Section 1. Goals and Accomplishments

Goal 1: Research Excellence: Develop solid, nationally recognized and respected programs in water resources and environmental research.

- WRC researchers are now recognized as national leaders in characterization of perchlorate in the natural environment. This interdisciplinary work included researchers from the Institute of Environmental and Human Health, and the Departments of Chemistry, Chemical Engineering, Geosciences, and Mathematics. This project was selected as Project of the Year in 2007, one of three chosen each year by SERDP, a national program that funds $100 million in research each year. In 2005, the American Chemical Society's top environmental science journal, Environmental Science and Technology, recognized our research with its Best Environmental Science Paper award. This project has been featured numerous times in international popular press, and our group's findings have been highlighted in ES&T numerous times, including four cover page features.
- Environmental Science and Technology ranks number 1 in published papers and cited papers in environmental science and engineering.
- The WRC has long been known for its experience in groundwater resources management, with special interest in the High Plains Aquifer System, known locally as the Ogallala aquifer. This work has included collaborators from the USDA-ARS, ICASALS, the Water Law and Policy Center, CASNR Water Center, and the Departments of Geosciences, Economics and Geography, Plant and Soil Science, Natural Resource Management, and Agricultural and Applied Economics. In 2007, a new multidisciplinary project was funded by the Natural Resources Conservation Service's Conservation Effects Assessment Program to evaluate the potential hydrologic and ecological services provided by the NRCS' Conservation Reserve Program.

Goal 2: Partnerships: Build strategic partnerships and alliances to enhance research programs of the WRC and to support related teaching and service missions.

- The WRC participated in President Whitmore's Water Initiative through Dr. Rainwater's participation in the Water Leadership Council, which also included Dr. A.C. Correa (ICASALS), Dr. Don Ethridge (CASNR Water Center), Prof. Gabriel Eckstein (Water Law and Policy Center), and Dr. Tom Arsuffi (TTU-Junction). The initiative's main effort was to lift the visibility of the research and teaching in water issues across the TTU campus. The future of the Water Initiative is unclear after the departure of President Whitmore in 2008.
- The WRC is cooperating with the Wind Science and Engineering Center in an initiative for combination of renewable wind energy with water desalination. The initiative has attracted funding from the Department of Energy, Bureau of Reclamation, and Texas Water Development Board for demonstration of the combined technologies to support municipal considerations of brackish groundwater for water supply augmentation.
- The WRC has cooperated with the Center for Geospatial Technology in several projects related to mapping the characteristics of the Ogallala aquifer in Texas, New Mexico, and Oklahoma.
- Starting in 2007, the WRC began working with the Texas State Soil and Water Conservation Board to bring hydrologic science expertise and procedures to the TSSWCB's brush control program for surface water yield enhancement. This interaction includes faculty from the Departments of Natural Resource Management, Plant and Soil Sciences, and Civil and Environmental Engineering. The efforts have generated a report on the state of knowledge of water consumption by invasive species, such as mesquite, saltcedar, and juniper, and recommendations for hydrologic monitoring approaches and site selection. A new project focuses on design of monitoring systems for observation of changes in streamflow and groundwater conditions before and after watershed modification.

Goal 3: Resources and Infrastructure: Provide support to the education, research and service activities of the Department of Civil Engineering, the College of Engineering and Texas Tech University.

- The WRC houses the Environmental Science Laboratory, which provides instrumentation and staff for state-of-the-art analyses of water and related chemical species. The WRC also provides administrative support for research projects.

Goal 4: Marketing and National Image: Enhance the state and national image of the Water Resources Center.

- Under the President Whitmore’s Water Initiative in 2006-2008, Ms. Katie Banks and Ms. Liz Inskip-Paulk served as the Water Initiative Publicist. Housed in the WRC, these writers developed the Water Initiative website, which includes publication and faculty researcher vita lists, compiled a university-wide water expert list document for public dispersal, and supported the ICASALS 2006 International Conference on Water in Arid and Semiarid Lands.
- Dr. Rainwater and the other WRC faculty participate in several national organizations with interest in water issues, such as the Universities' Council on Water Resources, National Ground Water Association, American Geophysical Union, American
Goal 5: Engagement: Build community connections that enhance the quality of life for students and the community.

- The WRC provides student and community support by being a clearinghouse to receive questions and point to answers. In addition, the WRC, in cooperation with the College of Engineering's Outreach Center, supports the development of K-12 environmental and water lesson plans for grade-school teachers.
- The WRC has assisted with the Playa Lakes Festival held each summer by the Ogallala Commons organization.
- In November, 2007, Dr. rainwater was a panelist in the Texas Water Symposium session entitled “H2O: The Science of Water Issues,” which was sponsored by Texas Tech University at Fredericksburg, Texas Public Radio, and Schreiner University.
- In November, 2008, Dr. Rainwater was the keynote speaker at the annual meeting of the Permian Basin Regional Planning Commission, where he discussed “West Texas Water Issues.”
Section 2. Universal Quantitative Data

There are no Universal Quantitative Data for this area/unit.
WATER RESOURCES CENTER

Area/Unit Specific Information

Section 3a. Quantitative Information

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There is No Area Specific Data in Fall Section.
There is No Area Specific Data in Fiscal Year Section.
Section 3b. Qualitative Information.

There is no qualitative information for the current year.
**Commentary:**
In the Department of Civil and Environmental Engineering, six environmental and water resources engineering faculty members are primarily affiliated with and served by the Water Resources Center. Most of the WRC projects are interdisciplinary and include faculty from other parts of the university. In addition, all of the WRC faculty members often work in interdisciplinary projects with other centers and university organizations. During 2008, those faculty members also participated in projects in which their shares were credited to the Coop Fish and Wildlife Research Unit ($15,386) and TechMRT ($261,325). These amounts total to $276,711 of 2008 research as reported by the Office of Research Services. The WRC does not prevent interactions with other units, and those collaborations will continue.

**Implementation Plan:**
The WRC does not see these additional interactions as any problem. In the current university reporting system, however, it could appear that centers and institutes compete with each other, and the academic departments, for research dollars. We look forward to working with the university administrators at all levels to assure that collaboration with research centers is a positive opportunity for all faculty, and not a drain of funds away from the individual departments.