



# LEVELING THE PLAYING FIELD: BASIC STANDARDS OF CARE FOR IOWA



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AUTHORED BY: Morgan Muenster, Michael Schmidt, Alicia Vasto

IOWA ENVIRONMENTAL COUNCIL 505 Fifth Ave Suite 850, Des Moines, IA 50309

[www.iaenvironment.org](http://www.iaenvironment.org)

## Leveling the Playing Field: Basic Standards of Care for Iowa Agriculture

For many years, the Iowa Environmental Council has called on Iowa state leadership to adopt regulations that would lead to actual reductions of fertilizer pollution in Iowa's waterways. The state's Nutrient Reduction Strategy, which relies on voluntary action and publicly funded incentives to reduce fertilizer pollution from agricultural sources, has failed to reduce nitrogen and phosphorus loading in Iowa streams and lakes. Existing regulations restricting manure application from some sources to agronomic rates<sup>1</sup> and limit application on frozen and snow-covered ground<sup>2</sup> are not enough and have not led to nutrient reductions.

Decades of inadequate progress demonstrate that regulation is the only way Iowa will reach its fertilizer pollution reduction goals. No other tactic will lead to pollution reduction goals within a reasonable timeline.

IEC proposes the state adopt three regulations that have been adopted by other states that could be implemented in Iowa and accelerate progress toward our shared water quality goals:

1. Universal riparian buffers
2. Limits to fall fertilizer application
3. Watershed Management Action Plans

Other states have adopted these regulations to set minimum standards for agriculture to address a range of water quality problems.<sup>3</sup> Iowa has fewer regulatory requirements than a number of its neighbors<sup>4</sup> and faces serious water pollution problems. IEC's proposals would align Iowa with other states while advancing water quality goals.

By setting these minimum standards, agricultural producers that already implement practices that aid water quality will be put on equal footing with the rest of the sector. Setting minimum standards would level the playing field with agricultural operations that already use practices that protect water quality. This level playing field also reduces the pollution costs borne by Iowans and others who live downstream from the pollution sources.

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<sup>1</sup> 567 IAC 65.3(1) (limiting manure application rates from certain confinement animal feeding operations).

<sup>2</sup> 567 IAC 65.3(4) (limiting manure application on frozen and snow-covered ground to emergency situations).

<sup>3</sup> Dexter, J. et al. *Cultivating Clean Water: State-Based Regulation of Agricultural Runoff Pollution*, Environmental Law and Policy Center. March 2010.

<sup>4</sup> *Id.*; see Michael Schmidt, "Modernizing Agricultural Drainage Law in Iowa," Iowa Environmental Council (2020) (comparing landowner obligations under Iowa laws to other states).

## Universal Riparian Buffers

*Adopted by Minnesota and Wisconsin*

A universal riparian buffer law would require all agricultural operations to maintain a vegetative buffer of minimum width along all surface waters.

The law must have:<sup>5</sup>

1. No exemptions or waivers
2. Meaningful penalties for violations
3. A funding mechanism to enforce the law and issue penalties for violations
4. A mechanism for citizens to report violations

[Minnesota](#) requires a 50-foot continuous buffer of perennial vegetation or comparable conservation practice along lakes, rivers, and streams.<sup>6</sup> Although the buffer must be at least 50 feet on average, it allows some flexibility by setting an absolute minimum of 30 feet.<sup>7</sup> The state developed a map identifying all areas that must have a buffer, including public ditches.<sup>8</sup> Local governments may impose more stringent requirements through their local ordinances.<sup>9</sup>

In addition to the basic requirement for a perennially vegetated buffer, Minnesota regulations limit fertilizer and pesticides in the buffer. Application of manure, commercial fertilizer, or pesticides in what are defined as “shoreland areas” of waterways must be conducted so as to minimize impacts to the shoreland and the public water.<sup>10</sup> In addition, feedlot regulations prohibit manure application within (1) 100 feet of lakes and perennial streams, (2) 50 feet of wetlands and intermittent streams, or (3) 25 feet of wetland and surface waters if the manure is incorporated into the soil and applied at a rate that maintains proper phosphorus concentrations.<sup>11</sup>

Minnesota achieved rapid compliance with its buffer requirements. The statewide requirement was adopted in 2015,<sup>12</sup> and by July of 2019, compliance had reached 98 percent.<sup>13</sup> As of 2021, compliance was at

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*Minnesota’s universal buffer legislation was introduced and passed with bipartisan support in 2015.*

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*Photo courtesy of Lynn Betts, USDA NRCS*

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<sup>5</sup> Dexter, J. et al. *Cultivating Clean Water: State-Based Regulation of Agricultural Runoff Pollution*, Environmental Law and Policy Center. March 2010.

<sup>6</sup> MINN. STAT. § 103F.48 (2019).

<sup>7</sup> *Id.*

<sup>8</sup> “DNR Buffer Map,” Minnesota Department of Natural Resources, available at <http://arcgis.dnr.state.mn.us/gis/buffersviewer/> (last visited Aug. 23, 2022).

<sup>9</sup> *Id.*

<sup>10</sup> Minn. R. 6120.3300, subp. 7 (2019).

<sup>11</sup> Minn. R. 7020.2225 subp. 6.

<sup>12</sup> 2015 Minn. Laws 1st Sp. Sess. ch. 4, § 79.

<sup>13</sup> “Minnesota Buffer Law,” Minnesota Board of Water and Soil Resources, available at <https://bwsr.state.mn.us/minnesota-buffer-law> (last visited Aug. 23, 2022).

99.6 percent.<sup>14</sup> This rate of compliance with a regulatory requirement vastly exceeds the adoption rate of any voluntary conservation practice in Iowa.

Wisconsin has similar “shoreland” regulations that impose a buffer requirement for lakes, rivers, and streams.<sup>15</sup> The regulations require a 35-foot vegetative buffer to protect water quality, aquatic life, and wildlife.<sup>16</sup>

Wisconsin also requires adoption of buffer “corridors” along ditches to protect water quality from adverse land uses, including row crops.<sup>17</sup> The corridor must be at least 20 feet, but can be wider if needed to protect water quality.<sup>18</sup> The drainage district authority must maintain vegetative cover within the corridor, similar to the requirement for perennial vegetation in Minnesota.<sup>19</sup>

By adopting a buffer requirement, Iowa would achieve multiple benefits: improved water quality, reduced streambank erosion, and increased wildlife habitat. The successful adoption by neighboring states highlights the feasibility of achieving high compliance rates quickly.



State	Buffer Requirement
Iowa	0 ft
Minnesota	50 ft average, 30 ft minimum
Wisconsin	35 ft, 20 ft minimum for ditches

<sup>14</sup> “Buffer Program Update,” Board of Water and Soil Resources, available at <https://bwsr.state.mn.us/buffer-program-update> (last visited Aug. 23, 2022).

<sup>15</sup> WIS. ADMIN. CODE NR § 115.05(1)(c).

<sup>16</sup> *Id.*

<sup>17</sup> WIS. ADMIN. CODE ATCP § 48.24 (2022).

<sup>18</sup> *Id.*

<sup>19</sup> *Id.* at § 48.30 (2022).

## Limits to Fall Fertilizer Application

*Adopted by Maryland, Nebraska, and Wisconsin*

A law limiting fall fertilizer application would prohibit all agricultural operations from applying nitrogen fertilizers between locally-appropriate dates based on defensible local climate conditions and average soil temperatures. It can allow fall-seeded crops to be fertilized close to the time of planting with an inhibitor to reduce nitrate runoff or leaching.

Several states restrict fall fertilizer application to protect water quality using a range of approaches:

1. Maryland requires nutrient management plans and compliance with a Nutrient Management Manual, which defines required practices and restrictions.
2. Nebraska has established Natural Resource Districts, which address fall fertilizer and groundwater concerns.
3. Wisconsin requires nutrient management plans that must incorporate restrictions on fall fertilizer.



[Maryland](#) requires nutrient management plans developed by a certified consultant or operator.<sup>20</sup> The plans must include a timing component and must comply with the Maryland Nutrient Management Manual, Section I-D.<sup>21</sup> The manual restricts fertilizer from September 10 through December 15.<sup>22</sup> For crops continuing to grow or planted during this time, chemical fertilizers may be applied at rates recommended in the manual based on crop type.<sup>23</sup> Manure may only be applied in the fall to land with existing vegetative cover (or a fall cover crop must be planted) at appropriate rates as defined in the manual, and must be incorporated if the field is tilled.<sup>24</sup> Regulations prohibit fall manure application when the soil is saturated.<sup>25</sup>

In [Nebraska](#), the state delegates regulation of fertilizer to Natural Resource Districts.<sup>26</sup> In addition to requiring water sampling, the districts may require best management practices and other necessary regulations.<sup>27</sup> Of the 23 districts in the state, the Central Platte, Lower Platte North, and Elkhorn River districts restrict fertilizer application in the fall. The Central Platte district prohibits application of commercial nitrogen fertilizer in the fall throughout its district on sandy soils; other soils may not receive fall fertilizer before November 1.<sup>28</sup> The Lower Platte North district contains the same restrictions.<sup>29</sup> It also imposes a broader prohibition on commercial fertilizer in fall and winter if nitrate concentrations exceed

<sup>20</sup> Md. Code Regs. 15.20.08.05 (2022).

<sup>21</sup> *Id.* at (H).

<sup>22</sup> "Nutrient Application Requirements," Maryland Nutrient Management Manual (2016), available at [https://mda.maryland.gov/resource\\_conservation/Documents/nm\\_manual/1-D1-1-1D1-6.pdf](https://mda.maryland.gov/resource_conservation/Documents/nm_manual/1-D1-1-1D1-6.pdf).

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> Neb. Rev. Stat. Ann. §§ 46-739.

<sup>27</sup> *Id.*

<sup>28</sup> Central Platte Natural Resource District, Groundwater Quality Management Requirements (Jan. 2021), Rule C.1.1, available at [https://www.cpnrd.org/wp-content/uploads/RULES-REGS\\_Jan282021\\_Implemented\\_3\\_4\\_2021.pdf](https://www.cpnrd.org/wp-content/uploads/RULES-REGS_Jan282021_Implemented_3_4_2021.pdf).

<sup>29</sup> Groundwater Management Area Rules and Regulations (June 15, 2018), Lower Platte North NRD, Section F rules 7-8, available at [https://lpnrd.org/wp-content/uploads/2018/12/GWMA\\_Rules\\_Regulations-.pdf](https://lpnrd.org/wp-content/uploads/2018/12/GWMA_Rules_Regulations-.pdf).

10 mg/L.<sup>30</sup> The Lower Elkhorn River district takes a slightly less restrictive approach. It discourages commercial nitrogen fertilizer application between October 15 and March 15 throughout its district.<sup>31</sup> In areas where groundwater elevations have dropped and nitrate concentrations in groundwater exceed 5 mg/L, fall application is entirely prohibited.<sup>32</sup>



Wisconsin takes an indirect approach to restricting fall fertilizer by requiring nutrient management plans that comply with Natural Resources Conservation Service standards.<sup>33</sup> Those standards limit fall fertilizer application on highly permeable, rocky, and wet soils. The standard allows commercial fertilizer application for fall-seeded crops or where other nutrient guidelines call for fall application<sup>34</sup> Manure is allowed at limited rates and low temperatures; liquid manure must be used with additional practices such as a nitrification inhibitor or a cover crop.<sup>35</sup>

The various restrictions on fall application of fertilizer all seek to minimize the nitrogen losses that result from fertilizing land without vegetative cover. The simplest and most protective approach is to simply restrict fall application to reduce groundwater and surface water contamination.

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<sup>30</sup> *Id.* at section H, rules 3.

<sup>31</sup> "Groundwater Management," Lower Elkhorn River Natural Resources District, available at <http://www.lenrd.org/groundwater-management> (last visited August 24, 2022).

<sup>32</sup> Lower Elkhorn NRD Rules and Regulations (Aug. 24, 2019), Rule 12.2.2.1, available at [https://static1.squarespace.com/static/54be71a0e4b096702d519464/t/5d698b6f6da6480001c25310/1567198067812/LENRD+GWMA+Rules\\_PostHearing\\_Final\\_2019.pdf](https://static1.squarespace.com/static/54be71a0e4b096702d519464/t/5d698b6f6da6480001c25310/1567198067812/LENRD+GWMA+Rules_PostHearing_Final_2019.pdf).

<sup>33</sup> WIS. ADMIN. CODE ATCP § 50.04(3)(e).

<sup>34</sup> *Id.* at 5-6.

<sup>35</sup> *Id.* at 6.

## Watershed Management Action Plans

Adopted by Florida

A law instituting Watershed Management Action Plans would require comprehensive conservation and pollution management plans and implementation for every agricultural operation within an impaired watershed. This approach would identify practices needed in the watershed and require their implementation. It would be composed of:<sup>36</sup>

1. Planning, implementation, and reporting requirements
2. Meaningful penalties for violations of planning, implementation, and reporting requirements
3. Funding to enforce the law and issue penalties for violations
4. Technical and/or cost-share assistance for planning and implementation
5. A provision allowing citizens to file suit to compel a violator to comply with requirements
6. Water quality monitoring requirements
7. Publicly-available reporting on water quality outcomes, compliance and enforcement, and public spending



Florida has implemented a program establishing [Basin Management Action Plans \(BMAP\)](#) to compel agricultural producers to implement best management practices (BMPs). BMAPs are designed to meet total maximum daily loads (TMDLs) for impaired waters.<sup>37</sup> Agricultural operations within areas with BMAPs are required by law to implement BMPs that are applicable to their geographic area and type of operation.<sup>38</sup> Additionally, producers must create conservation plans and conduct water quality monitoring on a regular basis to prove they are meeting standards.<sup>39</sup> Concentrated animal feeding operations are subject to the regulations; they must implement site-specific Agricultural Nutrient Management Plans.<sup>40</sup>

Funds collected through fertilizer fees go toward program implementation.<sup>41</sup> Florida Department of Agriculture and Consumer Services (FDACS) employees are trained to recognize the type of BMPs necessary in each watershed, and to verify that producers are following the required steps to implement the BMPs.<sup>42</sup> Producers are required to implement BMPs as soon as possible, but are given at most eighteen months to complete the process.<sup>43</sup> Extensions can be granted, especially for BMPs that create engineering

<sup>36</sup> Dexter, J. et al. *Cultivating Clean Water: State-Based Regulation of Agricultural Runoff Pollution*, Environmental Law and Policy Center. March 2010.

<sup>37</sup> FLA. STAT. § 373.4595(3)(b).

<sup>38</sup> FLA. ADMIN CODE § 5M-3.003 (2011).

<sup>39</sup> *Agricultural Best Management Practices*, FLA. DEP'T OF AGRIC. AND CONSUMER SERVS (last visited July 19, 2022), <https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Best-Management-Practices>.

<sup>40</sup> FLA. ADMIN CODE §§ 5M-3.003, 5M-3.004 (2011).

<sup>41</sup> FLA. STAT. § 576.045(3)(c) (2022).

<sup>42</sup> *Agricultural Best Management Practices*, FLA. DEP'T OF AGRIC. AND CONSUMER SERVS (last visited July 19, 2022), <https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Best-Management-Practices>.

<sup>43</sup> *Id.*

and design challenges (e.g., manure storage facilities, grassed waterways, etc.).<sup>44</sup> Additionally, funds from USDA, water management districts, and soil and water conservation districts are available to aid producers in making the required changes.<sup>45</sup> The state prioritizes funding to programs that provide the greatest benefit to water resources.<sup>46</sup> It keeps intensive records documenting the process for each nonpoint source polluter.<sup>47</sup>

Florida has ten BMP manuals. The manuals pertain to specific fields of agriculture, including citrus, dairy, equine, nurseries, specialty fruits and nuts, and wildlife.<sup>48</sup> The manuals are accessible tools for producers looking to implement BMPs.<sup>49</sup> Each manual describes the process for enrollment and implementation, and provides key information about water quality issues related to the specific agricultural field.<sup>50</sup> The manuals then go into recommendations for each industry, with common agricultural practices like runoff control, crop rotation, and manure storage being among the suggestions.<sup>51</sup> Each of these manuals is effective under Florida law,<sup>52</sup> and provides clear recommendations and guidelines to farmers.



Florida's BMP program has been largely successful. The state has seen widespread cooperation from producers, with 4.6 million acres enrolled in a BMP program.<sup>53</sup> Due to the comprehensive nature and oversight, the BMP programs require intense involvement and aid from the Florida Department of Agriculture and Consumer Services. Iowa has the infrastructure to replicate this program through the DNR Watershed Improvement program and IDALS Soil Conservation and Water Quality division. Funding from the Natural Resources and Outdoor Recreation Trust Fund could be used to fund the program, including technical and cost-share assistance.

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<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> FLA. ADMIN CODE § 5M-3.003 (2011).

<sup>53</sup> FDACS BMP Enrollment Statewide (Oct. 1, 2020), available at <https://www.fdacs.gov/ezs3download/download/78962/2320452/Media/Files/Agricultural-Water-Policy-Files/Maps/Statewide-Enrollment-Map/Enrollment.pdf>.