Helicopter survey work to begin next week

Beginning next week (June 9, 2008) a low-flying helicopter towing a torpedo shaped device will be seen in the skies over the rural areas north and south of the North Platte River and around Sidney Draw and Lodgepole Creek in the southern Panhandle. Residents are urged not to be alarmed, just aware that a scientific survey is being conducted.

In April the North Platte NRD, in partnership with the South Platte NRD of Sidney and the United States Geological Survey (USGS), was awarded an $800,000 Nebraska Environmental Trust grant. The funding will be used during the next two years to conduct an aerial geophysical survey of selected Panhandle aquifers located within the two NRDs. The survey work, which will include flight line planning and preliminary survey plotting, is expected to begin the week of June 9 and should be completed in about one week, weather permitting.

According to USGS hydrologist and project chief Jim Cannia, this type of survey will provide important information that will be far reaching in scope. The survey will provide three-dimensional maps of the project area, consisting of 270 linear miles to a depth of up to 300 feet.

"The purpose of this work is to map subsurface geology so we can relate that to groundwater flow and changes in groundwater quality," Cannia said. "We’ll get two dimensional drawings of the subsurface with these flights and that will help us plan future flights to do more high density mapping."

The aerial geophysical survey work will involve the collection of geophysical data performed by a helicopter flying at a speed of about 60 mph and height of about 200 feet. The helicopter - provided by the Canadian offices of Fugro, a geoscience firm - will fly back and forth over strips of ground one-sixth mile wide with the sensor hanging approximately 100 feet below. This electro-magnetic (HEM) sensor sends electromagnetic impulses into the ground that bounce back in different intensities based on the material underground. The varying readings allow researchers to develop a three-dimensional view of the subsurface.

Approximately 1200 linear flight kilometers of geophysical data will be collected, including 750 kilometers in the North Platte NRD and 500 in the South Platte NRD. The total area covered will be 270 linear miles and include nine cities and villages. The USGS Nebraska Water Science Center and USGS Crustal Imaging and Characterization
Team are performing this work in cooperation with the North Platte and South Platte NRDs.

Once the data is collected, it will be processed into the 3-D resistivity data and accompanying maps. Completion of the interpretation and modeling of this data and the production of maps and desired GIS databases is planned for June, 2010.