

# BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

[www.BREDL.org](http://www.BREDL.org) PO BOX 44 Saxapahaw, North Carolina 27340 (336) 525-2003 office

April 3, 2009

Ms. Ellen Lorscheider  
Planning and Programs  
NC DENR Division of Waste Management  
Solid Waste Section  
1646 Mail Service Center  
Raleigh, North Carolina 27699-1646

Re: Septage Management section 15A NCAC 13B .0830-.0846

Dear Ms. Lorscheider:

On behalf of the Blue Ridge Environmental Defense League, I am submitting the following comments on the Division's proposed Septage Management rules 15A NCAC 13B.0830 -.0846.

The League is a regional, community-based, non-profit environmental organization with more than 2,500 members and 40 chapters in North Carolina and the Southeast. Our founding principles are earth stewardship, environmental democracy, social justice, and community empowerment ([www.bredl.org](http://www.bredl.org)).

We would like to thank you for this opportunity to present comments on the Division's proposed changes to the septage rules. We feel that these additional changes to the rules would provide better protections to public health, farmlands and surface waters in the State of North Carolina, and provide further clarification in addressing specific rules and procedures under the proposed septage rules.

The following are recommended changes to existing proposed rules:

- Increase setbacks from septage spreading to 500 ft. for all residences regardless of ownership status; adjoining properties; wells and springs, and ground water lowering ditches and devices.
- Increase setbacks from septage spreading to 500 ft. for all classifications of surface waters, fresh waters, tidal salt waters, trout and swim waters, nutrient sensitive waters, and wetlands.

- Increase setbacks for septage spreading to 500 ft. for adjoining property under separate ownership or control; and land application site on the same tract of land permitted to a different owner.
- Increase setbacks for septage spreading to 500 ft. for food crops.
- Increase setbacks for septage spreading to 100 ft. for woods line.
- Include a setback for septage spreading of 3,000 ft. to a body of water that has been classified as “impaired.”
- Septage shall not be applied if the slope of the land is greater than 10 percent when septage is surface applied. This rule should be consistent with the rules for land application of sewage sludge, 15A NCAC 02T .1109 (b) (1) (G).
- A Global Positioning System (GPS) data compatible with the Department’s data logger shall be provided for all proposed septage sites, regardless of size.
- Applicants proposing to land apply septage, regardless of number of acres, shall provide a plan for monitoring soil moisture labels and the depth to seasonal wetness to determine when land application can occur without impacting ground water or hydraulic overloading.
- Each septage site shall be posted with “NO TRESPASSING” signs. Access roads or paths crossing or leading to disposal area shall be posted “NO TRESSPASSING” with signs must be placed thirty feet apart if the area is not fenced. A legible sign of at least two feet by two feet stating “SEPTAGE LAND APPLICATION SITE” with a DWM contact number for emergencies or complaints shall be maintained at each entrance to the land application area.

The following are recommended for inclusion in the final rule:

- Septage land application sites shall not be located in a critical watershed. Applicants who apply for a permit to land apply septage shall be given a map of critical watershed areas and impaired waters. A map of critical watersheds and impaired waters with location(s) of proposed septage site(s) included with the permit and checked by division staff.
- Information concerning the potential risks associated with Class B and Class A septage that are land applied and composted, respectively, shall be given to new applicants and existing permittees.
- Land application of septage shall cease upon the issuing of a Hurricane Warning or Hurricane Watch until the incident subsides. Watches and warnings are posted on the National Weather Services' website located at: [www.weather.gov](http://www.weather.gov). Watch and warning information can also be obtained by calling the local National Weather Service Office that serves the respective county.

- Septage shall be incorporated into the soil for reduction of odors, pathogen transport and runoff of contaminants to adjacent properties and/or surface waters.
- Septage shall be tested for total coliform, and for the specific pathogens: Salmonella, E. Coli, and Staphylococcus aureus (MRSA).
- Septage shall be tested for the presence of PBDEs and triclosan to establish a baseline level for these emerging contaminants.
- Commercial-Industrial septage from industries that use radioactive substances in their processes for medical or industrial purposes shall be tested for levels of radionuclides specific to that industry.
- In addition to nitrogen, septage shall be tested for phosphorous with regulatory levels set by the state.
- Property owners within a one-mile radius of a proposed septage site shall receive written notification from a new applicant who has applied for a permit to land apply septage or a permittee who wishes to renew an existing permit or modify an existing permit to apply septage 30 days prior to the land application event. The property owner may then submit a request for a public hearing, based on the permittee's application to land apply septage.
- Notification shall include bilingual door to door notification to all residents over the age of 18.
- The septage permits should be recorded with the Register of Deeds and any subsequent deed of land that has been applied with septage shall contain a disclosure of septage applications at any time on property. The disclosure shall state how the septage was applied, (i.e.) surface spreading, incorporation or injection, dates of application, total amount applied, and origins of septage.

### **Background for recommended changes to proposed septage rules**

#### Protection of human health, environment and surface waters through increased setbacks.

North Carolina has a wealth of rivers, lakes, streams, and wetlands. Its coastal region has some of the most beautiful beaches and coastal waterways in the United States. Despite their often pristine appearance, many of North Carolina's surface waters have been designated as "impaired." Impairment has been designated for 406 streams, rivers, and creeks; 8 freshwater wetlands; 19 lakes, reservoirs, and ponds; and 52 estuaries, bays and coasts. North Carolina ranks in the top quarter compared with other states for polluted surface waters.

Pathogens are reportedly the number one polluter of estuaries, bays and coasts in North Carolina, and the second source of pollution of streams, rivers and creeks. Our state ranks 6th in the nation for pathogen impairment of its estuaries, bays and coasts by pathogens,

and North Carolina ranks 8th in the nation for nutrient pollution of its estuaries, bays and coasts.<sup>1</sup>

North Carolina's primary industry, agriculture, has through the years decreased dramatically. In a recent interview, NC Commissioner of Agriculture Steve Troxler noted that North Carolina has lost about 1 million acres of farm land since 2000, and is leading the nation in disappearing agricultural land.<sup>2</sup>

The number of farms in North Carolina has slowly and steadily decreased, from a peak in 1948 of 302,000 farms, to an all-time low of 52,000 farms in 2004. North Carolina has less than 17 percent of the farms than it had in the late 1940s. The trend continues as farmers get older, children move to the city, and farmers are forced to sell precious land to commercial developers. Despite the loss of farms, agriculture remains vital to North Carolina's economy as a whole, and is a major contributor to the economy of several rural counties.<sup>3</sup>

Our farmlands, surface waters, environment, and societal health are inextricably connected, and subject to pollution and devastation due to human activities. All of these must be protected from harmful pollutants that can result in disease or contamination. One source of potentially harmful pollutants is septage. The constituents of domestic septage are similar to those of sewage sludge (aka, biosolids), though in many cases septage can be much stronger and more concentrated.<sup>4</sup> Sewage sludge not only contains wastes from domestic sources, but wastes from industry, hospitals, medical clinics, veterinary clinics, dental clinics, funeral homes – any business or household linked to a city sewer system which flows into a sewer line, leachate collected from landfills, and septage that is transported to and disposed of at a wastewater treatment plant.

#### Septage constituents.

Septage contains many of the same constituents found in sewage sludge. Sewage sludge has been found to contain pathogens (various bacteria and human excreted viruses such as Hepatitis A, Polio, Salmonella and E. Coli) and antibiotic-resistant strains; protozoa;

---

<sup>1</sup>NC Clean Water Act Scorecard, [http://www.scorecard.org/env-releases/water/cwa-county.tcl?fips\\_county\\_code=37165](http://www.scorecard.org/env-releases/water/cwa-county.tcl?fips_county_code=37165)

<sup>2</sup> “NC leads U.S. in losing farmlands,” Beth Velliquette, The Herald Sun, Feb. 10, 2009.

<sup>3</sup> Rural Economic Development Center, Data Bank, Agriculture in NC, Jan. 5, 2006, [http://www.ncruralcenter.org/databank/trendpage\\_Agriculture.asp](http://www.ncruralcenter.org/databank/trendpage_Agriculture.asp)

<sup>4</sup> National Small Flows Clearinghouse, [http://www.nesc.wvu.edu/pdf/WW/publications/eti/Septage\\_gen.pdf](http://www.nesc.wvu.edu/pdf/WW/publications/eti/Septage_gen.pdf)

parasitic worms (*Giardia*, *Cryptosporidium*); fungi; toxic metals (mercury, arsenic, cadmium, chromium, lead, beryllium, etc.); more than 500 synthetic chemical compounds, typically derived from fossil fuels, including chemicals from medicines and consumer products; industrial solvents; asbestos; hormones; pharmaceuticals; endocrine disrupting compounds; dioxins; disinfectants; fragrances; chlorinated pesticides (DDT, dieldrin, aldrin, endrin, chlordane, heptachlor, lindane, mirex, kepone); flame retardants (PBDEs); polynuclear aromatic hydrocarbons (PAHs); radioactive materials from hospitals, treatment facilities, and research labs; and an array of banned substances, such as Polychlorinated biphenyls (PCBs), still found in sewage sludges today.<sup>5</sup>

Data used by the U.S. Environmental Protection Agency (EPA) in developing regulations for septage had the lowest metal concentrations among the nine data sets that could be compared.<sup>6</sup> However, the composition of septage is highly variable since it may consist of any number of substances disposed of in a porta-potty, toilet, sink or other household receptacle with a confined holding tank or septic system. A wide variety of household contaminants can enter into the wastewater flow from major sources within a house. The organic chemical content of these wastes come primarily from human excrement, soaps, detergents, water softeners, pesticides, drugs, oils, cleaning solvents, food wastes, and often include indiscriminate dumping of poisons, hazardous household chemicals and unknown mixtures disposed of in septage systems by house owners.

Though the specific constituents in septage have yet to be fully identified, collective characterizations of septage have been made by the EPA. These characterizations include:

- Excessive concentrations of nitrates in drinking water can cause physiological distress, e.g., methemoglobinemia;
- High phosphate discharges can cause eutrophication in surface waters;
- Lead, tin, iron, copper, zinc and manganese in high concentrations;
- High levels of sodium, chloride, sulfate, potassium, and magnesium that create health hazards; Excessive Biochemical Oxygen Demand (BOD) in septage discharges.
- Excessive Biochemical Oxygen Demand (BOD) in septage discharges.<sup>7</sup>

---

<sup>5</sup> "Survey of Organic Wastewater Contaminants in Biosolids Destined for Land Application." *Environmental Science and Technology*, Kinney et al, 40, (2006) 7207-7215.

<sup>6</sup> "Septage Quality and its Effect on Field Life for Land Applications," Harrison and Moffe, *Journal of the American Water Resources Association*, vol. 39, Issue 1, p.87-97, <http://adsabs.harvard.edu/abs/2003JAWRA..39...87H>

Septage contributes to the sludge mix after it becomes a part of the waste stream when disposed of at wastewater treatment plants; after it is mixed with sewage sludge for land application as a fertilizer; and after it is spread on dedicated sites which may eventually runoff into surface waters.

The following is a brief overview of some of the constituents found in *domestic septage* that pose a potential threat to: 1) surface waters, via discharge of effluent from wastewater treatment plants, and in runoff from land application both in septage and sewage sludge; 2) farmlands, via sewage sludge that is land applied on farmlands, and in runoff from land application both in septage and sewage sludge; 3) public health, via exposure to septage from adjacent properties or land application; via public drinking water supplies; via crops grown for human consumption on sludge applied farmlands; and via domestic animal products from livestock raised on sludge applied farmlands.

#### Pathogens.

Like sewage sludge, domestic septage can contain a mix of various bacteria and human excreted viruses such as Hepatitis A, Polio, Salmonella, Staphylococcus aureus (MRSA), E. Coli and antibiotic-resistant strains; protozoa; parasitic worms (Giardia, Cryptosporidium). Although total coliform content is tested after septage is treated, this is not an assurance that sludge is pathogen-free.

Recommendation: Due to the recent emergence of these pathogens in the environment, we recommend that after lime stabilization, DWM test septage for Salmonella, MRSA, and E. Coli, at a minimum, to determine at what levels these pathogens are being released into the environment via septage.

#### Pharmaceuticals, hormones and endocrine disrupting compounds.

Prescription drug sales rose by an annual average of 11 percent between 2000 and 2005. Prior to the economic downturn, Americans were filling more than three billion prescriptions a year; nationwide, more than 10 million women take birth-control pills, and about the same number are on hormone-replacement therapy. The testing for pharmaceuticals in U.S. waterways is a relatively new science, and practically every day

---

<sup>7</sup> “Contamination, Sources, and Hydrology,” Rail and Strauss, p. 37.  
[http://books.google.com/books?id=piO3GJkm2hIC&pg=PA37&lpg=PA37&dq=septage,+contaminants&source=bl&ots=T0dxOwMjg6&sig=vUhtWl4iUSQ2Q6FNerAKET4BZE&hl=en&ei=FPHISbLBEjgtgft54yfAw&sa=X&oi=book\\_result&resnum=1&ct=result#PPR18.M1](http://books.google.com/books?id=piO3GJkm2hIC&pg=PA37&lpg=PA37&dq=septage,+contaminants&source=bl&ots=T0dxOwMjg6&sig=vUhtWl4iUSQ2Q6FNerAKET4BZE&hl=en&ei=FPHISbLBEjgtgft54yfAw&sa=X&oi=book_result&resnum=1&ct=result#PPR18.M1)

there are new reports of pharmaceuticals and personal care products discovered in a city's drinking water supply.<sup>8</sup>

In 2002, the United States Geological Service (USGS) found traces of 82 different contaminants including natural and synthetic hormones, antibiotics, antihypertensives, painkillers and antidepressants in our water. According to the Environmental Protection Agency (EPA), those metabolites are virtually everywhere: water facilities of both urban and rural areas, groundwater, mountain streams, surface water and domestic wells.<sup>9</sup>

The drugs that we take are not entirely absorbed by our bodies, and are excreted and ultimately are passed into septic tanks, wastewater, surface water, and onto land as a "faux fertilizer." The vast majority of the population still subscribe to the belief that flushing pharmaceuticals down the toilet is the best way to dispose of unwanted pharmaceuticals and other unwanted prescription products.

Researchers are finding that mixtures of chemicals can lead to effects at much lower levels than do single chemicals, and that low-level exposure can often induce results not seen at higher levels. The exact risk from continuous exposure to combinations of pharmaceuticals on humans is unknown; however, recent studies have found alarming effects on human cells and wildlife.

Studies have linked hormone exposure to reproductive defects in fish and environmental exposure to antibiotics<sup>10</sup> to the development of drug-resistant germs.<sup>11</sup> Endocrine disrupting compounds found in effluent discharged into tributaries from wastewater treatment plants are capable of disrupting the endocrine systems of fish and birds essential to maintaining a healthy ecosystem.

---

<sup>8</sup> "Probe: Pharmaceuticals In Drinking Water: Widespread Trace-Level Contamination Found In U.S. Water Supply, AP Investigation Shows," CBS Special Report, March 10, 2008, [http://www.cbsnews.com/stories/2008/03/10/health/main3920454\\_page2.shtml](http://www.cbsnews.com/stories/2008/03/10/health/main3920454_page2.shtml)

<sup>9</sup> "Pharmaceuticals, Hormones, and other Organic Wastewater Contaminants in US Streams," USGS, June 2002, <http://toxics.usgs.gov/pubs/FS-027-02/index.html>

<sup>10</sup> "Sex-Changing Fish: Caused by Contamination or Nature?" *Environ. Sci. Technol.*, **2009**, *43* (6), pp 1663–1664, <http://pubs.acs.org/doi/full/10.1021/es8036912?cookieSet=1>

<sup>11</sup> "Is Pollution Driving Antibiotic Resistance?" Dr. William Gaze, National Environment Research Council, Feb. 2009, <http://planetearth.nerc.ac.uk/features/story.aspx?id=207>

A 2002 USGS study documented the presence of emerging contaminants, including prescription and non-prescription drugs, hormones, and other wastewater compounds, in a network of 139 targeted streams across the United States. The study found that in the Boulder Creek, upstream, where the water flows clear out of the Rocky Mountains, the ratio of male to female fishes is 50-50. Downstream, below the Boulder wastewater-treatment plant, the females outnumber the males by 5 to 1. About 10% of the fish had both male and female sexual characteristics.<sup>12</sup>

The widespread use of “anti-bacterial soaps” by our populace to ward off threats of germs, contain triclocarbon, an endocrine disrupting compound. A relative of triclocarbon is another chemical called triclosan, which may increase the antibiotic resistance of bacteria in the environment,<sup>13</sup> and reduce algae diversity in streams.<sup>14</sup> In one study of triclocarbon, a wastewater treatment plant discharged about 3% of triclocarbon molecules in effluent into a river; however, 75 % of the initial mass accumulated in sludge, where it remained chemically unchanged.<sup>15</sup>

Other studies have found that levels of triclosan and triclocarbon resist degradation (50% and 76 % respectively) and remain unchanged by aerobic and anaerobic digestion in a WWTP. Both these unregulated chemicals have been found to concentrate in sewage sludge that is spread on land. Triclosan disrupts the functions of the endocrine system in cultured cells while triclocarbon contains trace amounts of dioxins, a known carcinogen.<sup>16</sup> None of these are federally regulated, tested for or removed. Septage applied to land is classified as Class B septage, which means its pathogen content is questionable.

Recommendation: From the vast array of pharmaceuticals, hormones, and personal care products containing endocrine disrupting compounds that enter the waste stream through bodily excretion, and through disposal by flushing them down the toilet, we recommend

---

<sup>12</sup> “Pharmaceuticals, Hormones, and Other Organic Wastewater Contaminants in U.S. Streams,” USGS Fact Sheet, [http://toxics.usgs.gov/regional/emc\\_surfacewater.html](http://toxics.usgs.gov/regional/emc_surfacewater.html)

<sup>13</sup> “Resistance to triclosan in laboratory and clinical strains of *Escherichia coli*,” McMurry et al, FEMS Microbiology Letters, v. 166, no. 2, 1998

<sup>14</sup> “Effects of three pharmaceutical and personal care products on natural freshwater algal assemblages,” Wilson et al, Environmental Science and Technology, v. 37, no. 9, 2003.

<sup>15</sup> “Sludge Recycling Sends Antiseptic Soap Ingredient to Agriculture,” Science Daily, April, 2006, <http://www.sciencedaily.com/releases/2006/04/060426183044.htm>

<sup>16</sup> “Antimicrobials accumulate in municipal sludge used to fertilize crops,” American Scientist Observer, 2006, <http://www.americanscientist.org/template/AssetDetail/assetid/54434>

that DWM test for one chemical – triclosan – to determine the levels at which this chemical is being re-released into the environment via septage.

### PBDEs.

Polybrominated diphenyl ethers (PBDEs), a class of flame retardants found primarily in household dust and sewage sludge, are also likely to be present in septage. PBDEs are a class of flame brominated flame retardants that are persistent in the environment and bioaccumulative, building up in people’s bodies over a lifetime.<sup>17</sup> Brominated fire retardants are in hundreds of everyday household products, including furniture, computers, TV sets and automobiles.

A growing body of research in laboratory animals has linked PBDE exposure to an array of adverse health effects including thyroid hormone disruption, permanent learning and memory impairment, behavioral changes, hearing deficits, delayed puberty onset, decreased sperm count, fetal malformations and, possibly, cancer. Research in animals shows that exposure to brominated fire retardants in-utero or during infancy leads to more significant harm than exposure during adulthood, and at much lower levels. Some of these studies have found toxic effects at levels lower than are now detected in American women. New evidence raises concerns that low levels of PBDE exposure pose a significant health risk to developing animals, and may pose a health risk to fetuses, infants and children at levels currently detected in American women.<sup>18</sup>

Recommendation: We recommend that testing of septage include testing for PBDEs to determine the levels at which these chemicals are being re-released into the environment via septage.

### Phosphorus.

Phosphorus is a constituent of agricultural fertilizers, manure, and organic wastes in sewage, and industrial effluent. Excess phosphorus in lakes is a common cause of eutrophication. Nutrient pollution, which causes unhealthy levels of nitrogen and phosphorus in lakes and rivers (as well as the dead zones in coastal areas), is one of the most widespread, but least addressed water protection issues. While the federal Clean Water Act regulates point sources (wastewater treatment plants, industrial sources, etc.) for nutrient pollution, most of it comes from unregulated nonpoint sources, namely

---

<sup>17</sup> “PBDEs in Human Breast Milk,” Environmental Working Group, <http://www.ewg.org/reports/mothersmilk>

<sup>18</sup> “Health Risks of PBDEs,” Environmental Working Group, <http://www.ewg.org/node/8412>

agricultural fertilizer runoff. This is a terrible problem for the health of our rivers and lakes.

Nutrient pollution causes eutrophication when excess nitrogen and phosphorus feed algal blooms, which then starve the water body of dissolved oxygen killing a wide range of aquatic life. According to EPA data, over 90% of the rivers in the continental US currently exceed nutrient water quality standards, putting these water bodies at risk for eutrophication and resulting environmental impacts.

A new study published in Environmental Science & Technology puts the cost of nutrient pollution in dollars. The study was led by Professor Walter Dodds of Kansas State University, a widely respected authority on freshwater ecology. It analyzes the economic impact of nutrient pollution and eutrophication across a range of sectors. The total cost exceeds \$4 billion a year, and according to the study's authors, this is a conservative estimate.<sup>19</sup>

In the past, ground-water scientists subscribed to the theory that phosphorus in ground water migrated little, and hence was of minimal ecological concern. However, there is a wealth of information and new research that point to phosphorous as a contaminant of both ground waters and surface waters. A recent report by the USGS entitled, "Phosphorous Doesn't Migrate in Ground Water? Think Again!" has challenged has challenged scientists to re-evaluate their understanding of the mobility of phosphorus in ground water and of interactions between ground water and surface water.<sup>20</sup>

Recommendation: We recommend that DWM test for phosphorous levels and establish regulatory limits for phosphorus in septage before land applying and/or before disposal at WWTPs.

Slope.

Septage shall not be applied if the slope of the land is greater than 10 percent when septage is surface applied.

Recommendation: We are recommending that the rule for applying septage on slopes be consistent with the slope distances established for land application of sewage sludge.

---

<sup>19</sup> Clean Water Act and Water Quality, March, 2009, [http://www.glelc.org/blog/clean\\_water\\_act/](http://www.glelc.org/blog/clean_water_act/)

<sup>20</sup> "Phosphorous Doesn't Migrate in Ground Water? Think Again!," USGS report, March, 2008, [http://toxics.usgs.gov/highlights/phosphorous\\_migration.html](http://toxics.usgs.gov/highlights/phosphorous_migration.html)

### Signs.

Signs for dedicated septage sites should be consistent with the 2T rules for land application of sewage sludge (15A NCAC 02T .1109 (b) (2) (C) which states that “public access to land associated with a dedicated land application site shall be restricted continuously while the land is permitted for active use and for one calendar year after the final residuals land application event.” However, this section of the 2T rules fails to address the specific types of restrictions to be used. Therefore, we recommend that signage required by the Septage Management .0800 under section 15a NCAC 13B .0838 (a) (2), restricting public access to septage sites be upgraded.

The public must be able to know who to contact at DWM with questions, complaints and emergencies concerning septage. A septage site should not be easily assessable to the public, and therefore should be either fenced or reinforced with additional signs and contact information for the division responsible for the site.

Recommendation: We are recommending that NO TRESPASSING signs contain a contact number for DWM with the number of the permit listed on the sign. If a fence is not erected around the property, the property should have additional signage spaced 30 ft. apart to act as informational barrier to a dedicated septage site.

### Inclement weather events.

Heavy rains and flooding can and does result in runoff of septage into nearby surface waters and onto adjacent properties. The current rules prohibit the spreading of septage during rains; however, there is recent documentation shows that runoff from sewage sludge from a permitted field into Cane Creek after a spreading event one day prior to rains from Hurricane Hanna.<sup>21</sup> It is extremely likely that many of our surface waters have been the recipients of septage and sludge due to runoff during an inclement weather event. A Hurricane Warning issued by the National Hurricane Weather Center consists of a warning that sustained winds 64 kt (74 mph or 119 km/hr) or higher associated with a hurricane are expected in a specified coastal area in 24 hours or less. A Hurricane Warning can remain in effect when dangerously high water or a combination of dangerously high water and exceptionally high waves continue, even though winds may be less than hurricane force. A Hurricane Watch is an announcement for specific coastal areas that hurricane conditions are possible within 36 hours.<sup>22</sup>

---

<sup>21</sup> “Stop Trashing Our County,” YouTube video, <http://www.youtube.com/watch?v=GdvfWUEEOpo>

<sup>22</sup> National Hurricane Weather Center, <http://www.nhc.noaa.gov/aboutgloss.shtml#TROPSTRM>

Recommendation: Based on the information above we recommend that land application of septage shall cease upon the issuing of a Hurricane Warning or Hurricane Watch until the incident subsides.

Incorporation of septage into soil.

The proposed changes to the rules for land application of septage state that land application may consist of injection, incorporation and surface application.

Recommendation: We recommend that septage be incorporated into the soil for reduction of odors, pathogen transport and runoff of contaminants to adjacent properties and/or surface waters.

Increased setbacks.

We have an opportunity to provide further protections for our surface waters, coastal waters, and groundwater by implementing increased setbacks. Setbacks to surface and coastal waters should be NO LESS than the 500 ft. setback in the proposed septage rules 15A NCAC 13B .0837 for the following: (1) Residence not occupied by the applicant; (2) Place of business, other than the septage management firm office, or place of public assembly; (3) Well or Spring.

Recommendation: We are recommending increased setbacks of 500 ft. to adjoining properties; surface waters, and fresh waters (Class WS-I, WS-II, WS-III streams; Class WS IV, WSV; Class B streams, Class C streams); tidal salt waters (Class SA, SB, SC); Outstanding Resource Waters (ORW) and High Quality Waters (HQW) designations; SA and SB waters; and Primary Nursery Areas (PNA) designations; trout waters (Tr) and all designations for swim waters; nutrient sensitive waters; and groundwater lowering ditches and devices.

Under the same section the 500 ft. setback would extend to adjoining property under separate ownership or control; food crops; and wetlands (WL) and Unique Wetlands (UWL). Setbacks to woods line should be increased from 5 ft. to a setback of 100 ft. A setback of 3,000 ft. should be established for bodies of water designated as “impaired.”

Due diligence.

It is important that applicants who submit an application or who have a permit to apply septage receive complete information on septage, which include the potential risks to the environment, human health, surface waters, ground water, and public health from septage, as well information regarding the known and unknown constituents in septage.

Recommendation: Information concerning the potential risks associated with Class B and Class A septage that are land applied and composted, respectively, shall be given to new applicants who apply for a permit to land apply septage as well as permittees with existing permits to spread septage.

Written notification of septage spreading.

In addition to the trespassing signs discussed above, there are two additional types of disclosure that should be incorporated into the rules. The first is actual notice to surrounding property owners through written notification prior to application of the septage. The recommended distance of property owners within one mile of the site would not be a hardship as most counties now have their property and tax records on-line so that ownership can be fairly easily established. Rural sites would impact far fewer residences than urban sites. The recommended time period of 30 days prior to the land application would provide the surrounding property owners to find out more about the permit and scope of the application. We recommend that the rules also provide an affected landowner the ability to request a public meeting or hearing regarding new permits or changes (modifications) to permits. Notifications sent to property owners by the permittee would be sent to the Division for record-keeping purposes of property owners notified.

Recommendation: The permittee should notify adjoining property owners within a one-mile radius of the septage site through written notification 30 days prior to the land application event from an applicant who has applied for a new permit to spread septage or a permittee with an existing permit who has applied for a renewed permit or modification of an existing permit. The adjoining property owner has the option of submitting a request for a public hearing on either action. Many residents who are not property owners or English-speaking also need to be notified of septage spreading. We are recommending that the Division conduct bi-lingual door to door notification of all residents over the age of 18.

Recordation of land disposal permits.

The second notice is to future prospective purchasers so that they are able to discover through a deed search that the property was used as a septage disposal site. This would protect sensitive populations, such as children, and the public through consumption of crops that may be grown prior to the proscribed safe time period. The accumulation of metals is of special concern to organic growers who need to have their land certified.

The agency already has a rule in place, 15A NCAC 13B.0204 that could easily be clarified to include septage sites. That rule requires the recordation of the land disposal

permits with a provision added to subsequent deeds that the site was used as a septage site. This would allow a prospective purchaser to determine if the previous use of the property would interfere with what that purchaser intends for the property.

Recommendation: The current rule requiring the recordation of permits for land application should be amended to include septage sites.

We appreciate you keeping us apprised of the status of the proposed changes to the septage rules. Thank you for your consideration.

Sincerely,

Susan Dayton  
Statewide Coordinator  
North Carolina Healthy Communities  
Blue Ridge Environmental Defense League  
(336) 525-2003  
[sdayton@swcp.com](mailto:sdayton@swcp.com)  
[www.bredl.org](http://www.bredl.org)

Co-signers:

Tess Sanders  
Executive Director  
White Oak-New Riverkeeper Alliance  
P.O. Box 358  
Jacksonville, NC 28540  
910-382-1370  
[www.wonriverkeeper.org](http://www.wonriverkeeper.org)  
Member Waterkeeper Alliance

Mike Giles  
Cape Fear COASTKEEPER®  
NC Coastal Federation  
Wilmington Field Office  
131 Racine Drive Suite 101  
Wilmington, NC 28403  
(910)790-3275 off.  
(910)231-6687 cell  
(910)790-9013 fax  
[capefearcoastkeeper@nccoast.org](mailto:capefearcoastkeeper@nccoast.org)

Heather Jacobs Deck  
Pamlico-Tar Riverkeeper  
Pamlico-Tar River Foundation  
Phone: (252) 946-7211  
Cell: (252) 402-5644  
Fax: (252) 946-9492  
[www.ptrf.org](http://www.ptrf.org)  
Waterkeeper Alliance Member

Hope Taylor  
Executive Director  
Clean Water for North Carolina  
2009 Chapel Hill Rd.  
Durham, NC 27707  
(919) 401-9600  
[hope@cwfn.org](mailto:hope@cwfn.org)  
[www.cwfn.org](http://www.cwfn.org)

Elaine Chiosso  
Haw RIVERKEEPER®  
Haw River Assembly  
P.O.Box 187  
Bynum NC 27228  
(919) 542-5790  
[www.hawriver.org](http://www.hawriver.org)

C. David Merryman  
Catawba RIVERKEEPER®  
Catawba Riverkeeper Foundation, Inc.  
421 Minuet Ln. Ste. 205  
Charlotte, NC 28217  
Office: 704.679.9494  
Cell: 704.770.5530  
Fax: 704.679.9559

Hartwell Carson  
French Broad RIVERKEEPER®  
RiverLink  
PO Box 15488  
Asheville, NC 28813-0488  
828-252-8474  
Fax: 828-253-6846  
[riverkeeper@riverlink.org](mailto:riverkeeper@riverlink.org)  
[www.riverlink.org](http://www.riverlink.org)  
[www.waterkeeper.org](http://www.waterkeeper.org)  
WATERKEEPER® ALLIANCE member

Dean Naujoks, Yadkin Riverkeeper  
Yadkin Riverkeeper, Inc.  
2435 Westfield Ave.  
Winston Salem, NC 27103  
336-293-8105  
[www.yadkinriverkeeper.org](http://www.yadkinriverkeeper.org)  
WATERKEEPER® ALLIANCE member  
[www.waterkeeper.org](http://www.waterkeeper.org)

Friends of Rich Fork Creek  
Mary Criddlebaugh  
3632 West Lexington Ave. Extension  
High Point, NC 27265  
[Cridlebaugh@northstate.net](mailto:Cridlebaugh@northstate.net)  
336-889-2567

Christine Ellis  
Waccamaw RIVERKEEPER®  
A Program of Winyah Rivers Foundation  
1270 Atlantic Avenue  
Conway, SC 29526  
(843) 349-4007

wrk@coastal.edu  
[www.winyahrivers.org](http://www.winyahrivers.org)

WATERKEEPER® ALLIANCE member  
[www.waterkeeper.org](http://www.waterkeeper.org)