In September of 2013, a week-long rain event in the Rocky Mountain Front Range led to unprecedented floodwaters in Colorado. Anticipating that those waters would inundate the South Platte River in Nebraska, the Department of Natural Resources organized and executed a coordinated effort to ensure the safety and protection of impacted communities and to divert the flood flow and recharge the aquifers, ultimately resulting in long-lasting benefits to Nebraska.

COORDINATION WITH LOCAL, STATE AND NATIONAL ORGANIZATIONS ENSURES SUCCESSFUL RESULTS

The protection and safety of communities along the South Platte River and the successful diversion of water and recharge to the river were possible because agencies and organizations at all levels worked together to establish and implement protocols.

Organizations that coordinated with the DNR include:
- Colorado Division of Water Resources
- Colorado Highway Patrol
- Irrigation Districts
- Local fire departments
- Local governments
- Local sheriffs
- National Weather Service
- Natural Resources Districts
- Nebraska Department of Environmental Quality
- Nebraska Department of Roads
- Nebraska Emergency Management Agency
- Nebraska State Patrol
- United States Army Corps of Engineers
- United States Geological Survey

The benefits of diverting and recharging the water include:
- Attenuating peak flows to prevent flooding.
- Contributing to steady water supply in the river for years to come.
- Supporting sustainability of endangered wildlife that includes the Whooping Crane, Interior Least Tern and Piping Plover.

The DNR’s actions resulted in many positive outcomes; most notably, the Department:
- Accurately assessed river levels to within a half foot at all times, ensuring appropriate public safety measures.
- Effectively employed a feedback loop with emergency responders, fostering future reliability.
- Successfully implemented integrated management plan practices.

Record flood stages were noted at North Platte, Nebraska, on September 23, 2013. A crest of 14.4 feet was recorded with an approximate flow of 19,200 cfs.

“...The expeditious work by all parties in developing and implementing these agreements is a wonderful demonstration of what can be achieved when all parties are able to work in close collaboration toward the same goal.”

– Brian Dunnigan
Director of the Department of Natural Resources

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MANAGING FLOOD FLOWS

LASTING BENEFITS

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Although state authorities historically have worked with irrigation districts to divert water and mitigate flood situations, there previously was not an organized process in place to capitalize on the aquifer recharge and environmental benefits these diversions can offer. In 2008, when the Natural Resources Districts (NRDs) and the DNR began to develop Integrated Management Plans (IMPs) for the current and future management of water in the districts, a key component of each plan was the pursuit of ground water recharge. The finalized IMPs stipulated that, when there were excess flows like those produced by the flood, the DNR, NRDs and irrigation districts would work together to take advantage of it.

In 2011, the DNR, NRDs and irrigation districts conducted a controlled pilot project to test the ability to divert flows for the benefit of ground water recharge. Flood flows from snow melt were forecasted early enough to provide a two-month window in which the DNR could address administrative issues, obtain the necessary permits and create a template contract that satisfied the needs of all the parties involved. The result was a coordinated plan that had earned the buy-in and support of the NRDs and the irrigation districts.

Holding a vetted, coordinated process already in place in 2013 allowed the DNR to act quickly, organizing the efforts to capture and recharge September’s flood waters in less than two days.