

No. 14-1248

IN THE UNITED STATES COURT OF APPEALS
FOR THE TWELFTH CIRCUIT

UNITED STATES OF
AMERICA,
Plaintiff-Appellant, and

DEEP QUOD RIVERWATCHER, INC., AND DEAN JAMES,
Plaintiffs-Intervenors-Appellants

v.

MOON MOO FARM, INC.
Defendant-Appellee.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF
NEW UNION, THE HONORABLE ROMULUS N. REMUS PRESIDING.

Case No. 155-CV-2014

BRIEF OF APPELLANT RIVERWATCHER, INC. AND
DEAN JAMES

ORAL ARGUMENT REQUESTED

TEAM 22

Attorneys for Appellant Riverwatcher, Inc.

TABLE OF CONTENTS

TABLE OF AUTHORITIES.....	iv
JURISDICTION.....	1
STATEMENT OF THE ISSUES.....	1
STATEMENT OF THE CASE.....	2
SUMMARY OF THE ARGUMENT.....	4
STANDARD OF REVIEW.....	6
ARGUMENT.....	6
I. The Farm Cannot Prohibit Access to the Queechunk Canal Because it is a Publicly Navigable Waterway.....	6
A. Under proper public trust analysis, the Canal is a public trust navigable water.....	7
1. Federal law mandates application of the public trust doctrine to New Union navigable waters despite the lack of New Union case law.....	7
2. The law and policy behind the public trust doctrine necessitate that the Deep Quod and the Canal remain open to the public.....	8
B. Even under <i>Kaiser Aetna</i> , the Farm cannot prohibit public access to the Canal.....	10
II. Neither the Fourth Amendment, Nor the Exclusionary Rule Applies to James’s Evidence Gathering.....	11
A. The Fourth Amendment does not apply to James’s purely private actions.....	11
B. James did not engage in an unreasonable search under the Fourth Amendment.....	13
1. The observations and photographs are admissible.....	13
2. The effluent sample results are admissible.....	15

TABLE OF CONTENTS

CONTINUED

- C. Even if an unreasonable government search occurred, the district court erred in applying the exclusionary rule.....16
- III. The Farm is a Medium CAFO Subject to the CWA’s NPDES Permitting Requirements.....17
 - A. The Farm meets the statutory definition of a point source as a CAFO.....18
 - B. The Farm’s point source field discharge is not exempt as agricultural stormwater.....19
 - 1. The Farm’s discharge from land application of waste is still from a point source.....20
 - 2. The Farm’s discharge resulting from its improper NMP is not agricultural stormwater.....21
- IV. The Discharge from Improper Land Application is Not Agricultural Stormwater.....24
 - A. The Farm’s discharge was not caused by precipitation.....24
 - B. The Farm is in violation of its “no-discharge” status.....25
- V. The Acid Whey is a Solid Waste and RCRA’s Agricultural Waste Exemption Does Not Apply.....26
 - A. The acid whey, even when mixed with the manure, constitutes a solid waste.....27
 - B. The Farm disposes of acid whey when it applies it to its fields with the manure.....29
 - C. The district court erred because it applied the agricultural waste exemption and did not analyze whether the Farm’s practices constitute open dumping.....30
- VI. The Farm’s Practices May Present an Imminent and Substantial Endangerment to Health or the Environment.....31
 - A. The Farm contributes to the disposal of solid waste.....31

TABLE OF CONTENTS

CONTINUED

B. The Farm’s practices may present an imminent and substantial
endangerment.....32

 1. The Farm’s practices present an “imminent” threat to Farmville
 residents.....32

 2. The Farm’s practices present a threat of “endangerment”33

 3. The Farm’s practices may cause a “substantial” endangerment.....34

CONCLUSION.....35

APPENDIX A.....A-1
 NRCS Nutrient Management Code 590

APPENDIX B.....A-9
 Federal Water Pollution Control Act Senate Report

TABLE OF AUTHORITIES

CASES

Air Pol. Variance Bd. v. W. Alfalfa Corp.,
416 U.S. 861 (1974).....14

Alt v. EPA,
979 F. Supp. 2d 701 (N.D. W.Va. 2013).....20, 21, 23

Am. Mining Cong. v. EPA,
824 F.2d 1177 (D.C. Cir. 1987)..... 27, 28

Burdeau v. McDowell,
256 U.S. 465 (1921).....11

Burlington N. & Santa Fe Ry. Co. v. Grant,
505 F.3d 1013 (10th Cir. 2007).....31, 35

Cal. Dep't of Toxic Substances Control v. Interstate Non-Ferrous Corp.,
298 F. Supp. 2d 930 (E.D. Cal. 2003).....27

California v. Greenwood,
485 U.S. 35 (1988).....15

Celotex Corp. v. Catrett,
477 U.S. 317 (1986).....6

Cnty. Ass'n for Restoration of the Env't v. Sid Koopman Dairy,
54 F. Supp. 2d 976 (E.D. Wash. 1999).....20, 21

Concerned Area Residents for the Env't v. Southview Farm,
34 F.3d 114 (2d Cir. 1994).....21, 24

Cox v. City of Dallas,
256 F.3d 281 (5th Cir. 2001).....31, 32

Davies v. Nat'l Coop. Refinery Ass'n,
963 F. Supp. 990 (D. Kan. 1997).....34

Dow Chem. Co. v. United States,
476 U.S. 227 (1986).....13, 14

TABLE OF AUTHORITIES

CONTINUED

Fish House, Inc. v. Clarke,
693 S.E.2d 208 (N.C. Ct. App. 2010).....7, 9

Idaho Forest Indus., Inc. v. Hayden Lake Watershed Imp. Dist.,
733 P.2d 733 (Idaho 1987).....8

Ill. Cent. R. Co. v. Illinois,
146 U.S. 387 (1892).....7

INS v. Lopez-Mendoza,
486 U.S. 1032 (1984).....16, 17

J.P. Furlong Enter., Inc. v. Sun Exploration & Prod. Co.,
423 N.W.2d 130 (N.D. 1988).....8, 10

Kaiser Aetna v. United States,
444 U.S. 164 (1979).....6, 10

Lawrence v. Clark County,
254 P.3d 606 (Nev. 2011).....7

Maufrais v. State,
180 S.W.2d 144 (Tex. 1944).....8

Megbrig v. K.F.C. W., Inc.,
516 U.S. 479 (1996).....32, 33

Mentor Harbor Yachting Club v. Mentor Lagoons, Inc.,
163 N.E.2d 373 (Ohio 1959).....8

Nat'l Audubon Soc. v. Superior Court,
658 P.2d 709 (Cal. 1983).....10

Nat'l Pork Producers Council v. EPA,
635 F.3d 738 (5th Cir. 2011).....26

Oliver v. United States,
466 U.S. 170 (1984).....13, 14

Parker v. Scrap Metal Processors, Inc.,
386 F.3d 993 (11th Cir. 2004).....26, 29, 31, 32, 33

TABLE OF AUTHORITIES

CONTINUED

Pollard v. Hagan,
44 U.S. 212 (1845).....7

PPL Mont., LLC v. Montana,
132 S. Ct. 1215 (2012).....7, 8, 9

Price v. United States Navy,
39 F.3d 1011 (9th Cir. 1994).....33

Riverdale Mills Corp. v. Pimpare,
392 F.3d 55 (1st Cir. 2004).....15

Safe Air for Everyone v. Meyer,
373 F.3d 1035 (9th Cir. 2004).....27, 28, 30

Safe Food and Fertilizer v. EPA,
350 F.3d 1263 (D.C. Cir. 2003).....27, 28

Smith Steel Casting Co. v. Brock,
800 F.2d 1329 (5th Cir. 1986).....16

S. Idaho Fish & Game Ass’n v. Picabo Livestock, Inc.,
528 P.2d 1295 (Idaho 1974).....8

State ex rel. Medlock v. S.C. Coastal Council,
346 S.E.2d 716 (S.C. 1986).....9

Sullins v. Exxon/Mobil Corp.,
729 F. Supp. 2d 1129 (N.D. Cal. 2010).....35

Trinity Indus., Inc. v. OSHRC,
16 F.3d 1455 (6th Cir. 1994).....16

United Fire & Cas. Co. v. Hixson Bros., Inc.,
453 F.3d 283 (5th Cir. 2006).....6

United States v. Aceto Agric. Chem. Corp.,
872 F.2d 1373 (8th Cir. 1989).....31

United States v. Billingsley,
440 F.2d 823 (7th Cir. 1971), *cert. denied*, 403 U.S. 909 (1971).....12

United States v. Calandra,
414 U.S. 338 (1974).....13

TABLE OF AUTHORITIES

CONTINUED

United States v. Carasis,
863 F.2d 615 (8th Cir. 1988).....14

United States v. Edison,
108 F.3d 1336 (11th Cir. 1997).....19

United States v. ILCO, Inc.,
996 F.2d 1126 (11th Cir. 1993).....27, 28

United States v. Sherwin,
539 F.2d 1 (9th Cir. 1976).....12

United States v. Utah,
283 U.S. 64 (1931).....8

United States v. Vertac Chem. Corp.,
489 F. Supp. 870 (E.D. Ark. 1980).....33

Vaughn v. Vermilion Corp.,
444 U.S. 206 (1979).....11

Waterkeeper Alliance, Inc. v. EPA,
399 F.3d 486 (2d Cir. 2005).....20, 21, 22

Water Keeper Alliance v. United States Dep’t of Defense,
152 F. Supp. 2d 163 (D.P.R. 2001).....27

UNITED STATES CONSTITUTION

U.S. Const. amend. IV.....11, 13

STATUTES & REGULATIONS

Federal Water Pollution Control Act

33 U.S.C. § 1251.....17

33 U.S.C. § 1311.....1, 17

33 U.S.C. § 1319.....16

33 U.S.C. § 1342.....17, 19, 25, 26

33 U.S.C. § 1362.....17, 18, 19, 24, 25

TABLE OF AUTHORITIES

CONTINUED

Resource Conservation and Recovery Act

42 U.S.C. § 6945.....26
42 U.S.C. § 6903.....27, 29
42 U.S.C. § 6972.....1, 16, 31, 32

Other Statutes

28 U.S.C. § 1331.....1
28 U.S.C. § 1367.....1
28 U.S.C. § 1291.....1

Regulations

33 C.F.R. § 328.3.....19
40 C.F.R. § 122.23.....18, 19, 20, 21, 25
40 C.F.R. § 122.3.....20
40 C.F.R. § 122.42.....21
40 C.F.R. § 123.2.....18
40 C.F.R. § 257.1.....26, 30
40 C.F.R. § 261.2.....27

RULES

Federal Rules of Appellate Procedure Rule 4.....1
Federal Rules of Civil Procedure Rule 56(a).....6

SECONDARY SOURCES

1989 NPDES Rule, 54 Fed. Reg. 246 (Jan. 4, 1989).....20
2003 CAFO Rule, 68 Fed. Reg. 7,176 (Feb. 12, 2003).....17, 20, 22, 25
2006 *Waterkeeper* CAFO Rule, 71 Fed. Reg. 37,744 (proposed June 30, 2006).....22
2008 CAFO Rule, 73 Fed. Reg. 70,418 (Nov. 20, 2008).....25
2012 CAFO Rule, 77 Fed. Reg. 44,494 (July 30, 2012).....25
EPA, EPA-822-B-00-002, *Nutrient Criteria Technical Guidance Manual, Rivers and Streams* (2000),
<http://perma.cc/KB28-NDXX>.....17

TABLE OF AUTHORITIES

CONTINUED

EPA, EPA-833-R-10-006, *Implementation Guidance on CAFO Regulations—CAFOs that Discharge or Are Proposing to Discharge* (May 28, 2010),
<http://perma.cc/2UQ2-D5N2>.....26

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<http://perma.cc/CFV4-9BPA>.....29

NRCS, *Conservation Practice Standard, Nutrient Management Code 590* (Jan. 2012).....22

Robin Kundis Craig et al., *Modern Water Law* (2013).....9, 10

S. Rep. No. 92-414 (1972),
1972 U.S.C.C.A.N. 3668.....18

USDA & EPA, *Unified National Strategy for Animal Feeding Operations* (Mar. 9, 1999),
<http://perma.cc/M34Y-DRP8>.....22

Walter E. Dellinger, *Of Rights and Remedies: The Constitution as a Sword*,
85 *Harv. L. Rev.* 1532 (1972).....12

JURISDICTION

Plaintiffs below alleged violations under section 309(d) and (b) of the Federal Water Pollution Control Act, 33 U.S.C. § 1311(a). Plaintiff-Intervenor Riverwatcher intervened under section 505(b)(1)(B) of the Clean Water Act, alleging additional causes of action under section 7002 of the Resource Conservation and Recovery Act, 42 U.S.C. § 6972. The district court had federal question jurisdiction over these claims pursuant to 28 U.S.C. § 1331. Defendant counter-alleged common law trespass claims against Riverwatcher, over which the district court had supplemental jurisdiction pursuant to 28 U.S.C. § 1367(a). The district court's final order dismissed the complaints, and Appellants filed a timely notice of appeal. Fed. R. App. P. 4(a)(1)(A). This Court has appellate jurisdiction over all claims at issue under 28 U.S.C. § 1291.

STATEMENT OF THE ISSUES

- I. Is the Queechunk Canal a public trust navigable water, making it unlawful for the Farm to close the Canal to public access?
- II. Is evidence gathered via trespass onto the Farm's property admissible in a civil enforcement proceeding under the Clean Water Act and the Resource Conservation and Recovery Act?
- III. Is the Farm a concentrated animal feeding operation subject to Clean Water Act permitting for the discharge of manure and acid whey from its fields into waters of the United States?
- IV. Even if the Farm is not a concentrated animal feeding operation, does its improper manure application remove the discharge from the Clean Water Act's agricultural stormwater exemption and require a discharge permit?
- V. Does the Farm's practice of spreading acid whey onto its fields constitute open dumping in violation of the Resource Conservation and Recovery Act?
- VI. Could the Farm's practice of spreading acid whey onto its fields present an imminent and substantial endangerment to human health?

STATEMENT OF THE CASE

This appeal centers on regulating polluters as mandated by two federal environmental statutes. Failure to do so here has allowed pollutants to enter a city's drinking water and threaten human health. The relevant facts are set forth below.

The Deep Quod River and Queechunk Canal. The Deep Quod River flows year round and is navigable by small boat. R. at 5. The City of Farmville in the State of New Union uses the Deep Quod as a source of drinking water. R. at 5. In the 1940s, the predecessor-in-interest of Moon Moo Farm, Inc. (the Farm) excavated the Queechunk Canal (the Canal) from the Deep Quod in order to reduce flooding on the property. R. at 5. This resulted in most of the Deep Quod's flow diverting into the Canal. R. at 5. The Farm owns the land on both sides of the Canal, which can accommodate canoes or other small boats, and despite the Farm's "No Trespassing" signs, is frequently used as a shortcut along the Deep Quod. R. at 5.

Moon Moo Farm. The Farm is a dairy operation that maintains 350 cows and is located ten miles upstream from Farmville on the Deep Quod. R. at 4. The Farm sits on 150 acres of land used to grow Bermuda grass, and applies liquid manure as fertilizer for the grass. R. at 5. The manure is stored in an outdoor lagoon until the Farm uses tractors to spread it onto the land. R. at 5. Since 2012, the Farm has accepted acid whey, a byproduct of the yogurt production process, from the Chokos Greek Yogurt plant in Farmville, which the Farm adds to its outdoor lagoon and spreads onto the fields with the manure. R. at 5. The acid whey makes the Bermuda grass less efficient at absorbing nutrients from the manure. R. at 6. During rain events, unabsorbed nutrients get washed off the fields through a drainage ditch connecting the Farm's fields to the Canal, eventually reaching Farmville's drinking water. R. at 6.

The Farm's NMP. Pursuant to its delegated authority under the CWA, New Union regulates the Farm as a “no-discharge” animal feeding operation. R. at 5. As such, the Farm has a Nutrient Management Plan (NMP) that sets out the rate at which the Farm may apply manure to its fields and details the expected uptake of nutrients by the Bermuda grass. R. at 5. This NMP has not been subject to any review. R. at 5. The Farm applied manure in accordance with its NMP, but its NMP may not account for mixing acid whey with manure or applying the mixture to the fields. R. at 6.

Riverwatcher. Riverwatcher is a nonprofit environmental organization, and James oversees the Deep Quod on behalf of Riverwatcher. R. at 4. In the early spring of 2013, Riverwatcher received complaints that the Deep Quod smelled of manure and exhibited an unusual brown color. R. at 6. In response, James floated a small metal boat into the Canal to investigate. R. at 6. He observed and took pictures of the Farm spreading manure, and of discolored water flowing from the Farm's drainage ditch into the Canal. R. at 6. James also took samples of the discolored water, which ultimately showed highly elevated levels of nitrates and fecal coliforms. R. at 6.

The April 2013 Nitrate Advisory. Nitrogen in water can be hazardous. R. at 6. Following a rain event in April, 2013, the Farmville Water Authority issued a nitrate advisory, which warned its customers that the municipal water supply had become unsafe for drinking by infants. R. at 6. The Authority recommended that customers provide bottled water to infants under two years old. R. at 6. Riverwatcher's environmental health expert believes that the Farm's discharges contributed to the nitrate advisory, though she could not state whether the Farm was the but-for cause. R. at 7.

Procedural History. Riverwatcher initiated this action against the Farm under the citizen suit provisions of the Clean Water Act (CWA) and the Resource Conservation and Recovery Act

(RCRA). In response, the United States Environmental Protection Agency (EPA) filed a civil enforcement action under the CWA against the Farm, and Riverwatcher intervened as plaintiff with additional RCRA claims. The Farm counterclaimed against Riverwatcher for trespassing. The district court granted summary judgment in favor of the Farm on all claims, including the Farm's counterclaim.

Rulings Presented for Review. Riverwatcher disputes the district court's finding that a trespass occurred when James collected evidence. Because James's evidence is admissible regardless, Riverwatcher further appeals the court's dismissal of the CWA claims because the Farm requires a permit under the National Pollution Discharge Elimination System (NPDES) as a point source. Riverwatcher also appeals the dismissal of its RCRA claims because the court failed to properly address whether the Farm's practices constitute open dumping, and because the Farm's practices may pose an imminent and substantial endangerment to human health. This Court granted review and ordered briefing on the substantive merits of each of these rulings.

SUMMARY OF THE ARGUMENT

This Court should reverse the district court's grant of summary judgment in favor of the Farm for the following reasons. First, the district court erred by holding that Riverwatcher's evidence is inadmissible because James trespassed onto the Farm's property to collect it. The court relied on inapposite federal law to determine that the Canal on which James floated to collect the evidence is not a public trust navigable water. Under proper public trust analysis, the Canal is a public trust waterway based on the minimum contours of the public trust doctrine. Further, even under the federal law relied on by the district court, the Farm may not close the Canal to public access. Under both state and federal law, James did not trespass, the evidence is admissible, and the Farm's counterclaim fails.

Second, the district court erred in excluding evidence simply because James allegedly trespassed to retrieve it. James, a private actor, in no way violated the Farm's Fourth Amendment protections from unreasonable government search and seizure. Even if he did, well-established case law dictates that such evidence should not be excluded. Accordingly, all relevant evidence in the case is admissible.

Third, because the district court erroneously excluded evidence of the discharge, the Farm was never properly classified as a CAFO. All CAFOs, like the Farm, are point sources, and discharges from them are regulated under the CWA, especially when waste is improperly applied to the CAFO's fields. The Farm's discharge does not fall under any of the CWA's stormwater exemptions. The Farm's landspreading is part of the CAFO operations and is explicitly point source pollution. The Farm is also not exempt because even though the landspreading is in compliance with the Farm's NMP, the NMP is improper and cannot serve as a shield to NPDES. Regardless of the Farm's CAFO status, the Farm is subject to NPDES permit requirements. Given the field discharge, the district court failed to consider that the Farm's discharge was ultimately not caused by precipitation. The discharge from the ditch violates the Farm's status as a "no-discharge" operation, and the Farm will continue to discharge. Thus, the Farm requires an NPDES permit and is not subject to any agricultural stormwater exemption.

Finally, the district court erroneously dismissed Riverwatcher's RCRA claims. As for the open dumping claim, it held that the manure and acid whey do not constitute solid waste. It also held that, even if the materials are solid waste, EPA's agricultural waste exemption excludes the Farm's landspreading from being regulated as open dumping. With respect to the acid whey, the court erred in each of these findings. Once Chokos discards the whey, it constitutes a solid waste. The Farm cannot escape RCRA liability by simply mixing discarded material with its manure.

Moreover, while the agricultural waste exemption might apply to the manure, it does not apply to the acid whey.

Regarding Riverwatcher's imminent and substantial endangerment claim, the district court applied the incorrect standards. The Farm need not be the but-for cause of the nitrate advisory, but needs only to have contributed to the problem that may lead to such advisories. Further, the fact that these advisories pose a risk to infants is sufficient to demonstrate that the Farm's practices may present an imminent and substantial endangerment. For the foregoing reasons, Riverwatcher requests that this Court reverse the district court's grant of summary judgment in favor of the Farm and remand for further proceedings.

STANDARD OF REVIEW

To withstand a motion for summary judgment, the non-moving party must show either that there is a genuine dispute as to any material fact or that the movant is not entitled to judgment as a matter of law. *See* Fed. R. Civ. P. 56(a); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). On review of a granted motion for summary judgment, this Court reviews the district court's decision *de novo*, viewing all evidence in the light most favorable to the non-moving party. *United Fire & Cas. Co. v. Hixson Bros., Inc.*, 453 F.3d 283, 284–85 (5th Cir. 2006).

ARGUMENT

I. The Farm Cannot Prohibit Access to the Queechunk Canal Because it is a Publicly Navigable Waterway.

Under proper public trust and navigational servitude analysis, this Court should reverse the district court's exclusionary rule and trespass holdings. The district court misinterpreted and improperly relied on *Kaiser Aetna v. United States*, 444 U.S. 164 (1979) in holding that the Canal is not a public trust navigable waterway. *Kaiser Aetna* analyzed the applicability of the

Commerce Clause federal navigational servitude, but never addressed the public trust doctrine. *Id.* at 169; *see also Fish House, Inc. v. Clarke*, 693 S.E.2d 208, 211 (N.C. Ct. App. 2010) (holding that *Kaiser Aetna* is “inapposite” to public trust navigability). While federal law determines if the public trust doctrine applies, State law determines the scope of the public trust. *PPL Mont., LLC v. Montana*, 132 S. Ct. 1215, 1227, 1235 (2012). Below, proper public trust analysis will be applied to the Canal, followed by correct application of the *Kaiser Aetna* test. Under either rule, the Canal had to remain open to public access and James did not trespass.

A. Under proper public trust analysis, the Canal is a public trust navigable water.

1. Federal law mandates application of the public trust doctrine to New Union navigable waters despite the lack of New Union case law.

The public trust doctrine exists through state ownership of the beds and banks of navigable waterways. The United States Constitution impliedly granted all states ownership in such submerged lands via the “equal footing” doctrine. *See Pollard v. Hagan*, 44 U.S. 212, 216 (1845). As such, waters navigable at the time of statehood are “held in trust for the people of the state, that they may enjoy navigation of the waters” *Ill. Cent. R. Co. v. Illinois*, 146 U.S. 387, 452 (1892). Importantly, this trust is irreducible—no state may completely eliminate public trust navigation rights. *Id.* at 453 (“The state can no more abdicate [this] trust . . . than it can abdicate its police powers”); *see also Lawrence v. Clark County*, 254 P.3d 606, 613 (Nev. 2011) (“The public trust doctrine is thus not simply common law easily abrogated by legislation; instead, the doctrine constitutes an *inseverable restraint* on the state's sovereign power.” (emphasis added)).

Under the irreducible contours of the public trust doctrine, federal law dictates that the doctrine must apply in the State of New Union. As a result, New Union waters navigable at the time of statehood cannot be closed to public navigation. The district court’s failure to even

engage in analysis regarding this obligation represents reversible error, particularly because the Deep Quod and the Canal are public trust waterways, as shown below.

2. *The law and policy behind the public trust doctrine necessitate that the Deep Quod and the Canal remain open to the public.*

River segments, if not entire rivers, are subject to the public trust if they were navigable at the time of statehood in their natural condition. *PPL Mont.*, 132 S. Ct. at 1228. Navigability at the time of statehood is a low threshold, typically determined by the river's usefulness in "trade or travel" at the time, using water craft of that period. *United States v. Utah*, 283 U.S. 64, 76 (1931). Even log floatability constitutes usefulness in trade in several states. *See, e.g., S. Idaho Fish & Game Ass'n v. Picabo Livestock, Inc.*, 528 P.2d 1295, 1297 (Idaho 1974). Furthermore, when a public trust river avulses, or suddenly changes course, the public trust generally remains with the newly formed waterway. *See J.P. Furlong Enter., Inc. v. Sun Exploration & Prod. Co.*, 423 N.W.2d 130, 140 (N.D. 1988) (holding that "the state's title would follow the movement of the bed of the river" to accord with policy of public trust doctrine); *Maufrais v. State*, 180 S.W.2d 144, 149 (Tex. 1944) (holding that state's title follows avulsive deviations). This is particularly true when the avulsion is caused by a riparian owner. *See Mentor Harbor Yachting Club v. Mentor Lagoons, Inc.*, 163 N.E.2d 373, 377 (Ohio 1959) ("A natural watercourse does not lose its character as a public watercourse because a part of its channel has been artificially created."); *Idaho Forest Indus., Inc. v. Hayden Lake Watershed Imp. Dist.*, 733 P.2d 733, 738 (Idaho 1987).

Navigability of the Deep Quod at the time of statehood presents at least a material issue of fact to be determined upon remand. However, the record suggests that the Deep Quod is a public trust waterway under the minimum obligations set out in *United States v. Utah*. The river is navigable by "small boat," flows year round, and connects to the Mississippi River. R. at 5.

Further, the Canal is “commonly used” as a shortcut up and down the Deep Quod, indicating that the river has long been traversed by boat. R. at 5. Presuming these same circumstances existed at New Union’s statehood, the Deep Quod is subject to the minimum requirements of the public trust. *See PPL Mont.*, 132 S. Ct. at 1233 (noting that although present day evidence of navigability is not determinative, it “may be considered” to decide navigability at statehood.).

The Farm’s predecessor-in-interest excavated a channel from the Deep Quod to create the Canal. R. at 5. This man-made avulsion caused “most of the flow of the Deep Quod” to divert into the Canal. R. at 5. As a result, under analysis the district court should have engaged in, the public trust followed the change in the river’s course, and the Canal became a public trust water just like the Deep Quod above and below it. Additionally, given that the Canal has existed for over fifty years and has been commonly used as a shortcut by the public, the Canal is the “functional equivalent” of a natural waterway, regardless of private ownership. *See State ex rel. Medlock v. S.C. Coastal Council*, 346 S.E.2d 716, 718 (S.C. 1986); *Fish House, Inc.*, 693 S.E.2d at 211–12 (dismissing trespass claim because private ditch that had been publicly used for over twenty years was subject to public trust). Thus, the public trust followed the Deep Quod into the Canal, and the Farm is not entitled to close the Canal to public navigation as a matter of law. Along with the foregoing public trust law, sound policy supports this conclusion.

Allowing the Farm or its predecessor to bypass public trust obligations by simply diverting the Deep Quod would effectively transform the public trust doctrine into an incentive to divert and destroy public waters. The ever-expanding policy to *prevent* the destruction of public trust waters dictates that such a holding is improper. Ever since *Illinois Central*, state courts have broadened the public trust doctrine to create or preserve public rights to navigation. Whether in expansion of the modern *uses* protected by the doctrine (*see* Robin Kundis Craig et al., *Modern*

Water Law 350 (2013) (listing 28 states that expressly recognize public recreation rights in navigable waters, as opposed to only four that do not)), or of *which waters* are subject to the public trust (see *Nat'l Audubon Soc. v. Superior Court*, 658 P.2d 709, 721 (Cal. 1983) (applying public trust to non-navigable tributaries of navigable waters)), states have increasingly broadened the doctrine's scope in order to protect access to navigable waters.

The district court's decision does the opposite. The court has invited riparian landowners to divert natural waterways in order to privatize public waters. Thus, not only did the court ignore the unmistakable trend toward expanding the public trust, it turned the policy of the public trust on its head. What ordinarily would prohibit destruction of navigable waterways would, in New Union, *encourage* such destruction. As such, this Court should reverse the decision of the district court to protect what is "traditionally the most important feature of the public trust doctrine"—the public right of navigability. *J.P. Furlong Enter., Inc.*, 423 N.W.2d at 140.

B. Even under *Kaiser Aetna*, the Farm cannot prohibit public access to the Canal.

If this Court upholds the district court's reliance on *Kaiser Aetna*, the facts of this case necessitate the opposite holding. The federal navigational servitude analyzed in *Kaiser Aetna*, like the public trust doctrine, prohibits the Farm's privatization of the Canal. In *Kaiser Aetna*, the Court did not to apply the servitude because first, Kuapa Pond was not the "sort of great navigable stream" ordinarily subject to the navigational servitude, and second, Kuapa Pond was privately owned before it was dredged. 444 U.S. at 178–79 (quotations omitted).

Both factors are absent in the Canal's case. The Deep Quod is a publicly navigable river, and is consequently the "sort of great navigable stream" ordinarily protected by the federal navigational servitude. The Farm's predecessor-in-interest created the Canal, diverting most of the flow of the Deep Quod onto its property for purposes of flood control. R. at 5. The record's

indication that the Deep Quod is commonly used for commerce, r. at 5, suggests it was not privately held before the Canal was created. Applying *Kaiser Aetna*'s reasoning, the federal navigational servitude followed the water into the Canal and neither the Farm nor its predecessor could prohibit public access to the Canal.

The district court also did not consider that destruction of the Deep Quod's navigability requires application of the navigational servitude to the Canal. In *Vaughn v. Vermilion Corp.*, 444 U.S. 206, 208–09 (1979), the Supreme Court held that “destruction of a pre-existing natural navigable waterway” by diversion onto private fast land may, if proven, mandate a public right of access along the diversion. *Id.* The record in this case suggests that at the point of diversion from the Canal the navigability of the Deep Quod is destroyed. *See* R. at 5 (stating that *most of the flow* of the Deep Quod flows through the Canal). At the very least, a determination of whether the Deep Quod's navigability is destroyed at the point of diversion presents a material issue of fact warranting remand.

For the foregoing reasons, this Court should reverse and remand in favor of Riverwatcher and EPA, and dismiss the Farm's common law trespass claim. Under either the proper public trust analysis or the district court's reasoning, no trespass occurred because the Canal cannot be closed to public access.

II. Neither the Fourth Amendment nor the Exclusionary Rule Applies to James's Evidence Gathering.

A. The Fourth Amendment does not apply to James's purely private actions.

The Fourth Amendment protects citizens from unreasonable searches and seizures performed by government actors. *See* U.S. Const. amend. IV; *Burdeau v. McDowell*, 256 U.S. 465, 475 (1921) (“[The Fourth Amendment] was intended as a restraint upon the activities of sovereign authority, and was not intended to be a limitation upon other than governmental agencies . . .”).

Unless a private citizen “acted either at government direction or for the purpose of assisting the investigation,” there can be no Fourth Amendment violation. *United States v. Billingsley*, 440 F.2d 823, 826 (7th Cir. 1971), *cert. denied*, 403 U.S. 909 (1971).

James collected evidence in this case unilaterally as a private citizen. The record includes *no evidence* that he acted at government direction or for purposes of assisting a government investigation. James took the photographs and water samples in response to Riverwatcher’s receiving complaints that the river smelled of manure and was an unusual brown color. R. at 6. The government, whether EPA, Farmville, or New Union, did not act in the case until *after* James’s unilateral search,¹ and after Riverwatcher served its letter of intent to sue. “And once a private search is completed, the subsequent involvement of government agents does not retroactively transform the original intrusion into a governmental search.” *United States v. Sherwin*, 539 F.2d 1, 6 (9th Cir. 1976). The Farm’s remedy for James’s alleged illegal search is not under the Fourth Amendment—it is under common law trespass, which the Farm contemplated in bringing its claim against James, rather than a government entity. The district court’s assumption that James acted on behalf of EPA is unsupported by the record, and is at least a disputed issue of fact. The district court further erred in awarding the Farm more than actual damages. *See* Walter E. Dellinger, *Of Rights and Remedies: The Constitution as a Sword*, 85 Harv. L. Rev. 1532, 1535 (1972) (noting that state tort remedies may be available for Fourth Amendment violations, but damages would be limited to “no more than repayment for a broken doorknob”). This Court should reverse the finding of government involvement and remand to reassess damages, if any.

¹ The Farmville Water Authority issued a “nitrate” advisory prior to James’s search, but the record does not indicate that James was directed by the Authority or investigated on its behalf.

B. James did not engage in an unreasonable search under the Fourth Amendment.

The district court failed to address whether James actually engaged in a Fourth Amendment search. Had the court done so, it would not have reached the exclusionary rule issue because James did not engage in an unreasonable search of the Farm. The Fourth Amendment prohibits only “*unreasonable* searches and seizures” of citizens’ “persons, houses, papers, and effects.” U.S. Const. amend. IV (emphasis added). Unreasonable searches generally result in the suppression, or exclusion, of illegally seized evidence. *United States v. Calandra*, 414 U.S. 338, 347 (1974). Searches become unreasonable only once legitimate expectations of individual privacy are infringed. *See Oliver v. United States*, 466 U.S. 170, 178 (1984). And importantly, “the general rights of property protected by the common law of trespass have *little or no relevance* to the applicability of the Fourth Amendment.” *Id.* at 183–84 (emphasis added).

James allegedly engaged in two different kinds of “searches”—one in his observing and photographing the Farm’s landspreading and polluted effluent, and the other in sampling the polluted effluent. R. at 6. Neither of these activities constituted a Fourth Amendment search, and this Court should reverse the district court’s exclusion of Riverwatcher’s evidence.

1. The observations and photographs are admissible.

James’s observation and photography of the Farm’s manure spreading did not infringe on legitimate expectations of privacy. The Fourth Amendment does not prohibit warrantless searches in agricultural fields because a property owner has no legitimate expectation of privacy in “open fields.” *See Oliver*, 466 U.S. at 177; *see also Dow Chem. Co. v. United States*, 476 U.S. 227, 234 (1986) (applying open fields doctrine to non-residential property). Further, any activity that the public could lawfully engage in without trespassing cannot constitute an unreasonable Fourth Amendment search. *See Oliver*, 466 U.S. at 179 (“It is not generally true that fences or

‘No Trespassing’ signs effectively bar the public from viewing open fields in rural areas.”); *see also Air Pol. Variance Bd. v. W. Alfalfa Corp.*, 416 U.S. 861, 865 (1974).

James’s alleged trespass onto the Farm’s property occurred in the Canal in or near an open field where the Farm grows Bermuda grass. R. at 5. Regardless of James’s *actual* physical position, there is no record evidence indicating that James entered any building or even the “curtilage,” or immediate surroundings, of a building on the Farm’s property. It is irrelevant that the Farm posted “No Trespassing” signs along the Canal where James allegedly trespassed. R. at 5; *Oliver*, 466 U.S. at 182, n.13 (“Certainly the Framers did not intend that the Fourth Amendment should shelter criminal activity wherever persons with criminal intent choose to . . . post ‘No Trespassing’ signs.”).

The open fields doctrine accordingly allows for observations and photographs like those at issue here to be taken without implicating the Fourth Amendment. The Farm simply had no legitimate expectation of privacy in its Bermuda grass fields. Any member of the public could have photographed the manure spreading operations from outside the Farm’s private property—and even if the Farm’s layout does not allow public viewing, anyone would be allowed to take aerial photographs of the Farm’s activities without a warrant. *See Dow Chem. Co.*, 476 U.S. at 234. James’s observations and photographs are therefore admissible because they did not constitute a search under the Fourth Amendment. While the open fields doctrine may even allow for admittance of James’s effluent sampling evidence,² another Fourth Amendment exception applies more precisely to that evidence.

² In *United States v. Carasis*, 863 F.2d 615, 616–17 (8th Cir. 1988), the Eighth Circuit held that officers’ trespass and subsequent sampling of a “dark colored waste substance” on private property was not a search because of the open fields doctrine. While the case at bar is

2. *The effluent sample results are admissible.*

James's effluent sampling was not a Fourth Amendment search because the wastewater was inevitably flowing into a freely searchable public waterway. Government inspection of items irretrievably flowing into public hands does not constitute an unreasonable search. *Riverdale Mills Corp. v. Pimpare*, 392 F.3d 55, 64 (1st Cir. 2004) (citing *California v. Greenwood*, 485 U.S. 35, 40–41 (1988) (holding that individuals have no legitimate expectation of privacy in opaque plastic garbage bags awaiting curbside pickup)). Thus, there is no legitimate expectation of privacy in wastewater that will “inevitably reach” a public waterway, even if the wastewater is sampled on private property without consent. *Id.*

In *Riverdale Mills*, the government took effluent samples from a manhole on private property against the consent of the plaintiff corporation. *Id.* at 58. The First Circuit reasoned that the search was not made improper simply because there was a trespass. *Id.* at 64 (“The contours of the Fourth Amendment are not coterminous with property and trespass law.”). The court further refused to recognize a legitimate expectation of privacy in the plaintiff's wastewater because it was “*irretrievably* flowing into the public sewer . . . only 300 feet away.” *Id.* (emphasis in original). Like the government in *Riverdale Mills*, James took samples from water flowing irretrievably into a public waterway. The wastewater became “irretrievable” as it flowed into the Canal. Had James taken the samples downstream where the Canal enters the Deep Quod, avoiding the alleged trespass, the Farm could not rationally assert a legitimate expectation of privacy. It follows that a privacy interest does not arise simply because James took the samples further up the Canal. Accordingly, his effluent sampling was not a Fourth Amendment search,

indistinguishable from *Carasis*, separate Fourth Amendment analysis also supports admission of the effluent samples as analyzed in section 2.

and the sample results are admissible. The district court's failure to analyze whether James engaged in a Fourth Amendment search in the first instance warrants reversal.

C. Even if an unreasonable government search occurred, the district court erred in applying the exclusionary rule.

The district court mischaracterized Riverwatcher's suit and misapplied the holdings of its own cited cases; the exclusionary rule does not apply in this proceeding. In *Smith Steel Casting Co. v. Brock*, 800 F.2d 1329, 1334 (1986), the Fifth Circuit distinguished between an agency that is "correcting violations" and one that is "punishing the crime." See also *Trinity Indus., Inc. v. OSHRC*, 16 F.3d 1455, 1462 (6th Cir. 1994) (recognizing same distinction). Citing *INS v. Lopez-Mendoza*, 486 U.S. 1032, 1046–47 (1984), the *Smith Steel* court held that the exclusionary rule "does not extend to OSHA enforcement actions for purposes of *correcting violations of occupational safety and health standards.*" *Id.* (emphasis added). Thus, while the exclusionary rule *does* apply to purely punitive agency actions, it does not apply when an agency is correcting unlawful behavior. See *Lopez-Mendoza*, 486 U.S. at 1047 ("[W]e have never suggested that [an unlawful search] allows the criminal to continue in the commission of an ongoing crime.").

Riverwatcher's suit against the Farm fits within the "correcting violations" category of actions in which the exclusionary rule does not apply. The district court erroneously based its decision in this action as only one to "collect penalties" for CWA violations. R. at 9. However, Riverwatcher seeks injunctive relief under CWA § 309(b), 33 U.S.C. § 1319(b) (2012) and RCRA § 7002, 42 U.S.C. § 6972 (2012). R. at 7. Riverwatcher has therefore sought to correct the Farm's violations of the CWA and RCRA, and allowing the violator to go free on Fourth Amendment grounds does not comport with the district court's own case law. The *Lopez-Mendoza* Court even recognized the importance of admitting evidence to stop environmental contamination. 486 U.S. at 1046 ("Presumably no one would argue that the exclusionary rule

should be invoked to prevent an agency from ordering corrective action at a leaking hazardous waste dump if the evidence underlying the order had been improperly obtained . . .”). Under the district court’s cited authority, the exclusionary rule does not apply to the evidence in this suit. For the foregoing reasons, this Court should reverse the district court’s decision to exclude the evidence James obtained and remand for proceedings consistent with the arguments below.

III. The Farm is a Medium CAFO Subject to the CWA’s NPDES Permitting Requirements.

The Farm is a point source that discharged pollutants into a public waterway without a permit. The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a) (2012). As such, the CWA prohibits any discharge of a pollutant from a point source into navigable waters, except in compliance with an NPDES permit. 33 U.S.C. §§ 1311(a), 1342, 1362(12).

Pollution from agricultural feeding operations (AFOs) is a leading cause of water quality impairments nationally—confined livestock generate over 500 million tons of manure per year compared to 150 million tons of waste produced by humans. 2003 CAFO Rule, 68 Fed. Reg. 7,176, 7,180–81 (Feb. 12, 2003) (to be codified at 40 C.F.R. pt. 122) [hereinafter 2003 Rule]. This manure includes nitrogen and pathogens that lead to toxic algal blooms and contamination of drinking water, causing “blue baby syndrome” and intestinal illnesses.³ 2003 Rule at 7,237–38. While it is important that farms productively reuse their waste, it is imperative that regulators protect water quality and human health through NPDES permitting.

³ Nationally, agricultural runoff that flows into the Mississippi River, such as the nitrogen from Farmville, causes a large dead zone in the Gulf of Mexico resulting in massive fish kills and economic losses. EPA, EPA-822-B-00-002, *Nutrient Criteria Technical Guidance Manual, Rivers and Streams 5* (2000), available at <http://perma.cc/KB28-NDXX>.

The demand for more dairy production for Greek yogurt drives an increase in the number of cows on farms, and an increase of waste, posing an even greater threat to public waters and health. *See* S. Rep. No. 92-414, at 100 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3761, *attached at* App. B. Given this threat, proper waste management and permitting is critical to ensure agricultural waste discharges are monitored and controlled. Thus, the CWA addresses the very pollution problems the Farm poses, and the district court had no legal basis for leaving the Farm unregulated under the CWA. As shown below, the Farm meets the statutory definition of a point source as a Medium concentrated AFO (CAFO), and its discharge is not exempt as agricultural stormwater.

A. The Farm meets the statutory definition of a point source as a CAFO.

The CWA prohibits unpermitted point sources from discharging pollutants like manure and acid whey waste into waters of the United States. The CWA defines a point source as any discrete conveyance including a CAFO or ditch “from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14).⁴ For a facility to be a CAFO, it must first be an AFO. An AFO is a lot or facility where animals are confined for at least forty-five days in a twelve-month period, and where vegetation is not grown on any part of the facility. 40 C.F.R. § 122.23(a)(1) (2014). It is undisputed that the Farm is an AFO, housing dairy cows solely in a barn and only maintaining vegetation elsewhere on the Farm’s property. R. at 4, 5, 8.

The Farm is more specifically a medium-sized CAFO. A Medium CAFO is an AFO with 200–699 confined mature dairy cows and a conveyance condition that facilitates adding animal waste to navigable waters. § 122.23(b)(6)(i), (ii). The Farm has enough animals to produce a

⁴ All definitions herein defined by regulation are the same for EPA administered NPDES programs as well as state administered NPDES programs. *See* 40 C.F.R. § 123.2.

large amount of concentrated waste, and the Farm has a conveyance ditch that risks discharging the waste. It is undisputed that as of 2010 the Farm sustains a milking herd of 350 cows in a barn, which is never pastured. R. at 4–5. While the district court correctly held that the Farm is a medium AFO, the Farm’s management of these 350 cows also falls within the statutory size requirement of a Medium CAFO. R. at 8.

In addition to meeting the size requirement, a CAFO must have a man-made ditch that discharges pollutants into waters of the United States. § 122.23(b)(6)(ii)(A). The Farm maintains at least one man-made ditch dug from the property to the Canal. R. at 6. On April 12, 2013, this man-made ditch conveyed nitrates and fecal coliforms from the Farm’s fields into the Canal. R. at 6. Photos, observations, and water samples each document this discharge. R. at 6. Agricultural wastes qualify as pollutants under the CWA, 33 U.S.C. § 1362(6) and as a tributary to the navigable Deep Quod River, r. at 7, the Canal is a water of the United States. 33 C.F.R. § 328.3(a)(5) (2014); *United States v. Edison*, 108 F.3d 1336, 1342 (11th Cir. 1997). The discharge of nitrates and fecal coliforms into the Canal constitutes the addition of pollutants to waters of the United States. The existence of the discharging ditch establishes the Farm as a Medium CAFO and a regulated point source. Because the district court erroneously excluded the evidence of the discharge, it failed to properly address whether the Farm is a CAFO, and this Court should reverse and remand.

B. The Farm’s point source field discharge is not exempt as agricultural stormwater.

As a matter of law, an NPDES permit is required for any illicit pollutant drainage from the Farm’s fields after improper land application of manure to saturated soil. The CWA prohibits discharges of any pollutant from a point source like a Medium CAFO without an NPDES permit. 33 U.S.C. § 1342(a)(1); 40 C.F.R. § 122.23(d)(1). However, there are two regulatory provisions

that would exempt a CAFO discharge as agricultural stormwater. First, pollution is expressly exempt when resulting from nonpoint source agricultural activities, including stormwater runoff from cultivated crops, unless the discharge is from a CAFO. 40 C.F.R. § 122.3(e). The operative word in the exemption is stormwater. In 1989, EPA added the word stormwater to the regulations, emphasizing that the permit exemption is only for *stormwater* runoff from agricultural fields. 1989 NPDES Rule, 54 Fed. Reg. 246, 247 (Jan. 4, 1989) (to be codified at 40 C.F.R. pt. 122). Second, in 2003, the regulations were expanded to include land application discharges in the exemption, but only in accordance with an NMP. 2003 Rule at 7,198; *Alt v. EPA*, 979 F. Supp. 2d 701, 708 (N.D. W.Va. 2013). The Farm’s discharge is not exempt because land application of manure is not part of an exempt activity, and because the Farm applies its waste improperly, the discharge is not agricultural stormwater.

1. *The Farm’s discharge from land application of waste is still from a point source.*

The Farm’s manure application to its fields adjacent to the barn is not an exempt activity. A CAFO’s management areas adjacent to animal production areas, like its fields, are still part of the facility and subject to NPDES regulation. *Alt*, 979 F. Supp. 2d at 713 (finding land appurtenant to CAFO is included in the plain regulatory meaning of facility); *see also Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 510 (2d Cir. 2005) (finding that CAFOs are the proximate source of land application discharge). The production area includes the animal confinement area, or barn. 40 C.F.R. § 122.23(b)(8). A land application area is any land under the control of the operation where manure from the production area may be spread. § 122.23(b)(3). These areas discharge pollutants, and the “clear intent of Congress . . . [is] to insure that the animal wastes produced by CAFOs do not pollute the waters of the United States.” 2003 Rule at 7,196; *Cnty. Ass’n for Restoration of the Env’t v. Sid Koopman Dairy*, 54 F. Supp. 2d

976, 981 (E.D. Wash. 1999). In fact, an estimated ninety percent of CAFO-generated manure is land applied and indispensable to operations. *See Waterkeeper Alliance*, 399 F.3d at 510.

A CAFO is not suddenly exempt simply because it spreads this vast amount of waste across its fields. *See Concerned Area Residents for the Env't v. Southview Farm*, 34 F.3d 114, 122–23 (2d Cir. 1994). Additionally, the existence of a ditch to collect and channelize the manure runoff to navigable waters is “in and of itself a point source.” *Id.* at 118 (noting the broad definition of point source). As in *Southview Farm*, the Farm is a CAFO spreading liquid manure across its fields. R. at 5. The Farm also has a ditch that collects and conveys the field runoff to the Canal. And just as in *Southview Farm*, observations and photographs confirm manure spreading by the Farm and the resulting discharge from the point source ditch. It would be incongruous to find the Farm is not responsible for its waste runoff simply because its manure was used in agricultural activity adjacent to the barn. The Farm is a point source discharging without a permit.

2. *The Farm's discharge resulting from its improper NMP is not agricultural stormwater.*

As a matter of law, the Farm's discharges are not exempt from NPDES because the runoff from the fields was a result of improper application of manure. Discharges from land application areas under the control of a CAFO are only exempt from permitting if the land application is conducted in accordance with site-specific nutrient management practices, as specified in 40 C.F.R. § 122.42(e)(1)(vi)–(ix), and the discharge is precipitation-related. 40 C.F.R. § 122.23(e). These provisions require CAFOs to implement NMPs for land application “that ensure appropriate agricultural utilization of the nutrients in the manure.” § 122.42(e)(1)(viii). The exemption is limited to agriculture-related discharges not caused by negligence, “but by weather—even when those discharges came from . . . point sources.” *Alt*, 979 F. Supp. 2d at 714

(citing *Waterkeeper Alliance*, 399 F.3d at 507). Here, the Farm has a site-specific NMP; however, the Farm's NMP does not ensure "appropriate agricultural utilization" of nutrients.

Appropriate agricultural utilization entails applying proper amounts of nutrients at proper times in a way that minimizes risk to water quality and human health, and is based on the Natural Resources Conservation Service's (NRCS) practice standards and local field technical guides. USDA & EPA, *Unified National Strategy for Animal Feeding Operations* 7, 15 (Mar. 9, 1999), available at <http://perma.cc/M34Y-DRP8>; NRCS, *Conservation Practice Standard, Nutrient Management Code 590* (Jan. 2012), attached at App. A [hereinafter *NRCS PS*]. These standards are important because "when waste is excessively or improperly land-applied, the nutrients contained in the waste become pollutants that can and often do run off into adjacent waterways." *Waterkeeper Alliance*, 399 F.3d at 494 (citing 2003 Rule at 7,180–81). The NRCS standards require that an NMP include practices to maintain the soil pH for crop nutrient use, prevent land spreading "when the top 2 inches of soil are saturated from rainfall" unless other measures are taken to avoid a discharge, and be revised if there are significant changes in animal numbers or management. *NRCS PS* at 2, 3, 7. An NMP must include these best management practices, as well as location-specific practices. See 2003 Rule at 7,213–14.

The district court failed to assess the validity of the Farm's NMP, and until it does so, the NMP cannot shield the Farm from CWA liability. The district court failed to consider New Union's specific NMP standards and the local Department of Agriculture Field Office Technical Guide to see whether the Farm's NMP ensured that excess nutrient runoff was only stormwater-related. EPA also proposed requirements in 2006 that all NMPs be reviewed by the agency and by the public. 2006 *Waterkeeper* CAFO Rule, 71 Fed. Reg. 37,744, 37,551 (proposed June 30, 2006) (to be codified 40 C.F.R. pt. 122). Neither the New Union Department of Agriculture nor

the public has reviewed the Farm's NMP for adequacy. R. at 5. Analyzed under the national standards, the Farm's NMP allowed "very poor management" that lowered the soil pH. R. at 6. A factual dispute remains regarding the extent to which the pH change has affected nutrient uptake. Also, the NMP does not prevent applying manure in the rain or immediately after a 2-inch rain event while the soil is still saturated, r. at 7, and there is no record of revision to the NMP after the Farm increased its herd and began adding whey to its manure. R. at 5. As evidenced by the discharge in April 2013, the Farm's self-written NMP is not allowing "appropriate agricultural utilization" of the nutrients and is impacting water quality. R. at 6. Because the land application was not conducted in accordance with national standard practices, the discharge is not exempt from permitting. The district court erred in finding that the Farm's NMP was sufficient for the agricultural stormwater exemption to apply.

The district court also erred in relying on *Alt v. EPA* to find that the Farm's land spreading discharge was stormwater runoff. In *Alt*, the Court held that discharges of pollutants from CAFOs can be exempt if they remain in place until stormwater conveys them into navigable waters. 979 F. Supp. 2d at 711–14 (noting that EPA also will not apply the exemption to runoff from within the production area). There, feathers and dust from a chicken farm blew from the production area into the farmyard, without active land application. *Id.* at 704. Precipitation then washed the particles into a navigable river as stormwater. *Id.* Here, the pollution does more than merely blow out of the barn; the Farm actively engages in spreading waste on its fields. R. at 5. The Farm's direct application to saturated fields, possibly while it was still raining, resulted in a discharge. As comprehensively explained in *Alt*, the exemption only applies to ordinary stormwater and not to discharges resulting from inappropriate waste management. As a Medium

CAFO, the Farm's discharge from improper land spreading of manure on saturated soil is point source pollution as a matter of law.

IV. The Discharge from Improper Land Application is Not Agricultural Stormwater.

Regardless of the Farm's status as a CAFO, its discharge caused by improper nutrient management practices is still subject to NPDES. The discharge requires a permit because it is not exempt as agricultural stormwater, and is in direct violation of the Farm's no-discharge status.

A. The Farm's discharge was not caused by precipitation.

The Farm's discharge of pollutants from rain-saturated fields does not factually constitute agricultural stormwater. In addition to the exemptions discussed above, the CWA excludes agricultural stormwater from the definition of a point source. 33 U.S.C. § 1362(14). The district court failed to analyze whether the Farm's discharge was factually stormwater before addressing the CAFO land spreading provision of the regulations. R. at 9. Under proper analysis, the threshold inquiry is whether precipitation *caused* the discharge. *Southview Farm*, 34 F.3d at 120–121. It is not enough to simply show the discharge “occurred during rainfall or [was] mixed with rain water run-off.” *Id.* Thus, discharges caused by improper manure spreading on fields are not included in this exemption, even if arguably mixed with rainwater. *Id.* The district court failed to consider this factual distinction when relying on *Alt v. EPA*. Again, *Alt* involved ordinary stormwater because the discharge was only caused by precipitation. Here, the Farm's improper land application caused the discharge.

The record indicates that the Farm applied manure during or immediately after a two-day rain event while the soil was still saturated. R. at 6. Moreover, the Farm added acid whey to its manure, which prevented the crops from fully utilizing nutrients, creating a buildup of excess nutrients on the fields. R. at 5–6. Rain would inevitably wash these nutrients into the Canal.

Pollutants' mixing with rainwater does not indicate that the discharge was *caused* by precipitation—the discharge was a direct result of the Farm's improper practices. Further, the discharge occurred from the Farm's drainage ditch, a point source under the CWA. 33 U.S.C. § 1362(14). Thus, the Farm, even if not a CAFO, cannot benefit from the general agricultural stormwater exemption. This Court should reverse and remand for proper factual analysis.

B. The Farm is in violation of its “no-discharge” status.

The Farm's state-regulated no-discharge status does not guarantee there will never be a discharge and requires the Farm to seek an NPDES permit once it does discharge. An operation “must not discharge unless the discharge is authorized by an NPDES permit.” 40 C.F.R. § 122.23(d)(1). EPA may delegate the NPDES program to states so long as the state permitting programs “apply, and insure compliance with, any applicable requirements [of the Act].” 33 U.S.C. § 1342(b). New Union is authorized to administer the CWA and has classified the Farm as a no-discharge operation. R. at 5. A discharge from the Farm is thus in violation of the CWA.

EPA's 2003 no-discharge certification, withdrawn and replaced with a proposed voluntary no-discharge certification in 2008, informs the basic tenets of a state no-discharge certification and notes that any unpermitted discharge renders the certification invalid and in violation of the CWA. 2012 CAFO Rule, 77 Fed. Reg. 44,494, 44,495–96 (July 30, 2012) (to be codified at 40 C.F.R. pt. 122); 2008 CAFO Rule, 73 Fed. Reg. 70,418, 70,425 (Nov. 20, 2008) (to be codified at 40 C.F.R. pt. 122); 2003 Rule at 7,176, 7,203. It is undisputed that on April 12, 2013, nitrates and fecal coliforms drained from the Farm's ditch into the Canal. R. at 6. This violates the Farm's no-discharge status and is a point source discharge that requires an NPDES permit.

Finally, in addition to the April 2013 discharge, the Farm is operating in a manner that will lead to more discharges. R. at 6. The CWA requires a permit for point sources that may

discharge. 33 U.S.C. § 1342. Operations may avoid permitting if constructed and managed to prevent discharges. *See Nat'l Pork Producers Council v. EPA*, 635 F.3d 738, 749 (5th Cir. 2011). Even though EPA may not regulate a facility that has not yet discharged, here the Farm has discharged and will discharge again. *Id.* at 750–51, 756. An EPA guidance document outlines what is proper operation, examining various factors such as proximity to waters of the United States and whether an NMP incorporates best management practices. EPA, EPA-833-R-10-006, *Implementation Guidance on CAFO Regulations—CAFOs that Discharge or Are Proposing to Discharge* 2, 6 (May 28, 2010), available at <http://perma.cc/2UQ2-D5N2>. The Farm is next to the Canal, has a drainage ditch connecting its fields to the Canal, and manages manure with an improper NMP. Thus, regardless of the Farm's CAFO designation, the Farm operates in violation of its no-discharge status and requires an NPDES permit. This Court should therefore reverse and remand.

V. The Acid Whey is a Solid Waste and RCRA's Agricultural Waste Exemption Does Not Apply.

RCRA prohibits the open dumping of solid waste. *See* 42 U.S.C. § 6945 (2012). Pursuant to its requirement to define open dumping, EPA established that practices that do not satisfy “the criteria in §§ 257.1 through 257.4 . . . constitute open dumping . . .” 40 C.F.R. § 257.1(a)(1) (2014). Riverwatcher seeks to enforce this prohibition against the Farm. *See* 42 U.S.C. § 6945(a) (authorizing citizen suits under RCRA § 7002 to enforce the prohibition against open dumping).

Riverwatcher can prevail on its open dumping claim by showing that the Farm disposes solid waste and that its disposal practices fail to meet EPA's criteria. *See Parker v. Scrap Metal Processors, Inc.*, 386 F.3d 993, 1013 (11th Cir. 2004); 42 U.S.C. § 6945(a); 40 C.F.R. § 257.1(a)(2). The district court found that the acid whey does not constitute solid waste, and that even if it does, RCRA's agricultural waste exemption applies. This Court should reverse because

the whey is a solid waste that the Farm disposes of, the agricultural waste exemption does not apply, and the district court failed to apply EPA's criteria to the Farm's practices.

A. The acid whey, even when mixed with the manure, constitutes a solid waste.

The district court's finding that the acid whey does not fit the definition of "discarded" in EPA's hazardous waste regulations, 40 C.F.R. § 261.2(a)(2)(i) (2014), should not have precluded it from also applying broader interpretations of the term for non-hazardous waste. *See Cal. Dep't of Toxic Substances Control v. Interstate Non-Ferrous Corp.*, 298 F. Supp. 2d 930, 975 (E.D. Cal. 2003) (noting that since plaintiff did not bring suit under RCRA's hazardous waste sections, RCRA's broader statutory definition of solid waste applied.). Although this definition can aid in interpreting "discarded,"⁵ since Riverwatcher claims that the Farm disposes of nonhazardous solid waste, r. at 10, the district court erred by ending the inquiry after applying this narrower regulatory definition of "discarded material."

Broader interpretations of "discarded" include material that has been "disposed of, abandoned, or thrown away." *Am. Mining Cong. v. EPA (AMC)*, 824 F.2d 1177, 1193 (D.C. Cir. 1987); *Safe Air for Everyone v. Meyer*, 373 F.3d 1035, 1041 (9th Cir. 2004). As such, materials are "discarded" when they constitute part of the waste disposal problem. *AMC*, 824 F.2d at 1186; *Safe Food and Fertilizer v. EPA*, 350 F.3d 1263, 1268 (D.C. Cir. 2003). Additionally, material is "discarded" if it has been discarded once, regardless of whether other parties reclaim it. *United States v. ILCO, Inc.*, 996 F.2d 1126, 1132 (11th Cir. 1993). However, materials are not discarded

⁵ Because hazardous waste must first constitute solid waste, any interpretation of "discarded" can aid in determining whether RCRA applies. *See* 42 U.S.C. § 6903(5) (defining hazardous waste); *Water Keeper Alliance v. United States Dep't of Defense*, 152 F. Supp. 2d 163, 168 (D.P.R. 2001) (noting that where both the regulatory definition and EPA's Military Munitions Rule contain "discarded material," "any definition of discarded material . . . is instructive").

if “they are destined for beneficial reuse or recycling in a continuous process by the generating industry itself.” *AMC*, 824 F.2d at 1186; *Safe Air*, 373 F.3d at 1043.

When Chokos gives the acid whey to the Farm, the whey becomes discarded material. *ILCO*, 996 F.2d at 1132. In *ILCO*, the defendant purchased batteries and recycled the parts. *Id.* at 1129. It argued that, because it never discarded these materials, they did not constitute “solid waste.” *Id.* at 1131. The court disagreed, finding it “perfectly reasonable” to interpret discarded to mean “discarded once.” *Id.* at 1132. Thus, the parts were solid waste because “[s]omebody has discarded the battery in which these components are found. This fact [did] not change just because a reclaimer has purchased or finds value in the components.” *Id.* at 1131 (emphasis in original). Just as the defendant in *ILCO* could not escape RCRA liability because it received waste from others, the Farm cannot escape liability simply because it accepted waste from Chokos. When Chokos gives its whey to the Farm, it throws away a by-product of its production process. Because *somebody* discarded it, the acid whey constitutes solid waste.

Further, the acid whey does not get beneficially reused in a continuous process by the generating industry itself, and it represents part of the waste disposal problem. In *Safe Air*, bluegrass growers reused grass residue in a continuous process to produce more bluegrass, foreclosing RCRA solid waste liability. 373 F.3d at 1046; *see also Safe Food and Fertilizer*, 350 F.3d at 1268 (“materials destined for future recycling by another industry *may* be considered ‘discarded’ . . . if they can reasonably be considered part of the waste disposal problem.” (emphasis in original)). Here, the generating industry of the acid whey is yogurt production by Chokos, which merely gives the whey to the Farm. *R.* at 5. Further, its use by the Farm is far from beneficial, given its effect on the Bermuda grass. *See r.* at 6. The whey is also part of the waste disposal problem. *See Justin Elliot, Why Too Much: Greek Yogurt’s Dark Side*, Modern

Farmer (May 22, 2013), *available at* <http://perma.cc/CFV4-9BPA> (noting that the Northeast generated over 150 million gallons of acid whey in a year, which cannot “simply be dumped. Not only would that be illegal, but whey decomposition is toxic to the natural environment”). The whey gets discarded by Chokos, does not get beneficially reused in the generating industry’s own process, and is part of the waste disposal problem. Thus, it constitutes “discarded” material and a solid waste under RCRA.

B. The Farm disposes of acid whey when it applies it to its fields with the manure.

When the Farm spreads the whey on its fields it disposes of solid waste because doing so reduces the ability of the Bermuda grass to absorb nutrients, and excess nutrients can wash into the Canal. R. at 6. RCRA defines “disposal” as the “placing of any solid waste . . . on any land . . . so that such solid waste . . . or any constituent thereof may enter the environment or be . . . discharged into any waters including ground waters.” 42 U.S.C. § 6903(3).

In *Parker*, the defendants operated a scrap metal and junkyard, 386 F.3d at 1000, which contained “piles of scrap metal, discarded materials . . . and other solid waste.” *Id.* at 1001 n.5. The court stated that, by keeping these materials on their land, the defendants “placed solid waste on their property in such a manner that the waste could enter the environment.” *Id.* at 1013. The court therefore held that the defendants “disposed of” solid waste on their property. *Id.*

The Farm spreads the acid whey directly onto its land. R. at 5. Riverwatcher’s expert believes that “unprocessed nutrients were then released into the environment” during rain events. R. at 6. The record does not show that the Farm’s expert disputed this release. Even if he did, a “disposal” only requires placing solid waste on land so that the waste or “constituent thereof *may* enter the environment or be . . . discharged into any waters” 42 U.S.C. § 6903(3) (emphasis added). Because the Farm placed the mixture on the land and constituents of the mixture, which

includes acid whey, could enter the environment, the Farm disposed of solid waste. This Court should accordingly reverse.

C. The district court erred because it applied the agricultural waste exemption and did not analyze whether the Farm’s practices constitute open dumping.

The district court did not address EPA’s open dumping criteria because it found that RCRA’s agricultural waste exemption precluded applying them to the Farm’s practices. R. at 11. As shown below, the agricultural waste exemption does not apply, and this Court should remand for the district court to make the fact-specific inquiries required to determine whether the Farm’s practices satisfy the criteria.

Under the agricultural waste exemption, the open dumping criteria “do not apply to agricultural wastes, including manures and crop residues, returned to the soil as fertilizers or soil conditioners.” 40 C.F.R. § 257.1(c)(1). The exemption does not apply here for two reasons. First, while the manure gets returned to the soil as fertilizer, the acid whey does not come from the Farm, so it cannot get “returned” to the Farm’s fields. Second, exempting this practice would encourage farms to accept waste and add it to manure, regardless of the potential effects, thus avoiding RCRA liability. *See Safe Air*, 373 F.3d at 1050 (Paez, J., dissenting) (“According to the majority’s logic, any disposal process, no matter how environmentally unsound, would be exempted from the reach of RCRA as long as the waste residue was eventually returned to the soil.”). Indeed, the Farm’s practice of accepting acid whey and applying it to its land causes unsound environmental effects. The district court erred in applying the exemption.

Because the exemption does not apply, the district court should have addressed whether the Farm’s practices fail to meet EPA’s open dumping criteria. Given the fact-specific analysis required to analyze the criteria, this Court should reverse and remand.

VI. The Farm’s Practices May Present an Imminent and Substantial Endangerment to Health or the Environment.

RCRA authorizes citizen suits against any entity that contributes to the disposal of solid waste, “which *may* present an imminent and substantial endangerment to health” 42 U.S.C. § 6972(a)(1)(B) (emphasis added). A successful endangerment claim requires the plaintiff to show that an entity contributes to the disposal of solid waste, and that such waste may present an endangerment. *See Burlington N. & Santa Fe Ry. Co. v. Grant (BNSF)*, 505 F.3d 1013, 1020 (10th Cir. 2007) (citing *Cox v. City of Dallas*, 256 F.3d 281, 292 (5th Cir. 2001)). Farmville has a recurring problem of nitrates in its drinking water, leading to several nitrate advisories. R. at 7. Because the Farm contributes to the disposal of solid waste that plays a role in creating this problem, the district court erred in finding no imminent and substantial endangerment.

A. The Farm contributes to the disposal of solid waste.

The fact that one cannot characterize the Farm as the “but-for” cause of the nitrate advisory is irrelevant to a finding that the Farm contributes to the disposal of solid waste. “The relevant legislative history supports a broad, rather than a narrow, construction of the phrase ‘contributed to.’” *United States v. Aceto Agric. Chem. Corp.*, 872 F.2d 1373, 1383 (8th Cir. 1989). Under a broad construction, to contribute to the disposal of solid waste the defendant must have had “a part or share in producing an effect.” *Cox*, 256 F.3d at 295; *see also Parker*, 386 F.3d at 1013 (holding that defendants “contributed to” disposal of solid waste because they placed discarded materials directly onto their property).

In *Cox*, the court addressed whether the City of Dallas “contributed to” the disposal of solid waste at two dumps. *See* 256 F.3d at 288. The City had hired contractors to demolish city property, and the contractors disposed of the resulting waste at the dumps in question. *Id.* at 286. Since the City’s waste went into the dumps, it had a part or share in producing an effect (there,

illegal dumping), so it “contributed to” the disposal of solid waste. *Id.* at 297. Other parties had disposed of solid waste at the dumps for years before the City’s disposal. *Id.* at 285. The City therefore could not have been the but-for cause, but the court affirmed “contributing to” liability against it. *Id.* at 297.

Similarly, given the amount of farming in the Deep Quod watershed, multiple parties could have contributed to the nitrate advisory, including the Farm. *See r.* at 7. But this does not foreclose “contributing to” liability. Even though the Farm may not have been the but-for cause of the advisory, it had a part or share in producing that effect and thus contributed to the disposal of solid waste. As a result, the district court erred in its “contributing to” analysis.

B. The Farm’s practices may present an imminent and substantial endangerment.

RCRA’s citizen suit provision subjects to liability anyone who contributes to solid waste disposal “which may present an imminent and substantial endangerment to health or the environment.” 42 U.S.C. § 6972(a)(2)(B). The word “may” demonstrates that the Farm’s solid waste disposal need only have the *possibility* of presenting such an endangerment. *See Parker*, 386 F.3d at 1015 (“The operative word in the statute is the word ‘may.’”). The Farm’s practices may present an imminent threat of endangerment that is substantial.

1. The Farm’s practices present an “imminent” threat to Farmville residents.

Demonstrating imminence requires a plaintiff to show that a threat presently exists, “although the impact of the threat may not be felt until later.” *Meghrig v. K.F.C. W., Inc.*, 516 U.S. 479, 486 (1996) (quoting *Price v. United States Navy*, 39 F.3d 1011, 1019 (9th Cir. 1994)). In *Price*, the plaintiff failed to present sufficient evidence of imminence where the state had cleaned up the property in question and placed concrete caps over the side yards. 39 F.3d at 1018–20. While the state’s witnesses testified that contamination still existed, they also testified

that the concrete barriers eliminated any present danger. *Id.* at 1020. In all, since the barriers would keep the contamination from spreading, the court held that no imminent and substantial endangerment existed. *See id.*

In the Farm's case, a threat presently exists which may cause an endangerment in the future. The practice of spreading the acid whey on the Farm's fields represents the present threat. The potential impact of this threat—excess nutrients washing into the Canal and affecting Farmville's water supply—does not manifest itself immediately, but rather after rain events. *See r.* at 6. The Farm has not taken any precautions to prevent nitrates from entering the Canal, and the threat posed by the application of acid whey to the Farm's fields exists now, even though the impacts might not occur immediately.

2. *The Farm's practices present a threat of "endangerment."*

With respect to endangerment, a plaintiff need not show actual harm, but only a threatened or potential harm. *See Parker*, 386 F.3d at 1015; *Meghrig*, 516 U.S. at 486; *United States v. Vertac Chem. Corp.*, 489 F. Supp. 870, 880 (E.D. Ark. 1980). In *Vertac Chem.*, there existed "no proof of actual harm sustained from the escape of dioxin from the premises of Vertac." 489 F. Supp. at 880. The court, noting the potential health risks posed by dioxin, stated, "As much as humanly possible this risk must be removed," and held that "the existence of this risk to the public justifies" relief. *Id.* at 881.

Like the dioxin in *Vertac Chem.*, nitrates pose a risk to public health. High levels of nitrates can make a "municipal water supply unsafe for drinking by infants." R. at 6. The Farm's actions contribute to these nitrate advisories, and thus present a threatened or potential harm to infants. Because an endangerment claim does not require actual harm, the threat of health risk justifies an endangerment finding in this case.

Further, that parents can avoid actual injury by providing bottled water to their infants, r. at 11, has no bearing on an endangerment claim. This case is distinguishable from *Davies v. Nat'l Coop. Refinery Ass'n*, relied on by the district court. There, the court found that, because the plaintiffs could drink bottled water to avoid health risks associated with a relatively stable plume of contamination, no imminent and substantial endangerment existed. 963 F. Supp. 990, 999 (D. Kan. 1997).⁶ However, the court also noted the plaintiffs' inability to prove that "any other persons might be exposed to or ingest the contaminated groundwater" *Id.* The *Davies* contamination threatened only one private well, and no public water supplies. Here, erratic surges of nitrate pollution pose a threat to every family in Farmville with an infant under two years old. *See* r. at 6. The mere fact that families can avoid injury by providing bottled water to infants does not foreclose an endangerment finding, because the threat of injury still exists. Thus, the nitrates that wash into the Canal threaten human health and constitute an endangerment.

3. *The Farm's practices may cause a "substantial" endangerment.*

The fact that nitrate advisories do not threaten adults and juveniles does not foreclose a finding that an endangerment is substantial, because nitrates make water unsafe for drinking by infants. A plaintiff can satisfy the "substantial" requirement by showing a "reasonable cause for concern that someone or something may be exposed to risk of harm by a release, or threatened release . . . in the event remedial action is not taken." *BNSF*, 505 F.3d at 1021; *Sullins v. Exxon/Mobil Corp.*, 729 F. Supp. 2d 1129, 1137 (N.D. Cal. 2010). In *Sullins*, the court found endangerment was substantial even on undeveloped and unoccupied land. 729 F. Supp. 2d at

⁶ In *Davies*, the court abstained from exercising jurisdiction over the case. *See* 963 F. Supp. at 997. As such, its findings with respect to the endangerment claim are purely dicta. Regardless, *Davies* is distinguishable from the case at hand.

1137. Because the land would be developed in the future, someone would be exposed to a risk of harm if remedial action were not taken. *Id.*

Here, infants have been exposed to a risk of harm during each of Farmville's nitrate advisories. The district court applied the incorrect standard for "substantial" when it relied on the fact that "nitrates pose no health risks to adults and juveniles." R. at 11. Because the Farm's landspreading reduces the ability of the Bermuda grass to absorb nutrients from the manure, rain events can cause excess nutrients to wash from the Farm's fields into the Canal. R. at 5-6. Without some type of remedial action, excess nutrients could get washed into the Canal after every rain event. Because the nutrients expose infants to a risk of harm, the Farm's practices present a substantial endangerment. This Court should reverse because the Farm's practices may present an imminent and substantial endangerment to human health.

CONCLUSION

For the above reasons, Riverwatcher urges this Court to reverse the district court's holdings on all issues and remand for further proceedings. The evidence James collected is admissible and shows that the Farm is in violation of both the CWA and RCRA. These claims require fact-specific analyses that the district court failed to make. This Court should reverse and remand for proper legal and factual analysis.

APPENDIX A

NRCS Nutrient Management Code 590

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
NUTRIENT MANAGEMENT**

(Ac.)

CODE 590

DEFINITION

Managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments.

PURPOSE

- To budget, supply, and conserve nutrients for plant production.
- To minimize agricultural nonpoint source pollution of surface and groundwater resources.
- To properly utilize manure or organic by-products as a plant nutrient source.
- To protect air quality by reducing odors, nitrogen emissions (ammonia, oxides of nitrogen), and the formation of atmospheric particulates.
- To maintain or improve the physical, chemical, and biological condition of soil.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all lands where plant nutrients and soil amendments are applied. This standard does not apply to one-time nutrient applications to establish perennial crops.

CRITERIA

General Criteria Applicable to All Purposes

A nutrient budget for nitrogen, phosphorus, and potassium must be developed that considers all potential sources of nutrients including, but not limited to, green manures, legumes, crop residues, compost, animal manure, organic by-products, biosolids, waste water, organic matter, soil biological activity, commercial fertilizer, and irrigation water.

Enhanced efficiency fertilizers, used in the State must be defined by the Association of American

Plant Food Control Officials (AAPFCO) and be accepted for use by the State fertilizer control official, or similar authority, with responsibility for verification of product guarantees, ingredients (by AAPFCO definition) and label claims.

For nutrient risk assessment policy and procedures see Title 190, General Manual (GM), Part 402, Nutrient Management, and Title 190, National Instruction (NI), Part 302, Nutrient Management Policy Implementation.

To avoid salt damage, the rate and placement of applied nitrogen and potassium in starter fertilizer must be consistent with land-grant university guidelines, or industry practice recognized by the land-grant university.

The NRCS-approved nutrient risk assessment for nitrogen must be completed on all sites unless the State NRCS, with the concurrence of State water quality control authorities, has determined specific conditions where nitrogen leaching is not a risk to water quality, including drinking water.

The NRCS-approved nutrient risk assessment for phosphorus must be completed when:

- phosphorus application rate exceeds land-grant university fertility rate guidelines for the planned crop(s), or
- the planned area is within a phosphorus-impaired watershed (contributes to 303d-listed water bodies), or
- the NRCS and State water quality control authority have not determined specific conditions where the risk of phosphorus loss is low.

A phosphorus risk assessment will not be required when the State NRCS, with concurrence of the State water quality control authority, has determined specific conditions where the risk of phosphorus loss is low. These

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service [State Office](#) or visit the [Field Office Technical Guide](#).

**NRCS, NHCP
January 2012**

fields must have a documented agronomic need for phosphorus; based on soil test phosphorus (STP) and land-grant university nutrient recommendations.

On organic operations, the nutrient sources and management must be consistent with the USDA's National Organic Program.

Areas contained within minimum application setbacks (e.g., sinkholes, wellheads, gullies, ditches, or surface inlets) must receive nutrients consistent with the setback restrictions.

Applications of irrigation water must minimize the risk of nutrient loss to surface and groundwater.

Soil pH must be maintained in a range that enhances an adequate level for crop nutrient availability and utilization. Refer to State land-grant university documentation for guidance.

Soil, Manure, and Tissue Sampling and Laboratory Analyses (Testing).

Nutrient planning must be based on current soil, manure, and (where used as supplemental information) tissue test results developed in accordance with land-grant university guidance, or industry practice, if recognized by the university.

Current soil tests are those that are no older than 3 years, but may be taken on an interval recommended by the land-grant university or as required by State code. The area represented by a soil test must be that acreage recommended by the land-grant university.

Where a conservation management unit (CMU) is used as the basis for a sampling unit, all acreage in the CMU must have similar soil type, cropping history, and management practice treatment.

The soil and tissue tests must include analyses pertinent to monitoring or amending the annual nutrient budget, e.g., pH, electrical conductivity (EC) and sodicity where salts are a concern, soil organic matter, phosphorus, potassium, or other nutrients and test for nitrogen where applicable. Follow land-grant university guidelines regarding required analyses.

Soil test analyses must be performed by laboratories successfully meeting the requirements and performance standards of the North American Proficiency Testing Program-Performance Assessment Program (NAPT-PAP)

NRCS, NHCP

January 2012

under the auspices of the Soil Science Society of America (SSSA) and NRCS, or other NRCS-approved program that considers laboratory performance and proficiency to assure accuracy of soil test results. Alternate proficiency testing programs must have solid stakeholder (e.g., water quality control entity, NRCS State staff, growers, and others) support and be regional in scope.

Nutrient values of manure, organic by-products and biosolids must be determined prior to land application.

Manure analyses must include, at minimum, total nitrogen (N), ammonium N, total phosphorus (P) or P₂O₅, total potassium (K) or K₂O, and percent solids, or follow land-grant university guidance regarding required analyses.

Manure, organic by-products, and biosolids samples must be collected and analyzed at least annually, or more frequently if needed to account for operational changes (feed management, animal type, manure handling strategy, etc.) impacting manure nutrient concentrations. If no operational changes occur, less frequent manure testing is allowable where operations can document a stable level of nutrient concentrations for the preceding three consecutive years, unless federal, State, or local regulations require more frequent testing.

Samples must be collected, prepared, stored, and shipped, following land-grant university guidance or industry practice.

When planning for new or modified livestock operations, acceptable "book values" recognized by the NRCS (e.g., NRCS Agricultural Waste Management Field Handbook) and the land-grant university, or analyses from similar operations in the geographical area, may be used if they accurately estimate nutrient output from the proposed operation.

Manure testing analyses must be performed by laboratories successfully meeting the requirements and performance standards of the Manure Testing Laboratory Certification program (MTLCP) under the auspices of the Minnesota Department of Agriculture, or other NRCS-approved program that considers laboratory performance and proficiency to assure accurate manure test results.

Nutrient Application Rates.

Planned nutrient application rates for nitrogen, phosphorus, and potassium must not exceed land-grant university guidelines or industry practice when recognized by the university.

At a minimum, determination of rate must be based on crop/cropping sequence, current soil test results, realistic yield goals, and NRCS-approved nutrient risk assessments.

If the land-grant university does not provide specific guidance that meets these criteria, application rates must be based on plans that consider realistic yield goals and associated plant nutrient uptake rates.

Realistic yield goals must be established based on historical yield data, soil productivity information, climatic conditions, nutrient test results, level of management, and local research results considering comparable production conditions.

Estimates of yield response must consider factors such as poor soil quality, drainage, pH, salinity, etc., prior to assuming that nitrogen and/or phosphorus are deficient.

For new crops or varieties, industry-demonstrated yield, and nutrient utilization information may be used until land-grant university information is available.

Lower-than-recommended nutrient application rates are permissible if the grower's objectives are met.

Applications of biosolids, starter fertilizers, or pop-up fertilizers must be accounted for in the nutrient budget.

Nutrient Sources.

Nutrient sources utilized must be compatible with the application timing, tillage and planting system, soil properties, crop, crop rotation, soil organic content, and local climate to minimize risk to the environment.

Nutrient Application Timing and Placement.

Timing and placement of all nutrients must correspond as closely as practical with plant nutrient uptake (utilization by crops), and consider nutrient source, cropping system limitations, soil properties, weather conditions, drainage system, soil biology, and nutrient risk assessment results.

Nutrients must not be surface-applied if nutrient losses offsite are likely. This precludes spreading on:

- frozen and/or snow-covered soils, and
- when the top 2 inches of soil are saturated from rainfall or snow melt.

Exceptions for the above criteria can be made for surface-applied manure when specified conditions are met and adequate conservation measures are installed to prevent the offsite delivery of nutrients. The adequate treatment level and specified conditions for winter applications of manure must be defined by NRCS in concurrence with the water quality control authority in the State. At a minimum, the following site and management factors must be considered:

- slope,
- organic residue and living covers,
- amount and form of nutrients to be applied, and
- adequate setback distances to protect local water quality.

Additional Criteria to Minimize Agricultural Nonpoint Source Pollution of Surface and Groundwater

Planners must use the current NRCS-approved nitrogen, phosphorus, and soil erosion risk assessment tools to assess the risk of nutrient and soil loss. Identified resource concerns must be addressed to meet current planning criteria (quality criteria). Technical criteria for risk assessments can be found in NI-190-302.

When there is a high risk of transport of nutrients, conservation practices must be coordinated to avoid, control, or trap manure and nutrients before they can leave the field by surface or subsurface drainage (e.g., tile). The number of applications and the application rates must also be considered to limit the transport of nutrients to tile.

Nutrients must be applied with the right placement, in the right amount, at the right time, and from the right source to minimize nutrient losses to surface and groundwater. The following nutrient use efficiency strategies or technologies must be considered:

- slow and controlled release fertilizers
- nitrification and urease inhibitors

**NRCS, NHCP
January 2012**

- enhanced efficiency fertilizers
- incorporation or injection
- timing and number of applications
- soil nitrate and organic N testing
- coordinate nutrient applications with optimum crop nutrient uptake
- Corn Stalk Nitrate Test (CSNT), Pre-Sidedress Nitrate Test (PSNT), and Pre-Plant Soil Nitrate Test (PPSN)
- tissue testing, chlorophyll meters, and spectral analysis technologies
- other land-grant university recommended technologies that improve nutrient use efficiency and minimize surface or groundwater resource concerns.

Additional Criteria Applicable to Properly Utilize Manure or Organic By-Products as a Plant Nutrient Source

When manures are applied, and soil salinity is a concern, salt concentrations must be monitored to prevent potential crop damage and/or reduced soil quality.

The total single application of liquid manure:

- must not exceed the soil's infiltration or water holding capacity
- be based on crop rooting depth
- must be adjusted to avoid runoff or loss to subsurface tile drains.

Crop production activities and nutrient use efficiency technologies must be coordinated to take advantage of mineralized plant-available nitrogen to minimize the potential for nitrogen losses due to denitrification or ammonia volatilization.

Nitrogen and phosphorus application rates must be planned based on risk assessment results as determined by NRCS-approved nitrogen and phosphorus risk assessment tools.

For fields receiving manure, where phosphorus risk assessment results equate to LOW risk, additional phosphorus and potassium can be applied at rates greater than crop requirement not to exceed the nitrogen requirement for the succeeding crop. For fields receiving manure, where phosphorus risk assessment results equate to MODERATE risk, additional phosphorus and potassium may be applied at a

phosphorus crop requirement rate for the planned crops in the rotation. When phosphorus risk assessment results equate to HIGH risk, additional phosphorus and potassium may be applied at phosphorus crop removal rates if the following requirements are met:

- a soil phosphorus drawdown strategy has been implemented, and
- a site assessment for nutrients and soil loss has been conducted to determine if mitigation practices are required to protect water quality.
- any deviation from these high risk requirements must have the approval of the Chief of the NRCS.

Manure or organic by-products may be applied on legumes at rates equal to the estimated removal of nitrogen in harvested plant biomass, not to exceed land grant university recommendations.

Manure may be applied at a rate equal to the recommended phosphorus application, or estimated phosphorus removal in harvested plant biomass for the crop rotation, or multiple years in the crop sequence at one time. When such applications are made, the application rate must not exceed the acceptable phosphorus risk assessment criteria, must not exceed the recommended nitrogen application rate during the year of application or harvest cycle, and no additional phosphorus must be applied in the current year and any additional years for which the single application of phosphorus is supplying nutrients.

Additional Criteria to Protect Air Quality by Reducing Odors, Nitrogen Emissions and the Formation of Atmospheric Particulates

To address air quality concerns caused by odor, nitrogen, sulfur, and/or particulate emissions; the source, timing, amount, and placement of nutrients must be adjusted to minimize the negative impact of these emissions on the environment and human health. One or more of the following may be used:

- slow or controlled release fertilizers
- nitrification inhibitors
- urease inhibitors
- nutrient enhancement technologies
- incorporation

**NRCS, NHCP
January 2012**

- injection
- stabilized nitrogen fertilizers
- residue and tillage management
- no-till or strip-till
- other technologies that minimize the impact of these emissions

Do not apply poultry litter, manure, or organic by-products of similar dryness/density when there is a high probability that wind will blow the material offsite.

Additional Criteria to Improve or Maintain the Physical, Chemical, and Biological Condition of the Soil to Enhance Soil Quality for Crop Production and Environmental Protection

Time the application of nutrients to avoid periods when field activities will result in soil compaction.

In areas where salinity is a concern, select nutrient sources that minimize the buildup of soil salts.

CONSIDERATIONS

Elevated soil test phosphorus levels are detrimental to soil biota. Soil test phosphorus levels should not exceed State-approved soil test thresholds established to protect the environment.

Use no-till/strip-till in combination with cover crops to sequester nutrients, increase soil organic matter, increase aggregate stability, reduce compaction, improve infiltration, and enhance soil biological activity to improve nutrient use efficiency.

Use nutrient management strategies such as cover crops, crop rotations, and crop rotations with perennials to improve nutrient cycling and reduce energy inputs.

Use variable-rate nitrogen application based on expected crop yields, soil variability, soil nitrate or organic N supply levels, or chlorophyll concentration.

Use variable-rate nitrogen, phosphorus, and potassium application rates based on site-specific variability in crop yield, soil characteristics, soil test values, and other soil productivity factors.

Develop site-specific yield maps using a yield monitoring system. Use the data to further diagnose low- and high- yield areas, or zones,

and make the necessary management changes. See Title 190, Agronomy Technical Note (TN) 190.AGR.3, Precision Nutrient Management Planning.

Use manure management conservation practices to manage manure nutrients to limit losses prior to nutrient utilization.

Apply manure at a rate that will result in an "improving" Soil Conditioning Index (SCI) without exceeding acceptable risk of nitrogen or phosphorus loss.

Use legume crops and cover crops to provide nitrogen through biological fixation and nutrient recycling.

Modify animal feed diets to reduce the nutrient content of manure following guidance contained in Conservation Practice Standard (CPS) Code 592, Feed Management.

Soil test information should be no older than 1 year when developing new plans.

Excessive levels of some nutrients can cause induced deficiencies of other nutrients, e.g., high soil test phosphorus levels can result in zinc deficiency in corn.

Use soil tests, plant tissue analyses, and field observations to check for secondary plant nutrient deficiencies or toxicity that may impact plant growth or availability of the primary nutrients.

Use the adaptive nutrient management learning process to improve nutrient use efficiency on farms as outlined in the NRCS' National Nutrient Policy in GM 190, Part 402, Nutrient Management.

Potassium should not be applied in situations where an excess (greater than soil test potassium recommendation) causes nutrient imbalances in crops or forages.

Workers should be protected from and avoid unnecessary contact with plant nutrient sources. Extra caution must be taken when handling anhydrous ammonia or when dealing with organic wastes stored in unventilated enclosures.

Material generated from cleaning nutrient application equipment should be utilized in an environmentally safe manner. Excess material should be collected and stored or field applied in an appropriate manner.

**NRCS, NHCP
January 2012**

Nutrient containers should be recycled in compliance with State and local guidelines or regulations.

Considerations to Minimize Agricultural Nonpoint Source Pollution of Surface and Groundwater.

Use conservation practices that slow runoff, reduce erosion, and increase infiltration, e.g., filter strip, contour farming, or contour buffer strips. These practices can also reduce the loss of nitrates or soluble phosphorus.

Use application methods and timing strategies that reduce the risk of nutrient transport by ground and surface waters, such as:

- split applications of nitrogen to deliver nutrients during periods of maximum crop utilization,
- banded applications of nitrogen and/or phosphorus to improve nutrient availability,
- drainage water management to reduce nutrient discharge through drainage systems, and
- incorporation of surface-applied manures or organic by-products if precipitation capable of producing runoff or erosion is forecast within the time of planned application.

Use the agricultural chemical storage facility conservation practice to protect air, soil, and water quality.

Use bioreactors and multistage drainage strategies when approved by the land-grant university.

Considerations to Protect Air Quality by Reducing Nitrogen and/or Particulate Emissions to the Atmosphere.

Avoid applying manure and other by-products upwind of inhabited areas.

Use high-efficiency irrigation technologies (e.g., reduced-pressure drop nozzles for center pivots) to reduce the potential for nutrient losses.

PLANS AND SPECIFICATIONS

The following components must be included in the nutrient management plan:

- aerial site photograph(s)/imagery or site map(s), and a soil survey map of the site,

- soil information including: soil type surface texture, pH, drainage class, permeability, available water capacity, depth to water table, restrictive features, and flooding and/or ponding frequency,
- location of designated sensitive areas and the associated nutrient application restrictions and setbacks,
- for manure applications, location of nearby residences, or other locations where humans may be present on a regular basis, and any identified meteorological (e.g., prevailing winds at different times of the year), or topographical influences that may affect the transport of odors to those locations,
- results of approved risk assessment tools for nitrogen, phosphorus, and erosion losses,
- documentation establishing that the application site presents low risk for phosphorus transport to local water when phosphorus is applied in excess of crop requirement.
- current and/or planned plant production sequence or crop rotation,
- soil, water, compost, manure, organic by-product, and plant tissue sample analyses applicable to the plan,
- when soil phosphorus levels are increasing, include a discussion of the risk associated with phosphorus accumulation and a proposed phosphorus draw-down strategy,
- realistic yield goals for the crops,
- complete nutrient budget for nitrogen, phosphorus, and potassium for the plant production sequence or crop rotation,
- listing and quantification of all nutrient sources and form,
- all enhanced efficiency fertilizer products that are planned for use,
- in accordance with the nitrogen and phosphorus risk assessment tool(s), specify the recommended nutrient application source, timing, amount (except for precision/variable rate applications specify method used to determine rate), and placement of plant nutrients for each field or management unit, and

- guidance for implementation, operation and maintenance, and recordkeeping.

In addition, the following components must be included in a precision/variable rate nutrient management plan:

- Document the geo-referenced field boundary and data collected that was processed and analyzed as a GIS layer or layers to generate nutrient or soil amendment recommendations.
- Document the nutrient recommendation guidance and recommendation equations used to convert the GIS base data layer or layers to a nutrient source material recommendation GIS layer or layers.
- Document if a variable rate nutrient or soil amendment application was made.
- Provide application records per management zone or as applied map within individual field boundaries (or electronic records) documenting source, timing, method, and rate of all applications that resulted from use of the precision agriculture process for nutrient or soil amendment applications.
- Maintain the electronic records of the GIS data layers and nutrient applications for at least 5 years.

If increases in soil phosphorus levels are expected (i.e., when N-based rates are used), the nutrient management plan must document:

- the soil phosphorus levels at which it is desirable to convert to phosphorus based planning,
- the potential plan for soil test phosphorus drawdown from the production and harvesting of crops, and
- management activities or techniques used to reduce the potential for phosphorus transport and loss,
- for AFOs, a quantification of manure produced in excess of crop nutrient requirements, and

- a long-term strategy and proposed implementation timeline for reducing soil P to levels that protect water quality,

OPERATION AND MAINTENANCE

Conduct periodic plan reviews to determine if adjustments or modifications to the plan are needed. At a minimum, plans must be reviewed and revised, as needed with each soil test cycle, changes in manure volume or analysis, crops, or crop management.

Fields receiving animal manures and/or biosolids must be monitored for the accumulation of heavy metals and phosphorus in accordance with land-grant university guidance and State law.

Significant changes in animal numbers, management, and feed management will necessitate additional manure analyses to establish a revised average nutrient content.

Calibrate application equipment to ensure accurate distribution of material at planned rates.

Document the nutrient application rate. When the applied rate differs from the planned rate, provide appropriate documentation for the change.

Records must be maintained for at least 5 years to document plan implementation and maintenance. As applicable, records include:

- soil, plant tissue, water, manure, and organic by-product analyses resulting in recommendations for nutrient application,
- quantities, analyses and sources of nutrients applied,
- dates, and method(s) of nutrient applications, source of nutrients, and rates of application,
- weather conditions and soil moisture at the time of application; lapsed time to manure incorporation; rainfall or irrigation event,
- crops planted, planting and harvest dates, yields, nutrient analyses of harvested biomass, and crop residues removed,
- dates of plan review, name of reviewer, and recommended changes resulting from the review, and

**NRCS, NHCP
January 2012**

- all enhanced efficiency fertilizer products used.

Additional records for precision/variable rate sites must include:

- maps identifying the variable application source, timing, amount, and placement of all plant nutrients applied, and
- GPS-based yield maps for crops where yields can be digitally collected.

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APPENDIX B

Federal Water Pollution Control Act Senate Report

Calendar No. 411

92D CONGRESS }
1st Session }

SENATE

{ REPORT
No. 92-414 }

GAO References: pp. 61-21

FEDERAL WATER POLLUTION CONTROL ACT
AMENDMENTS OF 1971

REPORT

OF THE

COMMITTEE ON PUBLIC WORKS
UNITED STATES SENATE

TOGETHER WITH
SUPPLEMENTAL VIEWS

TO ACCOMPANY

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icals, are recommended for use because they do attack the pests against which persistent chemicals have proven effective, but they do not persist in their toxic state for long periods after application. Shortly after application, these chemicals start to disintegrate and are soon absorbed by natural processes leaving no residual accumulation to endanger wildlife or man. The difficulty in their use arises out of their high original toxicity. These chemicals cause most of the deaths from pesticides in the Nation. Mere exposure to dust from a parathion sack has resulted in the death of children, and farmers, justifiably, are fearful to use these "hot" chemicals.

ANIMAL WASTES

Animal and poultry waste, until recent years, has not been considered a major pollutant. Until the past ten or fifteen years few problems existed, because animals were relatively wide-spread on pasture and rangeland and their manure was deposited on the ground to be naturally recycled through the soil and plant cover. Even housed livestock and poultry were supplied with bedding or litter to absorb moisture from manure and facilitate handling in solid form through spreading back on the land.

The picture has changed dramatically, however, as development of intensive livestock and poultry production on feedlots and in modern buildings has created massive concentrations of manure in small areas. The recycling capacity of the soil and plant cover has been surpassed. In these modern facilities the use of bedding and litter has been greatly reduced; consequently, the manure which is produced remains essentially in the liquid state and is much more difficult to handle without odor and pollution problems. Precipitation runoff from these areas picks up high concentrations of pollutants which reduce oxygen levels in receiving streams and lakes and accelerate the eutrophication process.

The present situation and the outlook for future developments in livestock and poultry production show that waste management systems are required to prevent wastes generated in concentrated production areas from causing serious harm to surface and ground waters. Some 115 million dairy and beef cattle, 20 million sheep and lambs, 67 million hogs and pigs and over 900 million poultry, turkeys and broilers produce an estimated 1.6 to 1.8 billion tons of manure each year. This quantity is more than 12 times the amount produced by the human population. Fortunately, only a small portion of this manure is produced under concentrated conditions having a high potential for pollution. Estimates vary, but a reasonable assumption would be that no more than 20 percent of total manure production poses a threat to our water resources. Of this 20 percent, of course, only a small fraction of the pollutants it contains will actually reach ground or surface waters through leaching or surface runoff. However, with increasing concentration of livestock and poultry production in modern facilities the pollution problem will become more serious.

The situation is not one in which solutions appear to be of doubtful value or impossible to accomplish. At the present time waste management systems are being installed by animal and poultry producers with technical assistance from the U.S. Department of Agriculture and the

States. These systems are proving to be effective in preventing pollutants from reaching surface and groundwaters. Systems are also being developed to recycle wastes through the land and its plant cover. Research is being carried out to improve waste management systems. Hearings held by the Air and Water Pollution Subcommittee in Kansas City this year disclosed the fact that those States, such as Kansas, which have large numbers of feedlots are in the forefront of efforts to develop new techniques for waste management. Information and instruction programs are being conducted to notify producers of animal waste problems.

FERTILIZERS

When virgin soils were first cultivated in America, they were rich in organic matter and plant nutrients and provided far more nitrogen and phosphorus than crops could use. In those early days losses to ground and surface waters, as well as to the atmosphere, were very high. As a result of cultivation over the years, these natural supplies have been gradually and greatly diminished, and with this diminution in natural nutrients came a corresponding and accelerated use of fertilizers. By 1969, the annual application of almost 7 million tons of nitrogen fertilizer was insufficient to replace the yearly drop in the soils capacity to supply this vital element in plant growth. Today, still greater amounts of all kinds of fertilizers are being applied.

This large-scale use of commercial fertilizer with high nitrogen and phosphorous content comes at a time of increasing public concern about eutrophication of lakes and streams and the presence of nutrients in ground water.

As the committee bill recognizes, much remains to be learned about eutrophication. In the meantime, control of nitrogen and phosphorous in surface waters is receiving wide attention as a means of limiting growth of algae and aquatic plants. It is known that nitrogen and phosphorous are essential nutrients for the growth of algae and aquatic plants, and that they do not usually occur naturally in concentrations which affect water quality. In addition, it is well established that nitrogen, when converted to nitrates, readily leaches to ground water, an important fact, because concentration of nitrate in excess of 45 mg/l. in drinking water is considered hazardous. Other elements such as potassium, calcium and magnesium are also necessary for such growth but are usually present in nature in abundant supply and present no great difficulty without the additional presence of nitrates and phosphorous.

Phosphorous in fertilizer is immediately tied up by clay particles in the soil upon application, so its primary route to becoming a problem is through soil erosion by flowing water. Thus, with proper fertilizer application and good land management phosphorous cannot be considered a significant problem in the use of fertilizers.

The best solution to problems arising from use of commercial fertilizers is sound management of their use; and in this regard it should be remembered that cost-benefit relationships will always work to minimize the application of any agricultural chemicals. Fertilizer should be applied to crops only in necessary minimum effective amounts and at times when crops can utilize it. Good land management, through use of conservation practices to prevent soil erosion and reduce surface