



NDEQ ENVIRONMENTAL UPDATE

Nebraska Environmental Projects to Receive Recovery Funds

A number of environmental programs in Nebraska are receiving support from the American Recovery and Reinvestment Act of 2009 (ARRA). These are funds provided to Nebraska through the U.S. Environmental Protection Agency, and will then be distributed by the state to local efforts that protect the environment and stimulate the economy.

Six programs administered by NDEQ have been allocated ARRA funds by the U.S. EPA. They are:

Clean Water State Revolving Fund

Nebraska has been awarded approximately \$20 million in ARRA funds that can be used for wastewater treatment facility improvements, which are known as Clean Water projects.

The ARRA funds would supplement the state's [Clean Water State Revolving Loan Fund](#). The CWSRF provides low-interest loans to communities for construction of wastewater treatment facilities and sanitary sewer collection systems, to alleviate public health and environmental problems. NDEQ's CWSRF



loan program annually surveys the wastewater needs of communities across the state, and develops an Intended Use Plan that prioritizes those needs and is the basis for allocating the loans.

The \$20 million in ARRA funds would be blended with approximately \$34 million of Nebraska's existing CWSRF loan funds. Prior to the addition of ARRA funds, the 2009 CWSRF Intended Use Plan had targeted six communities to receive low-interest loans in 2009, with numerous others communities awaiting future funding. The addition of the ARRA funds

(continued on page 2)

Chemigation: Frequently asked questions and the answers you need to get those fertilizers and pesticides on the fields.

'Tis the Season: That time of year has rolled around again -- blue-green algae, microsystems and lake postings.

Table of Contents

NDEQ Recovery Funds..... P 1

Blue-green Algae P 3

Adopt-a-Highway.....P 4

Fremont Lake Treatment.....P 5

Lake Ogallala Project.....P 6

Air WavesP 8

Recycling Directory P 8

Chemigation P 9

Shell Creek Reward..... P 12

Recovery Funds (continued)

expanded this list to 16 communities that can receive a combination of low-interest loans and principal forgiveness. These communities are being offered a package including a 50 percent low interest loan from existing state CWSRF funding, a 25 percent no-interest loan of ARRA funds, and 25 percent principal forgiveness of ARRA funds.

Drinking Water State Revolving Fund

This program is administered jointly by NDEQ and the Nebraska Department of Health and Human Services – Health Division. Nebraska has been awarded approximately \$19.5 million in ARRA funds, which will be combined with \$30 million in existing funds from the [Drinking Water State Revolving Loan Fund](#). The DWSRF provides low-interest loans to support improvements in communities' drinking water systems.

Twenty-five percent of the \$49.5 million will be available in the form of grants to communities. The remaining 75 percent will be issued to communities as low-interest loans at 3 percent.

Leaking Underground Storage Tank Program

NDEQ has been awarded \$2.3 million in ARRA funding for the investigation and cleanup of 60 leaking underground storage tank sites in 43 Nebraska communities.

This portion of ARRA funding can only be used at sites where there is no viable responsible person to do the cleanup. The sites selected by the state meet this federal requirement, and have been ranked by NDEQ as priority sites needing cleanup or further investigation. Funding would be used for:

- Cleanups – Nine leaking underground storage tank sites in eight communities have completed the investigation phase and are ready to proceed with the remediation (cleanup) process. It is expected that over the next two years, about \$1.3 million will be spent on cleanup at these sites.
- Site Investigations – ARRA funds would be used to complete site investigation at 51 sites in 36 communities. Contamination has been reported at these sites and an initial investigation is necessary to determine the extent and potential impacts of contamination. At the conclusion of the investigation, a recommendation will be made to close the site or perform further remedial actions. It is expected that about \$1 million will be spent on the investigation at these sites.

In addition to ARRA funding, NDEQ's Petroleum Remediation Program will continue to provide funds from the Petroleum Release Remedial Action Reimbursement

Fund to help investigate and clean up additional sites across the state. Last year, about \$8.6 million was used for cleanup and investigation costs through this state program.

Diesel Emission Reduction Act

Nebraska has received \$1.73 million in ARRA funds from the U.S. Environmental Protection Agency to be used in the state program portion of the federal Diesel Emissions Reduction Act (DERA). The objective of these ARRA funds is to stimulate the economy, create and/or preserve jobs, and reduce diesel emissions.

Many types of eligible projects will be encouraged through this grant application process. The types of projects that NDEQ will be focusing efforts on include:

- 1) using retrofit technologies to reduce diesel emissions from large vehicles such as buses and trucks;
- 2) diesel exhaust controls;
- 3) idle reduction technologies; and
- 4) engine upgrades and replacement.

Examples of fleets that could benefit by the technologies include: school buses, transit buses, medium duty truck, heavy duty truck, construction and agriculture.

NDEQ is currently seeking grant applications. Proposals are due to the agency by June 30, 2009. For grant applications and forms, go to DEQ's web site, select Requests for Proposals, then select [Nebraska Clean Diesel Program](#).

604 (B) Water Quality Planning -- EPA has awarded NDEQ \$202,500 for Water Quality Planning. NDEQ will provide these funds to the Nebraska Department of Natural Resources to continue ground and surface water quality and quantity planning for the Platte River Conjunctive Management Project. The project will help to optimize activities to best protect water quality and quantity for all uses on the Platte River, including endangered species, irrigation, and public recreation and drinking water.

Superfund Cost Share – A cost share agreement not yet been finalized with Nebraska, but EPA has allocated approximately \$30 million in Recovery Act funds to the Omaha Lead Superfund site. The funds would be used to significantly increase the pace of ongoing long-term soil cleanup and lead-based paint stabilization activities.

For more information on the nationwide Recovery Act program, please see page 7 for links to the national, state and NDEQ recovery web pages.

Weekly Sampling Measures Blue-Green Algae Toxins, Bacteria at Nebraska Lakes

During the summer months, Nebraska's lakes are a popular destination for activities such as boating, water skiing and swimming. In an effort to provide the public with information about current water quality and potential risks, the Nebraska Department of Environmental Quality conducts weekly sampling at public beaches from the beginning of May until the end of September and posts the information on the agency web site.

NDEQ and its partners (the Nebraska Game and Parks Commission, Natural Resources Districts and other entities) obtain their weekly samples at publicly-owned and operated swimming beaches and public lakes that allow power boating. In 2008, 51 swimming beaches at 47 lakes were included in the network.

What is monitored at the beaches?

In 2005, NDEQ combined the monitoring of two aspects of water quality – Microcystin (toxic blue-green algae) and *E. coli* bacteria -- into a single statewide monitoring network. Samples that are collected early in the week are typically posted on the web site by Friday morning. The public can access the weekly results by going to: [Toxic Blue-Green Algae and Bacteria Sampling Results](#).

Toxic blue-green algae – potential effects and the Health Alert system

Microcystin is a toxin that is released when certain strains of blue-green algae die and break down. Blue-green algae look like thick green paint or oil floating on the surface of a lake and often exhibit an offensive odor. If concentrations of the toxin are high in a lake, it can cause a number of unpleasant health effects to recreational users including; skin rashes, lesions, and blisters. If swallowed, the toxin can cause flu-like symptoms such as headaches, nausea, diarrhea or vomiting.

When levels of microcystin exceed 20 micrograms per liter, the Departments of Environmental Quality and Health and Human Services jointly issue a Health Alert. During a Health Alert at a public lake, signs are posted advising the public to use caution. Affected swimming beaches will be closed. Boating and other recreational activities will be allowed, but the public will be advised to avoid full body contact with the water where one would become submerged,

and to particularly avoid drinking the water.

[Click here for more information about Health Alerts and toxic algae](#)

E. coli bacteria – potential effects and how the data is used

The state measures the levels of *E. coli* bacteria in state recreational lakes because high levels can be an indicator of pathogens that can cause illnesses. Swallowing water containing these types of bacteria can cause nausea and other stomach flu-like symptoms.

E. coli bacteria is considered to be at high levels when the counts are greater than 235 counts of bacteria per 100 milliliters of water. The state does not issue Health Alerts regarding high bacteria at lakes. Instead, weekly bacteria information is posted on the web site, so that the public can decide whether or not to use the lake. The state provides the following guidelines to consider regarding bacteria:

- ✓ Avoid situations which could cause you to swallow lake water
- ✓ When levels are high, shower after coming in contact with the water
- ✓ If you have been in contact with lake water, wash hands before eating
- ✓ Use particular caution after a heavy rain, because runoff can cause higher levels of bacteria

[Click here for more information about bacteria and its potential health effects.](#)

2008 Results

In 2008, the Beach Monitoring program collected a total of 1,022 microcystin samples and 957 *E. coli* bacteria samples. Often bacteria present a problem early in the recreation season as a result of rain and run-off from land, whereas blue-green algae (microcystin) impacts are more likely to occur later in the summer, after lake water has warmed up and algae have had time to grow. The data indicated:

- Microcystin (toxic blue-green algae) sampling in



(continued on p. 4)

NDEQ Crew Cleans Up

For more than 15 years, volunteer crews from NDEQ have been making a twice-yearly trip to a two-mile stretch of highway north of Valparaiso to pick up litter.

The activities are part of the Nebraska Department of Roads' (NDOR) "Adopt a Highway" program, which assigns stretches of state highways to individuals and organizations who volunteer to collect litter from the ditches and rights-of-way.

NDEQ's pick-up activities are conducted twice a year, once in the spring and once in the fall. Agency employees, their families and their friends can volunteer their time, and the group meets in Valparaiso at a pre-arranged date and time. The activity's coordinator at NDEQ, Steve Danahy, says that he needs a minimum of six volunteers for the event, and a group of eight to ten is better.

The squad splits into two groups, with each



group taking one of the two miles in NDEQ's designated section. Carrying bright orange collection bags, each group walks the ditch on one side of the mile, then crosses over and works back to their vehicle. Trash is separated from aluminum cans, which are kept for recycling.

Following the ditch walk, the entire group meets in Valparaiso for lunch and decompression. This spring's crew consisted of Steve Danahy, Mark "Buzz" Herman, Brad Reid, Shelley Kaderly, Tom Buell, Steve Smith, Jim Bunstock and Kerin Bunstock.

Blue-green Algae (continued)

2008 resulted in Health Alerts being issued at eight lakes with the periods of time beached were closed spanning from two to eleven weeks. Of the 1,022 samples that were collected, 34 (3%) exceeded the health alert level of 20 parts per billion. From 2005 through 2008, NDEQ collected more than 3,000 microcystin samples from 58 lakes across the state. Seventeen (29%) of these lakes had at least one sample with concentrations above 20 parts per billion.

- Of the 957 bacteria samples taken and analyzed in 2008, 82, or 9%, exceeded 235 counts per 100 milliliters of water. The total number of lakes in the network that exhibited high levels of E. coli varied from zero to six in any given week. During the month of June, 23 samples exceeded 235, while in August,

only four samples exceeded the 235 count limit.

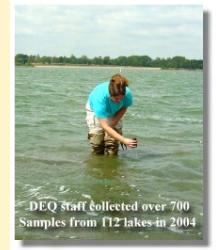
For more information

To view the weekly readings for toxic algae and bacteria, go to: <http://www.deq.state.ne.us/Beaches.nsf/LakeSampling09>.

If you have questions about the sampling program at Nebraska public lakes or you suspect a public lake is experiencing a water quality problem, contact NDEQ at (402) 471-2186 and ask to speak to someone in the Surface Water Unit or the Public Information Office.

If you have questions regarding sampling of a private lake, contact the University of Nebraska Water Quality Extension Program at (402) 472-7783, or (402) 472-8190.

If you experience health symptoms, notify your physician, and also report it to the Nebraska Department of Health and Human Services at (402) 471-8880. You can also contact the Nebraska Regional Poison Center at 800-222-1222 for more information.



Toxic Algae Awareness

Although toxic blue-green algae has always been a potential threat to public health, it became an issue of much greater concern in Nebraska in 2004.

The state's awareness of the issue became sharply focused in early May, when the Department of Environmental Quality (DEQ) received reports of a dog dying after drinking water containing algae from Buccaneer Bay, a residential sandpit lake near the Platte River, south of Omaha.

The autopsy conducted on the dog and water samples taken from the lake both confirmed high levels of the algae toxin Microcystin.

Treatment at Fremont Lake #20 Shows Impressive Results

A treatment project on Fremont Lake #20, conducted in 2007, has shown some impressive results in reducing levels of toxic algae and phosphorus at the lake.

The treatment project was a cooperative effort of the NDEQ, the Nebraska Game and Parks Commission and the University of Nebraska-Lincoln. Fremont Lake #20, one of a chain of sandpit lakes known as Fremont State Lakes, was the chosen site for this treatment project due to a number of unique characteristics.

The lake had historically tested high in phosphorus. High levels of phosphorus in a lake can lead to the growth of toxic algae, which had been a persistent problem at Fremont Lake #20. In fact, from June of 2004 through September of 2007,

68 of the 209 samples collected from the lake exceeded the toxic algae health alert threshold of 20 parts per billion of the toxin microcystin. This resulted in the beach being closed for 35 weeks, making this one of the most impacted public lakes in the state for toxic blue green algae toxins.

The other reasons the lake was chosen for alum treatment was due to its size (relatively small – 50 surface acres) and the fact that it is considered a “closed” system for phosphorus. Being a “closed” system means that it was determined that there were no major sources of external nutrient loading. Therefore, after treatment, there would not be a substantial new flow of nutrients into the lake.

The treatment process conducted in 2007 involved applying large amounts of alum into the lake. This alum binds with the phosphorus and pulls it down to the bottom of the lake, removing it from the water and burying it into the lake bed. State and University officials predicted that by binding the

phosphorus, this source of nutrition for toxic algae would be effectively removed. The expectation was that levels of both phosphorus and toxic algae would be greatly reduced.

Followup lake testing after the treatment was applied appears to prove those expectations to be true. As the alum was applied, there was an almost immediate and dramatic improvement in water clarity, according to NDEQ Environmental Assistance Coordinator Paul Brakhage. Phosphorus was reduced five-fold – from levels around 110 parts per billion in the summer of 2007, to around 21 parts per billion after the treatment was completed. There was also a dramatic reduction in toxic algae readings. Prior to treatment,

weekly readings were above the health alert threshold of 20 parts per billion for microcystin about 33 percent of the time. In 2008, there were no health alerts, and the highest reading was 0.23 ppb – nearly a hundred-fold below the health alert level.

Although this appears to be a successful treatment method at this lake, Brakhage said that alum treatment would only be feasible in limited applications. Due to cost, such treatment would not be feasible at large lakes and reservoirs, Brakhage said. In addition, if there are sources of additional nutrients flowing into a lake, such as an incoming stream, or farmland runoff, then the treatment may not be a long-term solution.

But, since Fremont Lake #20 is a groundwater-fed sandpit lake that has few sources of surface runoff, it is expected that the levels of phosphorus and toxic algae will continue to stay low for years to come.



Lake Ogallala Project Ready to Move Ahead

The on-again, off-again Lake Ogallala project is finally “on”, with physical re-engineering of the lake scheduled to begin in earnest in the fall of 2009.

Small project activities may take place earlier in the year, but large-scale dredging will wait until water levels in the lake can be dropped and access is accomplished.

The project is a joint venture involving the Central Nebraska Public Power and Irrigation District (CNPPID), the Nebraska Public Power District (NPPD), the Nebraska Game and Parks Commission (NGPC) and the Nebraska Department of Environmental Quality (NDEQ).

The project was subject to review and approval by the U.S. Army Corps of Engineers and this process resulted in a substantial delay. Final approval from the Corps was received on February 20, 2009, clearing the way for work to begin.

Now that the green light has been given, the task of re-shaping a portion of the Lake Ogallala basin can start. At stake is the health and viability of one of the state’s premier cold-water fisheries.

Lake Ogallala is located immediately downstream from Lake McConaughy on the North Platte River in Keith County. It was formed in the late 1930’s when the dredging of materials for the construction of Kingsley Dam resulted in a large borrow pit. Water supplied to Lake Ogallala is primarily from deep-water releases from Lake McConaughy.

The cold temperatures of the water in these releases have been shown to be ideal for survival and growth of salmonid fishes. Lake Ogallala has been known as one of the state’s most popular put-and-take trout fisheries, according to the Nebraska Game and Parks Commission.

Both the water quantity and quality of Lake Ogallala are dependent upon the conditions of Lake McConaughy. During the mid- and late 1970’s, escalating fossil fuel prices led to state and federal policies that encouraged the use of renewable resources, such as hydropower, to supply the



state’s electricity needs. In response to these policies, Central began construction of the Kingsley hydroelectric plant in 1981. Commercial operation began in 1984.

Prior to the installation and operation of the hydroelectric unit, water delivered to Lake Ogallala was sufficiently oxygenated to maintain aquatic life. However, once hydroelectric operations commenced, lake oxygen levels were measured to be near lethal levels for trout and other aquatic life in some areas of the lake, due to the change in the means of delivering water from one lake to the other.

During years of high water, the temperature of Lake McConaughy water released to Lake Ogallala is sufficient to support the cold-water fishery. However, reservoirs like Lake McConaughy trap sediment and other pollutants from the flowing waters in the upstream watershed. During years when water is plentiful, Lake McConaughy is subject to thermal stratification. This stratification (layering) of Lake McConaughy results in releases with depleted oxygen levels and oxygen-demanding pollutants, and oxygen demand exceeds oxygen production.

During low-water years, temperatures can be elevated, which can be a concern to the coldwater fishery. In an evaluation conducted from 1991-1994, the NGPC reported the trout fishery to be declining, with the average fish size dropping from 11.4 inches and 0.7 pounds to 10.3 inches

(continued on p. 7)



Water supplied to Lake Ogallala is primarily from deep-water releases from Lake McConaughy.

The cold temperatures of the water in these releases have been shown to be ideal for survival and growth of salmonid fishes. Lake Ogallala has been known as one of the

state’s most popular put-and-take trout fisheries, according to the Nebraska Game and Parks Commission.

Both the water quantity and quality of Lake Ogallala are dependent upon the conditions of Lake McConaughy. During the mid- and late 1970’s, escalating fossil fuel prices led to state and federal policies that encouraged the use of renewable resources, such as hydropower, to supply the

Keep Up to Date on Recovery Act Progress

These links will take you to:



[U.S. Government Recovery Pages](#)



[State of Nebraska Recovery Pages](#)



[NDEQ Recovery Pages](#)

Lake Ogallala (continued)

and 0.44 pounds. The deterioration was attributed to a combination of issues; water quality, loss of food sources, disappearance of plant life, and high levels of non-game fish such as carp, alewife and white suckers.

Following a fishery renovation in 1997, Lake Ogallala began to experience periodic observations of dead and stressed trout in the late summer of both 1999 and 2000, with the problem extending into the Sutherland Supply Canal. At this time the NDEQ assessed Lake Ogallala to be impaired, and included the water body on the 2002 clean Water Act Section 303(d) List. Once included on that list, it is required that steps be taken to identify pollutants and plans for their reduction.

Based on the unique features of Lake Ogallala, several agencies expressed an interest in developing a multi-faceted management plan that takes into account and balances all uses.

From this collaboration comes the corrective action plan now being pursued. Lake Ogallala is "L" shaped, with the two arms showing considerable differences. The North-South basin is parallel to Kingsley Dam and resembles a typical reservoir. That is, this arm is deeper, has steep gradient banks and no visible current. The Keystone Basin runs perpendicular to Kingsley Dam and at times reflects a river more than a reservoir, with a uniform depth, narrow channel, visible velocity and shorter detention times.

Water released from Kingsley Dam currently flows through the south side of the basin, where the channel is deeper. Consequently, the shallower north side receives little water flow and tends to become stagnant. This con-

tributes to low oxygenation levels and higher temperatures, and makes it an unfit habitat for the fish population.

The renovation now underway will create a 50-foot-wide channel through the north basin, running 7,000 feet from west to east. This channel will be dredged to a depth of eight feet, providing both the depth and the circulation that the Keystone Basin needs to re-establish its value as a fishery.

The partners have received more than \$700,000 in grant funding for the project, made up of a \$465,480 grant from the Environmental Protection Agency (EPA) and \$310,000 from the Nebraska Environmental Trust Fund. That funding was contingent upon approval from the Corps of Engineers, and now that approval has been granted, renovation work can begin as soon as weather permits..



Air Waves Capsules

The Nebraska Department of Environmental Quality's Air Quality Division publishes "Air Waves", a bulletin intended to keep you up to date on air quality issues in Nebraska. Here are synopses of a number of articles from that bulletin. Click on the hyperlinks to see the full text of an article.

Wind & Solar Power NDEQ Air Monitor

The NDEQ Air Quality Division has invested in an innovative system to power one of its ambient air monitors. Creative staff have developed a portable wind and solar electrical generating system. [Click here for more.](#)

Grants Available To Reduce Diesel Emissions

The United States Environmental Protection Agency (EPA) has awarded NDEQ a grant totaling nearly two million dollars to be used for reducing diesel emissions, stimulating Nebraska's economy and preserving and/or creating jobs. [Click here for more.](#)

Ask the AQ Lady:

Dear Air Quality Lady: Due to crazy fluctuations in ethanol demand, our ethanol plant is going to shut down temporarily. We expect the shutdown to be only for a few months. Do we have to do anything special or send any reports to NDEQ? [Click here for more.](#)

Mandatory GHG Reporting Rule Proposed

On March 10, 2009, EPA proposed mandatory reporting requirements for greenhouse gas (GHG) emissions. In general, EPA proposes that suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions submit annual reports to EPA. [Click here for more.](#)

Courts Continue to Impact Air Rule Implementation

On February 24, 2009, the U.S. Court of Appeals for the D.C. Circuit remanded the National Ambient Air Quality Standards (NAAQS) for fine particulate matter (PM_{2.5}) to EPA for reconsideration of the annual level of the standard (which EPA left unchanged at 15 micrograms per cubic meter) and reconsideration of the secondary PM_{2.5} NAAQS. [Click here for more.](#)

New Recycling Directory Now Online

The Nebraska Department of Environmental Quality has developed a revised on-line Recycling Directory. It can be found by going to the agency's web site, www.deq.state.ne.us, go to "Maps and Data" and select "Recycling Directory."

The new directory provides interactive features that will help you find the resources you are looking for. A sorting feature allows you to search for recyclers in the following categories:

- By name
- By city
- By county
- By type of recycled materials they accept

In addition, the site contains a "Recycling Resources" listing that provides names of groups and agencies that can provide assistance in such aspects as business development, funding, education and technical assistance.

The URL for this site is: <http://www.deq.state.ne.us/recdir.nsf/recdirlist?openpage>

Fertilizer & Pesticide Bulk Storage Requires Load-out and Containment.

The Nebraska Department of Environmental Quality is reminding those who store fertilizers and pesticides in bulk that they may be subject to secondary containment and load-out requirements.

With the current economic conditions, those who use or re-sell fertilizers and pesticides are looking to economy of scale to help keep profitability in the picture. As a result, many brokers and applicators are buying these chemicals in larger and larger quantities.

Many times this necessitates containment and load-out facilities, and brings with it new management considerations. If you have bulk liquid fertilizer or pesticides, you may be subject to the secondary containment regulations in [Title 198 – Rules and Regulations Pertaining to Agricultural Chemical Containment](#). The same is true if you apply pesticide or fertilizer solutions for hire.

For specific information, or for a copy of the Title 198 regulations, please contact the Agriculture Section, Nebraska Department of Environmental Quality, P.O. Box 98922, Lincoln, Nebraska 68509, phone (402) 471-4239, or visit the NDEQ website at www.deq.state.ne.us.

Chemigation: Frequently Asked Questions

The Nebraska Chemigation Act (Neb. Rev. Stat. §46-1101 thru 1148) and Title 195 – “Rules and Regulations Pertaining to Chemigation” place certain requirements on anyone who uses chemigation in Nebraska. These rules are administered by each of the state’s 23 Natural Resources Districts (NRDs) and the Nebraska Department of Environmental Quality (NDEQ). The NRDs inspect the required chemigation safety equipment on chemigation systems, receive permit applications and fees, and issue chemigation site permits. The NDEQ developed the statewide regulations (Title 195), coordinates the overall program, and issues chemigation applicator certifications to persons that attend a training session conducted by the University of Nebraska Cooperative Extension and pass a written test.

Following are some frequently asked questions and the Department’s response. Additional information about the chemigation program and the regulations can be found on the NDEQ website (www.ndeq.state.ne.us) or you may contact the NDEQ by mail (addressed to NDEQ, Agriculture Section, P.O. Box 98922, Lincoln, NE 68509-8922), by telephone ((402) 471-4239), or by email (MoreInfo@NDEQ.State.NE.US). For information on obtaining a permit for a chemigation system, please contact your local NRD. If you need chemigation applicator certification, please contact your county’s UNL Cooperative Extension Office.

Q: What is chemigation?

A: Chemigation is defined in the Chemigation Act as “any process whereby chemicals are applied to land or crops in or with water through an onfarm irrigation distribution system” (Title 195, Ch. 1, 003). The regulations apply whether the water is from a surface water source, such as a stream or canal, or ground water from an irrigation well.

Q: What does the term “chemical” mean or include with regards to chemigation?

A: “Chemical” is any fertilizer or pesticide mixed with the water supply (Title 195, Ch. 1, 002). Note that insecticides, herbicides, and fungicides are all different forms of pesticide. The term fertilizer is limited to formulations or products used and formally recognized as plant nutrients. So, for the purposes of the Chemigation Act, livestock manures or waste products are not considered fertilizer. However, similar safety equipment is required for irrigation systems applying livestock wastes, as specified in Title 130 – Rules and Regulations Pertaining to Livestock Waste Control, which is a separate permit program for livestock operations that is administered by the NDEQ.

Q: Where can I find pesticide label information to determine whether or not a pesticide can be applied through a chemigation system?

A: The manufacturer or seller of the pesticide should be able to provide you with a label for any pesticide you purchased. You can also go to www.greenbook.net or to the Nebraska Department of Agriculture’s pesticide database at www.kellysolutions.com/NE for additional information.

Q: I have one well and two center pivots. Do I need one permit or two?

A: Title 195, Ch. 2, 002, specifies, “An application must be filed

with the district for each injection location”. If you plan to inject chemicals for chemigation into the irrigation distribution pipeline at one location, say near the well, only one application is required. However, if you inject at each center pivot, an application must be filed for each injection location.

Q: Is a surfactant, spray adjuvant, or crop oil covered by the chemigation rules?

A: Generally not. These products alone do not typically meet the definition of a pesticide or fertilizer, so the use of these materials is, by definition, not considered chemigation. However, the Department encourages the use of safety equipment on an irrigation system when any material is injected into it or mixed with the irrigation water.

Q: I operate a commercial tree or garden nursery and plan to apply chemicals through an irrigation system to the plants at the nursery. Do I need a chemigation permit?

A: Yes. Chemigation at a nursery would be considered an “onfarm” activity subject to the regulations.

Q: I have a commercial pesticide applicator’s license. Do I still need the chemigation applicator certification if I plan to operate the chemigation system?

A: Yes. The pesticide applicator’s license or card is completely separate from the chemigation applicator certification. One does not substitute for the other. The Nebraska Chemigation Act and the Title 195 regulations require that anyone operating a chemigation system be certified as a chemigation applicator (Title 195, Ch. 1, 001 and Chapter 13). In addition, any permit application must include the name of a certified chemigation applicator (Title 195, Ch. 2, 002).

(continued on p. 9)

Chemigation Q&A *(continued)*

Q: How do I get certified as a chemigation applicator?

A: You must attend a training session and pass a written test. To pass the test you must correctly answer at least 35 out of the 50 questions. UNL Cooperative Extension conducts the training and testing, so you should first contact your local County Extension Office for information about the nearest training and testing session and to obtain an application form and study materials.

Q: How do I find out about the applicator certification training and testing sessions?

A: A schedule of the applicator training and testing sessions is available on the UNL Northeast Extension Center's web site (go to <http://nrec.unl.edu/programs.htm>, then click on "Chemigation Training") or the NDEQ web site (go to www.ndeq.state.ne.us, then click on "NDEQ Programs" then "Agriculture Programs" to get to the chemigation selections). You might also contact your local county extension office as training and testing sessions are occasionally scheduled locally or on short notice and may not be included on either web site listing.

Q: How long does it take before I get notification if I passed the test or not?

A: Please allow six to eight weeks for processing and receipt of the chemigation application certification card in the mail from the NDEQ. If you did not pass the test, Cooperative Extension will notify you.

Q: I lost my chemigation applicator certification card. What should I do?

A: For a replacement card, please contact the Agriculture Section at NDEQ at (402) 471-4239. Be sure to provide your full name and current address. Please note that you do not need to carry the chemigation applicator certification card as it simply helps to serve as a reminder. The list of certified chemigation applicators is also available on the NDEQ web site along with the expiration date of their certification.

Q: It's been two months since the training session and I haven't received any notice. What should I do?

A: Please contact NDEQ's Agriculture Section by mail, by telephone at (402) 471-4239, or by email at MoreInfo@NDEQ.State.NE.US. Be ready to provide your name, address, and the date and location where you took the training and testing. If you have web site access, you can also check the chemigation applicator list on the NDEQ web site to see if you are on the list. If your certification is current on the web site list and you just haven't received your card please let us know and a replacement card will be sent.

Q: When does my chemigation applicator certification expire?

A: All chemigation applicator certifications expire on January 1 of

the fourth year following the year issued (Neb. Rev. Stat. §46-1128). So, a chemigation applicator certification issued in March of 2004 will expire on January 1, 2008. This information may also be found on the NDEQ web site.

Q: My chemigation applicator certification expires January 1 of next year. When do I need to recertify and what do I need to do?

A: You do not have to recertify before the certification expires. However, a current applicator certification is needed for any chemigation permit application. Applicators sometimes wait until after their certification has expired and then attend a training session early that same year. The Chemigation Act requires training and testing for initial or subsequent certification. Please be aware that there are a limited number of training and testing dates and locations and that most of the training sessions are held from January thru April, so don't wait too long to attend a training and testing session.

Q: Do I need to carry the chemigation applicator certification card?

A: No. The card simply serves as your reminder of your certification number and when your certification expires. The card is not required for anything else and when the NRD is checking the applicator information on your permit application they may simply check the NDEQ website listing. You can also check this information on the NDEQ website. Go to www.ndeq.state.ne.us then click on "NDEQ Programs", then "Agriculture Programs", then "Chemigation Program", then "Chemigation Applicator List", and select either to view the entire list or to use the search function. You may want to view the entire list (it's arranged alphabetically by last name) as the search function has limited capability.

Q: What if I fail the test?

A: Anyone that fails the test is normally notified by mail by the UNL Cooperative Extension and given information on the retest procedure, which can be done in the local Extension office. You may wish to attend another training session, but it is not required.

Q: My center pivot passes over a stream in part of its circle. Do I need to shut off the chemigation system while the irrigation system is sprinkling on this area?

A: Yes. The Nebraska Environmental Protection makes it unlawful to cause pollution or place potential pollutants (i.e. fertilizers or pesticides) where they are likely to cause pollution (Neb. Rev. Stat. §81-1506). In addition, most pesticide labels prohibit application near or on surface water or wells (contact the Nebraska Department of Agriculture's Pesticide Program at (402) 471-2394 if you have questions about pesticide label and pesticide application restrictions).

(continued on p.10)

Chemigation Q&A *(continued)*

Q: My water supply is an irrigation supply canal. Do I need safety equipment and a chemigation permit?

A: Probably. Irrigation canals are, by definition, waters of the state so anyone connecting to an irrigation canal to supply a chemigation system is subject to the Chemigation Act. However, there is an exemption for limited situations involving open discharge systems (Title 195, Ch. 1, 001).

Q: Where can I find irrigation pipeline check valve models that have been certified or approved for use in chemigation systems in Nebraska?

A: A list of certified irrigation pipeline check valves can be requested from the NDEQ's Agriculture Section or you can go to the NDEQ web site (go to www.ndeq.state.ne.us, then click on "NDEQ Programs" then "Agriculture Programs" then "Chemigation Program" then "Applications, Forms, and Publications" then finally on "Certified Chemigation Check Valve Models and Manufacturers").

Q: What is an "open discharge system"?

A: An open discharge system is defined as "a system in which water is pumped or diverted directly into a ditch or canal in such a manner that the force of gravity at the point of discharge into the ditch or canal cannot cause water to flow back to the point from which the water is pumped or diverted" (Title 195, Ch. 1, 011). So, a closed pipe system would not be considered "open discharge". Please note that there may also be other considerations related to potential ground water pollution in high water table areas. If you have a question about this, please contact the NRD and NDEQ to discuss whether or not your system would be considered an open discharge system before you attempt to use it for chemigation. Appropriate safety equipment is still recommended for open discharge systems and may still be required by the pesticide label.

Q: When is posting required and what do I need to post?

A: Posting of a field is required when a restricted use pesticide or a chemical for which the label requires posting is used (Title 195, Chapter 12).

Q: I didn't get my application in by June 1 to renew the chemigation permit for my irrigation system, what do I do?

A: If you still wish to chemigate you must first submit your permit application to the NRD and include the initial application fee. Since you missed the June 1 deadline the NRD must handle your application as an initial or new one. The NRD is also required to inspect and approve the safety equipment before a permit can be issued (Title 195, Ch. 4, Sect. 003).

Q: Are chemigation permits transferable?

A: No, a permit for one injection location cannot be transferred or issued for another location (Title 195, Ch. 4, Sect. 004). A new permit would be needed.

Q: What is a Special Permit?

A: The regulations provide for a "Special Permit" where the NRD determines by inspection that a chemigation system does not need all of the safety equipment specified in the regulations and the NDEQ concurs (Title 195, Ch. 5). Only a few special permits have been issued. Please contact your local NRD or the NDEQ if you would like further information on Special Permits or have a specific situation you would like to discuss.

Q: I am considering applying fertilizer to my grass through my lawn sprinkler system. Is a chemigation permit needed?

A: No. Chemigation is defined as "any process whereby chemicals are applied to land or crops in or with water through an onfarm irrigation distribution system." Application of chemicals to a residential lawn would not be "onfarm". However, there are specific rules on backflow prevention for connections to a public drinking water supply system. So, if the lawn sprinkler system is connected to a public water supply system please check with the water supplier or the Regulation and Licensure Division of the Nebraska Health and Human Services System (HHSS). Contact HHSS at 402-471-2133 or at hhss_system_information@hhss.state.ne.us for more information. Even if a chemigation permit is not required and the lawn sprinkler system is on an individual well, we recommend that appropriate safety equipment be installed.

Q: Are there any requirements on chemical containers used during chemigation?

A: Yes, there may be requirements if the container capacity or use meets certain requirements spelled out in the Title 198 – Rules and Regulations Pertaining to Agricultural Chemical Containment. For instance, if the pesticide or fertilizer container has a capacity of 500 gallons or more there may be requirements for secondary containment (i.e. diking) as specified in the Title 198 regulations, even if the container is mobile or mounted on a trailer. Fertilizer containers up to 2,000 gallons in capacity have a seasonal exemption in most cases. However, please contact the NDEQ Agriculture Section at (402) 471-4239 with any questions or go to the NDEQ web site and click on the "NDEQ Programs" tab then "Agriculture Programs" then "Agricultural Chemical Secondary Containment" for more information.

Reward Offered to Help Identify Shell Creek Polluters

The Nebraska Wildlife Protectors' Association, in cooperation with the Nebraska Department of Environmental Quality, is again offering a reward for information resulting in charges filed against anyone illegally and intentionally dumping or discharging wastes into the Shell Creek watershed in Platte County and surrounding area. This is the second year the reward has been offered.

Shell Creek has experienced numerous fish kills over the years, but a lack of evidence identifying those responsible for dumping or discharging wastes has frustrated law enforcement officials. When industrial, livestock or domestic wastes enter a water body, it can kill fish and their food supply, such as aquatic insects. Some locations on the Shell Creek watershed are now mostly devoid of any aquatic life. Due to bacteria contained in some waste discharges, there may also be human health concerns if a person comes in contact with the waste.



If you have information, please call the Nebraska Department of Environmental Quality toll-free at 1-877-253-2603.

CONTACT US

The Nebraska Department of Environmental Quality (NDEQ) was created pursuant to passage of the Nebraska Environmental Protection Act in 1971. Although the Department has grown and been given additional responsibilities over the years, its mission has remained the same - the protection of Nebraska's air, land and water resources.

NDEQ welcomes your comments and questions, and your input regarding the NDEQ Environmental Update. We can be reached:

by telephone - (402) 471-2186;

by mail - Suite 400, The Atrium
1200 N. Street
P.O. Box 98922
Lincoln, NE 68502-8922

or by email - NDEQ.moreinfo@Nebraska.gov

Please visit our website at <http://www.deq.state.ne.us> for news, information and links to technical information and forms. Follow the link for "Your Environment" from our site for information about the environment across the state of Nebraska, as well as more specific information about the region you live in. Click on any section of the map to find more specifics about that region. Or, select any of the "Focus on..." topics on the site to find out more information about Nebraska's air quality, water quality and waste management issues.

If you would like to receive an e-mail when we produce a new newsletter, sent a request to NDEQ.moreinfo@nebraska.gov, listing your name and e-mail address.

ABOUT THIS NEWSLETTER

The NDEQ Environmental Update is published twice a year, in the Spring and the Fall.

The electronic version of the newsletter can be found on the NDEQ website at <http://www.deq.state.ne.us/Update>.

E-mail notification when a new Update is posted is also available. See instructions at left.