

By Ted LaGrange

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The car rolled to a stop on a Deull County gravel road next to what only a few weeks earlier had been a dry low spot in a farmer's wheat field.

The "low spot" was now full of water from a recent thunderstorm and was teeming with life, including snails, tadpoles and frogs.

At the water's edge, shorebirds and waterfowl were feeding in the newly flooded shallows.

With me were Alison Cariveau and Lacrechia Johnson, research biologists from the Rocky Mountain Bird Observatory (RMBO).

We were stopped at a southwest playa wetland, one of about 16,000 such sites located in parts of 13 Nebraska counties, from Lincoln County in the east to Kimball County in the west.

Southwest playas are small wetlands, most covering only an acre or two, that fill with snowmelt and rainfall runoff. Most have no natural outlet and hold water because of a clay layer in the soil.

When the rains stop, the water disappears in a matter of weeks to a few months.

Although we had information about where these wetlands were from soil and wetland maps, we had little idea about how important they might be for wildlife, even though they are often dry and farmed.

We also lacked information on what conservation measures might be needed for these wetlands.

So in 2006, RMBO initiated a three-year study to fill this information gap. Realizing these wetlands were often without water, and that studying wetland wildlife in a dry wetland would not yield the information needed, we started monitoring Doppler radar returns for thunderstorm events and going where the rain fell.

The night of Aug. 8, 2006 proved to be a stormy one for parts of Chase and Perkins counties, as a thunderstorm dumped rain in a narrow band about 12 miles wide and 60 miles long, with some areas receiving up to four inches.

After confirming that many of the area's playas had water in them, we began our study and were awed at how rapidly wildlife found these newly flooded areas.

We also monitored the wetlands after a second rain event in May 2008. From these two events we counted 158,232 birds using the 558 playa wetlands surveyed, comprising 140 species, 29 of which were species of conservation concern.

We also documented four species of frogs and toads using 93 percent of the playas surveyed.

This information confirmed that these transient and frequently cropped wetlands were indeed important for a wide array of wildlife species, especially waterfowl and shorebirds.

Because these wetlands are dependent upon rainfall runoff, a second major component of the study was to evaluate the effects surrounding land cover had on the likelihood that a playa would fill with water.

The watersheds evaluated were cropland, native rangeland and land planted to tall, dense vegetation.

We learned that playas were most likely to fill with water if surrounded by native rangeland,

were less likely if surrounded by cropland, and were least likely to fill if surrounded by tall, dense vegetation.

The conservation challenge is ensuring these playas receive water, but not sediment carried into them by runoff across exposed cropland—sediment that over time results in shallower or even vanishing wetlands.

The good news is that programs are available for farmers and ranchers to address these challenges, and new program options are being developed based on the results of this study.

Our work with the southwest playas has given us a much greater appreciation of the importance and dynamics of these little gems.

So if you ever happen to pass by one of these dry, low spots, think of it as a playa wetland in waiting: Soon after the storm clouds gather in the west and raindrops begin to fall, the wetland will fill with water, a multitude of amazing life forms will quickly appear and disappear, and the playa will once again patiently wait until the next time thunder rolls across the plains, like a frog waiting to be “kissed” by the rain.

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