly distinguish if water is a material *derived from* sewage sludge.<sup>86</sup> A strict construction of the statute would mean that treated wastewater, the end product of treated effluent, is not specifically excluded. The policy behind the restriction, however, leads to a different result since sewage sludge and effluent are the byproducts of a common treatment process.<sup>87</sup>

The source of the sewage sludge prohibition was taken from existing EPA regulations, in order to limit biosolids from coming into contact with crops.<sup>88</sup> Biosolids have an inherently high potential for carrying pathogens, which makes the contact limitation understandable for crops intended for human consumption.<sup>89</sup> However, the EPA has since developed substantial regulations and policies concerning sewage sludge and biosolid treatment to specifically limit the potential for pathogenic contamination of crops intended for human consumption.<sup>90</sup> The sewage sludge limitation has not been updated to reflect the EPA's modern approach.<sup>91</sup> This appears to challenge the EPA's work in this area, possibly to the extent that sewage sludge or biosolids should not be allowed in agricultural uses. If drawn this far, effluent, produced by a common treatment process, has the potential to be just as hazardous as sewage sludge and the limitation should apply.

The restriction of sewage sludge does not clearly establish that water reclaimed from treated wastewater may or may not be specifically prohibited. Although sustainability remains a goal of organic farming, the function of the regulations favor the purity of organic products by further refining and limiting their inputs.

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<sup>85</sup> *Id.*

<sup>86</sup> See Rules and Regulations: National Organic Program, 65 Fed. Reg. at 80550 – 80551 (discussing the importance of prohibiting the broader category of "sewage sludge," as opposed to the narrower category of "biosolids," in order to comply with public comments).

<sup>87</sup> See *supra* Part II.A.

<sup>88</sup> See Rules and Regulations: National Organic Program, 65 Fed. Reg. at 80550 – 80551; 40 C.F.R. § 503 (1993).

<sup>89</sup> See generally OFFICE OF RESEARCH, U.S. ENVTL. PROTECTION AGENCY, EPA/625/R-92/013, CONTROL OF PATHOGENS AND VECTOR ATTRACTION IN SEWAGE SLUDGE 8 (2003).

<sup>90</sup> See generally Standards for the Use or Disposal of Sewage Sludge: Final Rules, 58 Fed. Reg. 9248 (1993) (to be codified at 40 C.F.R. pts. 257, 403 and 503), available at [http://water.epa.gov/scitech/wastetech/biosolids/biosolids\\_index.cfm](http://water.epa.gov/scitech/wastetech/biosolids/biosolids_index.cfm).

<sup>91</sup> See *id.*

### C. Answers to Questions on Standards by NOP Staff

As part of the ongoing process to regulate the organic industry and respond to producer/handler technical inquiries, the NOP responds to questions regarding standards and areas of the regulations by publishing answers via their website.<sup>92</sup> The NOP recently responded to whether or not treated wastewater can be used on organic crops:<sup>93</sup> “If water meets state and federal requirements for use in agricultural production, it may be used in organic production. The NOP does not prescribe additional requirements for water quality above that required by state and federal authorities.”<sup>94</sup>

Treated wastewater that meets state and federal requirements would seem to be an appropriate standard, but it fails to take into consideration the lack of federal authority and the variations of regulations/guidelines between states. The NOP’s allowance of treated wastewater is contrary to the consistent standards it was intended to maintain and regulate within the organic industry due to the conflicting policies among the states.<sup>95</sup> Further emphasizing this discord, certifiers from different states are taking different approaches in this area of regulation.<sup>96</sup>

## IV. WASTEWATER REUSE REGULATIONS AMONG THE STATES

Federal regulations of wastewater exist for the strict purposes of protecting existing water sources.<sup>97</sup> These regulations do not serve the purpose of determining the allowable concentration levels of contaminants

<sup>92</sup> *Answers to Questions on NOP Standards by NOP Staff*, U.S. DEP’T OF AGRIC., <http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateV&navID=AQSSNOPNationalOrganicProgramHome&rightNav1=AQSSNOPNationalOrganicProgramHome&topNav=&leftNav=&page=NCPAQSSQuestions&resultType=&acct=AQSS> (last visited Dec. 13, 2010).

<sup>93</sup> *Can reclaimed water be used on organic products?*, U.S. DEP’T OF AGRIC., <http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5067354&acct=AQSS> (last visited Dec. 13, 2010).

<sup>94</sup> *Id.*

<sup>95</sup> *See infra* Part IV.

<sup>96</sup> Nevada Organic Certification Program, a state program authorized by the USDA to provide organic certification, claims that the “NOP standards specifically prohibit the use of treated wastewater.” E-mail from Steve Marty, Agriculturist IV, Nev. Dep’t of Agric., to author (Aug. 16, 2010, 13:33 PST) (on file with author). California Certified Organic Farmers (CCOF), a private organization authorized by the USDA to provide organic certification, allows treated wastewater use in their interpretation of the NOP. E-mail from Robin Allan, Dir. of Grower & Livestock Certification, CCOF, to author (May 17, 2010, 08:01 PST) (on file with author).

<sup>97</sup> Wastewater is treated for disposal, in order to limit pollution and protect the bodies of water it may come into contact with post-treatment. *See discussion supra* Part II.

when beneficially used, a key component of potable water regulations.<sup>98</sup> Further, the EPA has published a comprehensive guide for water reuse, but its purpose is to merely "present and summarize water reuse guidelines" in the United States for informational purposes.<sup>99</sup> Although there is federal control over treated wastewater disposal, the states are firmly in charge of their own policies and regulations for its reuse.<sup>100</sup>

The regulations of three states illustrate the array of diverging policies: California, Florida and Nevada. In California, the state has approved the use of treated wastewater where it will come into direct contact with the edible portion of the crop.<sup>101</sup> In Florida, the state prohibits direct contact of treated wastewater with the edible portion of the crop under most circumstances and waives the prohibition for citrus and tobacco crops, but does allow for case-by-case approval and only when the edible portion of the crop will not be eaten raw.<sup>102</sup> In Nevada, the state has limited the use of treated wastewater to surface irrigation of fruit and nut bearing trees only.<sup>103</sup> The following sections explore why these states' regulations are in conflict with each other.

### A. California

As the largest agricultural state, California consumes the largest amount of water for agricultural purposes.<sup>104</sup> Given the high demand for water in the state, California's regulations and policies regarding treated wastewater are designed to take advantage of all alternative water sources.<sup>105</sup> At the same time, they are among the most comprehensive in the country.<sup>106</sup>

California has "undertake[n] all possible steps to encourage development of water recycling facilities so that recycled water may be made

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<sup>98</sup> See generally source cited *supra* note 63.

<sup>99</sup> GUIDELINES, *supra* note 3, at 1.

<sup>100</sup> See generally GUIDELINES, *supra* note 3, § 4.

<sup>101</sup> CAL. CODE REGS. tit. 22, § 60304(a)(1) (2000). Edible portion of the crop refers to those crops consumed by humans. Some states, such as Florida and Nevada, differentiate between allowing treated wastewater to be used on the edible portion of the crop consumed by animals and humans, See FLA. ADMIN. CODE § 62-610.475(6) (1999); NEV. ADMIN. CODE § 445A.2749 (2004). For the purposes of this document, crops are intended for human consumption unless noted otherwise.

<sup>102</sup> FLA. ADMIN. CODE §§ 62-610.475(2), (4), (6) (1999).

<sup>103</sup> NEV. ADMIN. CODE §§ 445A.2754, 445A.2768(b)(3) (2004).

<sup>104</sup> ESTIMATED USE OF WATER, *supra* note 1, at 7 (comparing California to other states in Table 2.A: Total water withdrawals by water-use category).

<sup>105</sup> See CAL. WATER CODE §§ 13510, 13511 (West 1995).

<sup>106</sup> See generally GUIDELINES, *supra* note 3, at 149 (describing California as one of the few States to develop comprehensive regulations).

available to help meet the growing water requirements of the state.”<sup>107</sup> It is in the public’s interest that these resources be developed and used.<sup>108</sup> With such an existing high demand for water, the future of California’s agricultural industry is deeply dependent on reliable water sources and encouraging and fostering the development of alternative sources, such as treated wastewater, for all water-related applications.

To achieve these goals, California allows treated wastewater in agricultural irrigation applications where it will come into direct contact with the edible portion of the crop.<sup>109</sup> The legislature has set forth wide-ranging treated wastewater standards to supplement the existing water supply and help meet future water requirements by developing this “new basic water suppl[y].”<sup>110</sup> The principle that treated wastewater is a “new basic water suppl[y]” is of the utmost importance; it has been the legislature’s intent to further develop, control and conserve the water resources of the state by providing the public with reliable alternative sources to existing surface and underground water supplies.<sup>111</sup>

California regulations allow treated wastewater in all agricultural applications, subject to certain requirements related to the level of treatment and application method.<sup>112</sup> When used on crops, treated wastewater in California must be treated to the disinfected tertiary level,<sup>113</sup> with a detectable level of total coliform not exceeding 2.2/100 mL.<sup>114</sup>

The fundamental policy behind California’s regulations is that it would be against the state constitution to use potable water, where treated wastewater could be used because “the use of potable domestic water for nonpotable uses, including, but not limited to... irrigation uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available....”<sup>115</sup> Clearly, California’s water policy is one of sustainability with

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<sup>107</sup> WATER § 13512.

<sup>108</sup> *Id.* § 13510.

<sup>109</sup> CAL. CODE REGS. tit. 22, § 60304(a)(1) (2000).

<sup>110</sup> WATER §§ 13510, 13511.

<sup>111</sup> *See Id.* §§ 12881, 12881.4, 13510.

<sup>112</sup> CAL. CODE REGS. tit. 22, § 60304(a) (2000). *See also* GUIDELINES, *supra* note 3, § 4.1.1.3 (Table 4-5).

<sup>113</sup> CAL. CODE REGS. tit. 22, § 60304(a)(1).

<sup>114</sup> *Id.* § 60301.230.

<sup>115</sup> WATER § 13550. *See also* CAL. CONST. art. X, § 2 (“because of the conditions prevailing in this State the general welfare *requires* that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and *that the waste or unreasonable use or unreasonable method of use of water be prevented*, and that the conservation of such waters is to be exercised with a view to the reasonable and benefi-

the requirement that the minimum quality of water available should be used for a particular application in order to further the efficient use of the state’s limited resources.

Under existing interpretations of the NOP, an organic product grown in California that uses treated wastewater that comes into direct contact with the edible portion of the crop “meets state requirements” and would be a certifiable product under the NOP.<sup>116</sup> Currently, California organic farmers are being certified when using treated wastewater.<sup>117</sup> As California’s treated wastewater regulations are expansive, the potential misuse of recycled wastewater in organic farming in California is based on the level of treatment, not the application method.<sup>118</sup> California, like all other jurisdictions, has rules for violating treatment standards, but they are outside the scope of this Comment.<sup>119</sup>

### B. Florida

Florida is the largest producer and user of treated wastewater in the United States.<sup>120</sup> Florida has developed significant regulations governing treated wastewater use, somewhat similar to California’s.<sup>121</sup> In Florida, treated wastewater is allowed in agricultural irrigation applications where it will come into direct contact with the edible portion of the crop, but only when it will be “peeled, skinned, cooked or thermally processed” prior to consumption.<sup>122</sup> An exception to the general rule is allowed with citrus and tobacco crops.<sup>123</sup>

In other words, the regulations are similar to California, except treated wastewater could not be used on a crop intended to be eaten unpeeled,

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cial use thereof in the interest of the people and for the public welfare.”) (emphasis added).

<sup>116</sup> See discussion *supra* Part III.C.

<sup>117</sup> E-mail from Robin Allan, Dir. of Grower & Livestock Certification, CCOF, to author (May 17, 2010, 08:01 PST) (on file with author).

<sup>118</sup> See tit. 22, § 60304(a)(1).

<sup>119</sup> Discharge of treated wastewater, for disposal or reuse purposes, is subject to minimum federal treatment requirements. See discussion *supra* Part II.B.

<sup>120</sup> *Water Reuse Program*, FLA. DEP’T OF ENVTL. PROT., <http://www.dep.state.fl.us/water/reuse/agencies.htm> (last visited Dec. 13, 2010) (“Florida has become the national leader in water reuse.”); See also *Reuse Flow Per Capita for the Nine States that Reported Having Reuse in 2006*, FLA. DEP’T OF ENVTL. PROT., <http://www.dep.state.fl.us/water/reuse/inventory.htm> (last visited Dec. 13, 2010) (listing Florida as first).

<sup>121</sup> See GUIDELINES, *supra* note 3, at 149.

<sup>122</sup> See FLA. ADMIN. CODE §§ 62-610.475(4), (6) (1999) (allowing recycled water in all irrigation applications that will not contact the edible portion of the crop).

<sup>123</sup> See *id.* § 62-610.475(2).

unskinned or raw.<sup>124</sup> This distinction is important, particularly since a number of organic crops are intended to be eaten raw, without being peeled or skinned, such as strawberries, tomatoes and leafy vegetables. These types of organic crops would be prohibited from using treated wastewater when using irrigation methods that permit direct contact with the edible portion of the crop, but there is a method to bypass these well-defined standards.

Florida's regulations allow for a demonstration project to show that the public health will be protected if treated wastewater is directly applied to these types of crops.<sup>125</sup> There are no proscribed methods of achieving this goal, other than simply collecting and analyzing data.<sup>126</sup> Although this exception would permit the direct application of treated wastewater to the edible portion of the crop, there is no clear standard for the level of treatment, since it would be determined on a case-by-case basis. To date, no such projects have been attempted.<sup>127</sup>

When allowed for use on crops, treated wastewater in Florida must be treated to the secondary treatment level with high-level disinfection.<sup>128</sup> High-level disinfection sets the level of fecal coliform at below detectable limits.<sup>129</sup> This is much more stringent than California's standard,<sup>130</sup> significantly reducing the potential for pathogen contamination, but it still does not allow direct crop contact in most agricultural irrigation applications.

Prior to 1989, Florida's regulations allowed for direct contact applications, but the direct contact prohibition was an amendment made "to maximize public acceptance... [and create] a strong partnership with the

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<sup>124</sup> Except tobacco and citrus crops, *id.*

<sup>125</sup> An applicant for such a process would be a treatment plant owner, typically a municipality, who has an interest in providing treated wastewater. *Id.* § 62-610.475(6). Requiring, still, that the crops from the demonstration project be thermally processed or cooked for human consumption, *id.* Upon successful completion, the restrictions of FLA. ADMIN. CODE § 62-610.475(4) can be waived, *id.*

<sup>126</sup> *See id.*

<sup>127</sup> E-mail from Anthony Andrade, Project Manager/Senior Water Conservation Analyst, SW Fla. Water Mgmt. Dist., to author (November 29, 2010, 13:39 PST) (on file with author). *See also* E-mail from Shanin Speas-Frost, Water Reuse/Wastewater Wetlands Coordinator, Fla. Dep't of Env'tl. Prot., to author (July 23, 2010, 13:28 PST) (on file with author).

<sup>128</sup> ADMIN. § 62-610.450(1).

<sup>129</sup> *Id.* § 62-600.440(5)(a).

<sup>130</sup> *See* CAL. CODE REGS. tit. 22, § 60301.230(a) (2000) (coliform concentration of 2.2/100 mL).

Florida Department of Health..."<sup>131</sup> There is no technical or health related reason for the prohibition.<sup>132</sup> Florida's regulations originally placed a heavy emphasis on sustainability, but they succumbed to uneducated public influence, indirectly emphasizing purity of the inputs.

Under existing interpretations of the NOP, an organic product grown in Florida that uses treated wastewater that comes into direct contact with the edible portion of the crop does not "meet state requirements" and would not be a certifiable product under the NOP, except for citrus and tobacco crops.<sup>133</sup> As discussed above, this is inconsistent with a similarly produced organic product from California.<sup>134</sup> Since Florida's treated wastewater regulations are limiting, the potential misuse of treated wastewater in organic farming in Florida is based on the level of treatment and the application method.<sup>135</sup>

In Florida, improper applications of treated wastewater are treated as permit violations, since a user must possess a permit to discharge the treated wastewater.<sup>136</sup> These permits are granted by the Florida Department of Environmental Protection under the auspices of the NPDES permit program.<sup>137</sup> An example of this violation is a permit holder who has been approved to use treated wastewater in a subsurface drip irrigation system (indirect crop contact), who then uses the treated wastewater in a spray irrigation system (direct crop contact). Such a use could result in revocation of the discharge permit and a range of penalties at the discretion of the Florida Department of Environmental Protection.<sup>138</sup>

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<sup>131</sup> York, David W., Parson, Lawrence R., Walker-Coleman, Lauren, *Agricultural Re-use: Using Reclaimed Water to Irrigate Edible Crops in Florida* (2006), <http://www.dep.state.fl.us/water/wqssp/docs/Crops.pdf>.

<sup>132</sup> York, David W., Holden, Robert, Sheikh, Bahman, Parsons, Larry, *Safety and Suitability of Recycled Water for Irrigation of Edible Crops*, Proceedings of the 23rd Annual WaterReuse Symposium, Dallas: WaterReuse Association (2008), [http://www.bahmansheikh.com/pdf\\_files/Food\\_Safety.pdf](http://www.bahmansheikh.com/pdf_files/Food_Safety.pdf).

<sup>133</sup> ADMIN. § 62-610.475(2). See also discussion *supra* Part III.C.

<sup>134</sup> See discussion *supra* Part III.A.

<sup>135</sup> Except citrus and tobacco crops. ADMIN. § 62-610.475(2).

<sup>136</sup> *Id.* § 62-610.800.

<sup>137</sup> See generally *id.* § 62-620.

<sup>138</sup> See *id.* § 62-620.345.

*C. Nevada*

Nevada produced approximately \$2.8 million of organic products in 2008.<sup>139</sup> Considering California and Florida produced approximately \$1.2 billion in the same period,<sup>140</sup> the potential exists for organic products produced in California or Florida grown with treated wastewater to enter the Nevada marketplace, with the presence of organic product retailers such as Whole Foods® and Trader Joe's®, among others.<sup>141</sup> The significance of this is the drastic difference in treated wastewater reuse policies among these states.

Nevada has limited treated wastewater use to only surface irrigation applications of fruit and nut bearing trees.<sup>142</sup> All other uses on crops intended for human consumption are prohibited.<sup>143</sup> The important distinction is that these regulations act as a complete bar for the use of treated wastewater in most agricultural applications for crops consumed by humans.<sup>144</sup> Typical applications, such as surface irrigation of tomatoes or subsurface irrigation of strawberries, are prohibited even though they would not allow direct contact with the edible portion of the crop.

Nevada based their regulations on the EPA's recommendations in the early 1990's,<sup>145</sup> which limited treated wastewater applications due to the limits of existing technology and the lack of research in wastewater reuse.<sup>146</sup> Some factors relating to Nevada's continued prohibitive policy of treated wastewater reuse may be cost, due to lack of commercial interest, and negative public sentiment.<sup>147</sup> The State has indirectly emphasized the purity of the inputs for crops grown for human consumption by prohibiting treated wastewater use.

In the limited circumstances when used on crops,<sup>148</sup> treated wastewater in Nevada must be treated to the disinfected secondary level, with a de-

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<sup>139</sup> U.S. Dep't of Agric., *Organic Production Survey (2008)*, AC-07-SS-2 (July 2010) at Table 1, available at [http://www.agcensus.usda.gov/Surveys/Organic\\_Production\\_Survey/index.asp](http://www.agcensus.usda.gov/Surveys/Organic_Production_Survey/index.asp).

<sup>140</sup> *Id.*

<sup>141</sup> Organic Markets in Nevada, GOOGLE MAPS, <http://maps.google.com> (search "Organic Market, NV").

<sup>142</sup> NEV. ADMIN. CODE § 445A.2768(b)(3) (2004).

<sup>143</sup> ADMIN. § 445A.2754. See also *id.* § 445A.2749.

<sup>144</sup> *Id.* § 445A.2754(b).

<sup>145</sup> E-mail from Joseph Maez, Technical Services, Nev. Div. of Env'tl. Prot., to author (Aug. 30, 2010, 09:23 PST) (on file with author).

<sup>146</sup> *Id.*

<sup>147</sup> E-mail from Janine Hartley, Nev. Div. of Env'tl. Prot., to author (July 26, 2010, 13:34 PST) (on file with author).

<sup>148</sup> ADMIN. § 445A.2768(b)(3) (permitting surface irrigation of nut and fruit bearing trees).

tectable level of fecal coliform of 200/100 mL.<sup>149</sup> This is nearly 100 times the allowable concentration in California<sup>150</sup> and infinitely greater than Florida.<sup>151</sup> With such lax standards, which merely satisfy the federal requirement for disposal,<sup>152</sup> it seems apparent why wastewater reuse is not more prevalent in Nevada.

Under existing interpretations of the NOP, an organic product grown in Nevada that uses treated wastewater that comes into direct contact with the edible portion of the crop does not "meet state requirements" and would not be a certifiable product under the NOP.<sup>153</sup> As discussed above, this is inconsistent with a similarly produced organic product from California.<sup>154</sup> Since Nevada's treated wastewater regulations are prohibitive, the potential misuse of treated wastewater in organic farming in Nevada is based on the use alone, not the level of treatment or the application method.<sup>155</sup>

Similar to Florida, misuse of treated wastewater in Nevada is treated as a discharge permit violation, subject to an array of potential penalties.<sup>156</sup> These permits are granted by the Nevada Department of Environmental Protection under the auspices of the NPDES permit program.<sup>157</sup> An example of a permit violation is a permit holder who has been approved to use the treated wastewater on feed crops,<sup>158</sup> who then uses the treated wastewater on crops intended for human consumption.

In Nevada, the permit can be revoked, injunctive orders issued to cease the operation, civil penalties awarded in the amount of up to \$25,000 per day of violation and criminal penalties awarded in the amount of up to \$25,000 per day of violation and up to one year in prison for the first violation.<sup>159</sup> This list is not inclusive of all potential penalties, since the misuse could also result in adverse environmental impacts, which are

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<sup>149</sup> *Id.* § 445A.276 (Class D reuse category).

<sup>150</sup> CAL. CODE REGS. tit. 22, § 60301.230 (2000) (limiting total coliform below 2.2/100 mL).

<sup>151</sup> FLA. ADMIN. CODE § 62-600.440(5)(a) (1996) (limiting fecal coliform below detectable limits).

<sup>152</sup> See discussion *supra* Part II.A.

<sup>153</sup> See discussion *supra* Part III.C.

<sup>154</sup> See discussion *supra* Part III.A.

<sup>155</sup> See generally NEV. ADMIN. CODE § 445A.2768 (2004).

<sup>156</sup> See NEV. REV. STAT. ANN. §§ 445A.690 (West 2001), 695 (West 2001), 700 (West 1997), 705 (West 1995).

<sup>157</sup> See generally *id.* § 445A.450.

<sup>158</sup> ADMIN. § 445A.2749.

<sup>159</sup> NEV. REV. STAT. ANN. §§ 445A.690 (West 2001), 695 (West 2001), 700 (West 1997), 705 (West 1995).

governed by separate areas of law and give rise to further consequences.<sup>160</sup>

#### D. *Noncompliance with the NOP*

The NOP provides for general penalties for noncompliance with the regulations<sup>161</sup> – as this Comment suggests, a producer who applies treated wastewater directly to the edible portion of the crop could be in violation of one state's regulations, while in compliance with another state. Although the NOP has issued some, albeit ambiguous, guidance for treated wastewater use, the variance of regulations among the states, when viewed at the national level, is grossly inconsistent.<sup>162</sup> The variable state regulations can create a quasi-violation of the NOP. For example, the California product from above would be acceptable, but the same product from Florida or Nevada would not. Something must be done to resolve the conflict.

### V. RECOMMENDATIONS

The need for an alternative source of water is apparent with an ever increasing demand for agricultural products, particularly those organically produced, and the limited availability of water resources.<sup>163</sup> As with any policy, a balance between competing interests must be met in order to maintain growth.

#### A. *Organic Agricultural Practices – Purity v. Sustainability*

When the supply of potable water reaches low levels, a sacrifice must be made by the public as domestic users, or by members of commerce as producers and handlers of agricultural products when alternative water sources are not utilized. By limiting or prohibiting alternative water sources in agricultural applications, a state may indirectly face the dilemma of deciding the importance between the personal and commercial interests of its citizens. For example, using potable water in agricultural production draws away potable water from domestic needs. Less water for domestic users has the potential to lower the quality of life for indi-

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<sup>160</sup> Discharge of treated wastewater, for disposal or reuse purposes, is subject to minimum federal treatment requirements. See discussion *supra* Part II.B.

<sup>161</sup> 7 U.S.C. § 6519(a) (1991) (“Any person who knowingly sells or labels a product as organic, except as in accordance with this title, shall be subject to a civil penalty of not more than \$10,000.”).

<sup>162</sup> See discussion *supra* Part III.A – C.

<sup>163</sup> See generally GUIDELINES, *supra* note 3, at 2.

viduals, yet it has already been shown that less water for agricultural users creates a domino effect that eventually reaches individuals.<sup>164</sup> Either way, it is a lose-lose situation.

By allowing alternative sources for water and allowing water that meets the minimum standard for its use, the organic agricultural industry can join the growing number of farmers who use treated wastewater.<sup>165</sup> As technology advances, higher levels of wastewater treatment are created that have the potential to create a product that is comparable to potable water. While many states adhere to traditional practices of wastewater disposal, other states have been eager to pursue a sustainable approach to wastewater reuse, providing users the availability of properly treated wastewater for various applications.<sup>166</sup> Treated wastewater that meets high level standards can be in compliance with organic standards and should be allowed, in fact encouraged. The science behind the technology is no longer limiting, the regulations are.

### *B. Amending the OFPA*

An amendment to the OFPA incorporating the EPA's suggested regulations<sup>167</sup> would be the simplest solution to the inconsistencies among the states, but this bypasses the underlying issue that an enforceable federal policy is needed to create comprehensive wastewater reuse standards. Inconsistent standards among the states are not limited to treated wastewater use in organic products, it is common to all agricultural products. Further, it creates a disincentive to states with less stringent treated wastewater standards because compliance would require upgrading existing wastewater treatment facilities, or building new facilities, without the proper funding structure to do so.<sup>168</sup> Although a viable solution, a comprehensive federal regulation would be a better response.

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<sup>164</sup> Press Release, Westlands Water Dist., California Needs a Water System for the 21st Century (Apr. 21, 2009) (on file with author) (discussing water shortages and resulting unemployment).

<sup>165</sup> GUIDELINES, *supra* note 3, at 2 ("Water reuse in the U.S. is a large and growing practice.").

<sup>166</sup> *See generally id.* § 4.

<sup>167</sup> *Id.* at 167 (Table 4-13).

<sup>168</sup> The Clean Water Act provides an existing structure of funding for "research and demonstration" projects related to advanced (i.e. tertiary) treatment of wastewater. *See* 33 U.S.C. § 1255 (1977).

### C. Proposed Federal Regulations

Although the EPA has developed comprehensive guidelines for wastewater reuse, they are strictly recommendations and carry no legal authority.<sup>169</sup> Federal regulations for treated wastewater would have substantial effects on all the states, particularly if the regulations were more limiting than existing state laws. When a vehicle, such as the NOP, applies state laws within a national program, the conflicting policies among the states emphasize the need for federal regulation.

For the technical aspect, federal regulations that follow the years of experiment and experience of California and Florida would be the most comprehensive because they would create treated wastewater reuse quality standards at the forefront of technology. Standards that allow for direct crop contact, such as California,<sup>170</sup> but require a strict level of disinfection, such as Florida,<sup>171</sup> would reduce the potential for contamination in order to satisfy the scientific requirements of safe water and the socially acceptable requirements for clean water.

Numerous legal issues are created, however, due to the structure of existing state water rights.<sup>172</sup> But Congress may exercise its inherent power "to regulate commerce... among the several states,"<sup>173</sup> which would bind the states, regardless of the imposition, because federal legislation is "the supreme law of the land."<sup>174</sup> Further, the CWA provides a basis for expanding on this issue by an amendment directly addressing it.<sup>175</sup>

#### 1. Water Rights

Generally, each state adheres to one or both types of water rights doctrines: appropriative and riparian.<sup>176</sup> Under either type of water rights doctrine, the most prevalent barrier to treated wastewater reuse is the "reduction of discharge" issue: as reuse applications increase, existing discharge recipients may receive less water that has either historically or contractually been guaranteed due to the limited source of treated waste-

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<sup>169</sup> GUIDELINES, *supra* note 3, at 166 ("These guidelines are not intended to be used as definitive water reclamation and reuse criteria. They are intended to provide reasonable guidance for water reuse opportunities.").

<sup>170</sup> CAL. CODE REGS. tit. 22, § 60304(a)(1) (2000).

<sup>171</sup> FLA. ADMIN. CODE § 62-600.440(5)(a) (1996).

<sup>172</sup> See GUIDELINES, *supra* note 3, §§ 5.1 – 5.3.

<sup>173</sup> U.S. CONST. art. I, § 8, cl. 3 (Commerce Clause).

<sup>174</sup> U.S. CONST. art. VI, cl. 2 (Supremacy Clause).

<sup>175</sup> Congress preserved the states' right to control water rights. See 33 U.S.C. § 1251(b) (1987).

<sup>176</sup> GUIDELINES, *supra* note 3, at 176–177.

water.<sup>177</sup> Modern wastewater reuse applications require treatment beyond mere disposal requirements,<sup>178</sup> so implementing regulations that required further treatment in order to supply existing users with higher quality water would be wasteful.

Diverting supplies of treated wastewater to new users at the expense of existing users would be discriminatory. However, the benefit to new users who would use treated wastewater for beneficial applications, such as crop irrigation, in lieu of potable water has a profound impact on the efficient use of water from all sources. In order to promote reuse applications and alleviate this inevitable circumstance, it would be wise to grant the states the power to balance the significance of the potential economic hardship of downstream users against the potential benefits of reuse, such as a potential reduction in environmental pollution and increased economic opportunities for local economies. An amendment that prescribed a tier of rights to certain quantities of treated wastewater, in order to allow modifications to existing discharge recipients without substantially hindering their existing water allotments, would give each state the flexibility to further a greater environmental interest, the beneficial use of treated wastewater.

As treated wastewater facilities would appear to be important channels of interstate commerce, just as treated wastewater would be an instrumentality of interstate commerce, affecting agriculture that serves both in and out of state interests, it would be an appropriate exercise of Congress' power to regulate.<sup>179</sup> By empowering each state with the discretion to permit wastewater reuse within their jurisdiction, specifically with the ability to supersede the rights of existing discharge recipients, the public as a whole would benefit from the efficient use of this alternative source of water.

## VI. CONCLUSION

Prior to 1974, the nation's drinking water standards came under scrutiny for some of the same reasons discussed above, such as the lack of cohesive policies between the states and the need to set a national standard.<sup>180</sup> Congress, with the EPA's guidance, responded by enacting the

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<sup>177</sup> *Id.*

<sup>178</sup> See discussion *supra* Part II.B.

<sup>179</sup> See U.S. CONST. art. I, § 8, cl. 3 (Commerce Clause).

<sup>180</sup> Press Release, U.S. Env't'l Prot. Agency, EPA Voices Support for Safe Drinking Water Act (Mar. 8, 1973) (on file with author), available at <http://www.epa.gov/history/topics/sdwa/02.htm>.

SDWA.<sup>181</sup> Similarly, prior to 1948, the nation had limited ways of protecting water sources from pollution, which lead to the creation of the Clean Water Act.<sup>182</sup> In an era of better understanding that environmental regulations support the efficient use of our limited resources,<sup>183</sup> the time has come to establish consistent standards for wastewater reuse.

Federal regulations that clearly define wastewater treatment and reuse standards would help the agricultural industry as a whole meet the water demands of the future. A national standard would ensure that residents of different states receive the same level of quality in their agricultural products, regardless of their origin. The NOP did not create the inconsistencies related to treated wastewater use, but it elevated the issue to the national stage where it needs to be addressed. This Comment supports an act of Congress that clearly defines a national standard with the hope to see it happen in the near future.

CHESTER E. WALLS, PE, LEED AP<sup>184</sup>

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<sup>181</sup> 42 U.S.C. § 300f (1996).

<sup>182</sup> *History of the Clean Water Act*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/lawsregs/laws/cwahistory.html> (last visited Dec. 13, 2010).

<sup>183</sup> See discussion *supra* Part II.

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