

# NDEQ's AWIN Program for Evaluating Infrastructure

By Mike Lucas, Wastewater Technician

I recently participated in a meeting with Nebraska Department of Environmental Quality (NDEQ) personnel to discuss their AWIN program. We had a very informative meeting regarding the goals of the program, how it worked, and what the future of the program was expected to be. I believe that the program could potentially save small systems a considerable amount of capital construction dollars.

The NDEQ provided me a fact sheet which I am sharing with you in this article. Also, please remember to complete and return your "Needs Survey" annually.

## **A New NDEQ Program: AWIN**

What is AWIN? For the past two years, the Nebraska Department of Environmental Quality (NDEQ) has been working on a new program called the **Assessing Wastewater Infrastructure Needs (AWIN)** program. It is a free database of information based off of demographic data collected on Nebraska communities. Data, such as population, median household income, unemployment, housing vacancies, median age, etc., is used to evaluate current social and economic conditions and uses that information to estimate future population growth and conditions for the community. A sustainability risk rating to help evaluate the community's future is created from the information gathered.

The goal of AWIN is to use current information to estimate future conditions in Nebraska communities to develop sustainable projects and minimize financial burdens for struggling communities. It was initially created to assist struggling communities better afford, maintain, operate, and plan current and future wastewater infrastructure projects. However, the data collected goes beyond just wastewater and can be used for any future planning for a community.

## **How AWIN Works**

Demographic information was collected using census data over several years. That data was then used to create a sustainability model using numerous parameters and review of other state growth potential models. The number generated indicates a community's sustainability risk for future growth and development based on a twenty year time frame. It is then translated into an AWIN score and put into one of three risk categories; low risk, moderate risk, and high risk communities.

Communities' sustainability rankings can be described as follows:

<b>AWIN Sustainability Risk</b>	<b>Prediction (based on available information, estimated for a future 20 year timeframe)</b>
Low	Stable or possible growth; low risk of failing to manage resources for continued stability or growth
Moderate	Slow to no growth, possible loss of population; may begin to struggle to maintain infrastructure; future residents may be impacted
High	Declining or great potential for declining population; high risk of failure to

manage resources; future sustainability at great risk
---

For example, the pretend town of Berrytown has a population of 174 which has dropped by 28 people since 2000. The school was folded into a county wide district and closed. The town's major employer, the wire factory, closed in 2001. They are 75 miles from a city of 12,000 population, too far for most people to commute to work. The wastewater lagoons need rehabilitation and discharge 150 days each year, not meeting their discharge permit limits a quarter of the time. Their AWIN ranking is 22, a high sustainability Risk, meaning they are at high risk for further loss of population and the inability to upgrade their wastewater lagoons. Because of Berrytown's situation and high AWIN risk ranking, NDEQ worked with the town and their consulting engineer to solve the wastewater situation in an affordable and sustainable manner. The traditional solution of 20 acres for three new lagoons was reduced to one 8-acre lagoon with summer pumping to a big gun irrigation system. Berrytown saved \$237,000, could afford the solution, and has not over-built their wastewater system for the future.

### **Where Can You Find AWIN Data and How Much Does It Cost?**

AWIN data is free and can be found at the NDEQ's website at <http://deg.ne.gov>. Simply click the "Water" tab, then select the drop down menu for "Financial Assistance" and select "AWIN: Assessing Wastewater Infrastructure Needs". To find a community, click the "AWIN Sustainability Risk List and Individual Community Datasheets" and search for the desired community.

### **How NDEQ Will Use AWIN Information:**

NDEQ will use estimates to allocate and schedule resources to affordably protect the environment and public health, while working toward total compliance for all communities based on model forecasts.

Information obtained from the AWIN program is used to enhance the state's Intended Use Plan, support design/engineering modifications and alternative treatment methods, and aid in determining compliance schedules for NDEQ requirements. Prioritization of NDPES implementation schedules are determined by community needs, environmental impacts, and the predicted growth and stability of a community in the future, as indicated by AWIN.

Communities will be brought into the best compliance possible, for the least cost that can be managed, based on predictions made using the AWIN tool.

### **Questions and Additional Information:**

If you have any questions regarding the AWIN program, please contact:

NDEQ - AWIN  
1200 N St., Suite 400  
P.O. Box 98922  
Lincoln, NE 68509-8922  
Email: [ndeq.awin@nebraska.gov](mailto:ndeq.awin@nebraska.gov)  
Phone: (402) 471-2186

http://deq.ne.gov/NDEQProg/ml/WaterHome.asp Nebraska DEQ

File Edit View Favorites Tools Help

Page Safety Tools

Official Nebraska Government Website

Welcome to the Nebraska Department of Environmental Quality

Home Air Water Land & Waste Environmental Acceptance Publications & Forms News & Announcements Agency Information Search NDEQ Web

Agriculture - Financial Assistance - Groundwater - Petroleum Remediation - Surface Water - Wastewater - Water Permitting - Water Quality Planning -

Financial Assistance Section  
 Clean Water State Revolving Loan Fund (CWSRF) Program -->  
 Drinking Water State Revolving Loan Fund -->  
 Small Community Matching Grants  
**AWIN: Assessing Wastewater Infrastructure Needs**

**Focus On Water Division**

**Nebraska Water Quality: A Brief Overview**

The goal of the Water Quality Division is to protect the surface and groundwater resources in Nebraska.

Nebraska has some of the best water resources in the nation and the world. Groundwater (located beneath the state's surface in porous regions known as aquifers) could cover the state with nearly 40 feet of water if it were all pumped to the surface. Because groundwater is so plentiful and reliable, 85% of the state's population uses groundwater as drinking water. Nebraska's surface water resources are surprisingly extensive, including approximately 24,000 miles of flowing rivers and streams and about 430 square miles of lakes. Wildlife, including bass, native trout and other fish, rely on Nebraska's streams for survival and prosperity.



Photo courtesy of North Platte Natural Resources District

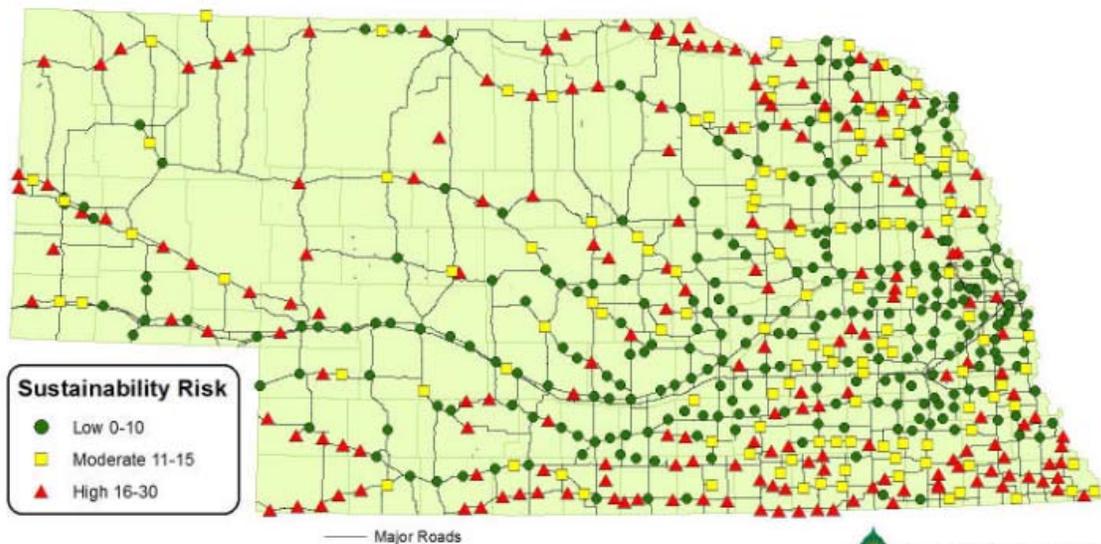
Many challenges face Nebraskans when trying to protect this valuable resource. Runoff from rain and irrigation can carry chemicals and topsoil into streams in both urban and rural areas, causing surface water contamination. More than 50 years of crop production has allowed fertilizers and ag chemicals to reach groundwater in parts of the state, causing contamination.

All streams and lakes have assigned uses based on the quality of the water. Is the water quality good enough to support fish and other aquatic life, swimming, irrigation, or drinking water?

NDEQ takes water quality monitoring information and determines if the water quality of the water body can support its

100%

**AWIN Sustainability Model**  
**State of Nebraska**



Nebraska Department of Environmental Quality  
 January 26, 2014

SOURCE: 2010 US CENSUS AND 2008-2012 AMERICAN COMMUNITY SURVEY  
 TOWNS WITH OUT CENSUS DATA WERE EXCLUDED