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**Integrating Water Research, Outreach and Teaching in the Northern Plains & Mountains Region**

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Abstract:

Water is a significant defining element in both economic and environmental terms in the Northern Plains and Mountains Region. Its presence (or lack of) impacts not only local, state, and regional economies, but also the appearance of the natural environment. Furthermore, human manipulation of water resources determines the productivity of the agricultural lands as well as the location and size of communities. Therefore, the management of water quantity and quality is a very high priority in the Northern Plains and Mountain Region. New demands on the natural resource base, changes in agricultural production methods, and increasing in-migration, require new responses in water resource management.

The objectives for the NPM region include:

- Research and educate landowners on the effects of CBM development and product water on the environment
- Facilitate better management systems for irrigated and rain fed lands involved in crop and animal production
- Engage in participatory research to educate agricultural producers on the most effective use of water on irrigated lands and in the handling of AFO/CAFO residuals
- Apply new technologies of GPS/GIS designed to improve water and land management
- Preserve the quantity and quality of local and regional water resources on a small acreage scale
- Educate youth on water issues as a way to sensitize the expanding population on the importance of water in a semi-arid environment

Means for reaching our region's objectives include: establishment of a water quality team that communicates frequently to share resources and collaborate on programming, conduct appropriate research, education and outreach across the region to address water issues and to maintain and expand linkages to other partners in the states.

Impact Statement:

The Northern Plains and Mountains Regional Water Program provides a means for leveraging technical and financial resources of the states to comprehensively address critical water quality and related water quantity issues. The program places an emphasis on providing leadership for water resources research and education to help people, industry and governments address these issues. The program has provided a consistent, long-term source of funding that has been used to create highly valued regional partnerships with state agencies such as NPS Councils, Depts. of Ag, Env. Qual, Educ, and Commerce, Association of Conservation Districts, Commodity Groups as well as federal agencies including EPA, NRCS, USFS, BLM, USGS, USFWS, BOR, DOE, BIA.

Examples of the NPM Region's integration of research, teaching and extension include:

- Educate landowners on ways to monitor their land and water resources in areas of coal bed methane development with a recently published resource monitoring manual
- Research, publish and disseminate information related to optimizing irrigation water use on a variety of crops in Region 8
- Dissemination of BMPs through factsheets and workshops that educate agricultural producers on the proper handling and disposal of AFO/CAFO animal wastes
- Utilizing the most current geospatial technologies to bring relevant information to agricultural producers in Region 8
- Creation of a program to develop an arsenic educational network within Region 8

Category: Committee for Shared Leadership  
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