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BEFORE THE MONTANA BOARD OF NATURAL RESOURCES AND CONSERVATION

IN THE MATTER OF WATER RESERVATION APPLICATION NOS. LO77646-40S, LO77647-40Q, LO77749-40S, LO78651-40J, LO84482-40S, LO84483-40J, LO84484-39G, LO84485-39FJ, LO84486-40J, LO84487-41P, LO84488-40Q, LO84489-40J, LO84490-40J, LO84492-40R, LO84492-40P, LO84493-40J, LO84494-40G, LO84495-40O, LO84496-39E, LO84497-40Q, LO84498-39G, LO84499-40S, LO84500-40S, LO84501-40S LO84502-40R, LO84503-39G, IN THE LITTLE AND LOWER MISSOURI RIVER BASINS	DEPARTMENT OF FISH, WILDLIFE & PARKS' OBJECTOR TESTIMONY

COMES NOW the Montana Department of Fish, Wildlife and Parks, and files the attached objector testimony of Jeffrey T. Herbert, relating to the reservation application of Sheridan County Conservation District. In addition to this objector testimony, the department will rely on the entire record of this proceeding in support of its objections to the following conservation district applications:

Daniels Co. CD	#40Q-L084497-00
Valley Co. CD	#40O-L084495-00
Sheridan Co. CD	#40R-L084502-00

Wibaux Co. CD	#39G-L084503-00
Roosevelt Co. CD	#40S-L084501-00
Carter Co. CD	#39E-L084496-00
Blaine Co. CD	#40J-L084493-00
Richland Co. CD	#40S-L084500-00
McCone Co. CD	#40S-L084499-00
Little Beaver Co. CD	#39G-L084498-00

The department has also objected to the application of Hill County Water District, #41P-L084487-00. The water district has not filed any testimony. The department is not filing testimony concerning the Hill County Water District application, but wishes to preserve its objection at this time.

The department reserves the right to cross-examine at the hearing any witness who provides testimony in this matter concerning the conservation district and Hill County Water District applications.

DATED: July 22, 1994.

DEPARTMENT OF FISH, WILDLIFE & PARKS

By Curtis E. Larsen
Curtis E. Larsen
Agency Legal Counsel

CERTIFICATE OF SERVICE

I hereby certify that on the 22d day of July, 1994, a true and accurate copy of DEPARTMENT OF FISH, WILDLIFE & PARKS OBJECTOR TESTIMONY was duly served upon all parties listed below by depositing the same, postage prepaid, in the United States Mail.

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Curtis E. Larsen

PRE-FILED OBJECTOR'S TESTIMONY
OF JEFFREY T. HERBERT
ON BEHALF OF THE MONTANA DEPARTMENT OF
FISH, WILDLIFE AND PARKS

Q. Please state your name and business address?

A. Jeffrey T. Herbert
Montana Department of Fish, Wildlife and Parks
1420 East 6th Avenue
Helena, Montana 59620

Q. What is your present employment?

A. I am the statewide waterfowl coordinator employed by the Montana Department of Fish, Wildlife and Parks.

Q. Please state your educational background and experience.

A. I graduated from Lincoln High School in Des Moines, Iowa in 1970, and attended Montana State University from 1970-1977, earning a B.S. and M.S. in Fish and Wildlife Management. I was employed by the Bureau of Land Management as a temporary wildlife technician for six months from April - September, 1977. In January, 1978 I began employment with MDFWP as a regional wildlife biologist based in Jordan. In January, 1980, I transferred to Townsend and assumed the duties of regional wildlife biologist and project biologist for the Canyon Ferry Wildlife Management Area (CFWMA). In September, 1986, I assumed the duties of Statewide Waterfowl Coordinator in the Helena office and have served in that capacity since that time.

My work experience while employed by MDFWP has been extensive. Regional wildlife biologist responsibilities included collecting and interpreting survey data for big game populations and game bird populations, development of hunting season recommendations, interaction with private landowners and the public in the formulation of these regulations, and coordination with federal land management and regulatory agencies (Forest Service, Bureau of Land Management, Bureau of Reclamation and U.S. Fish and Wildlife Service). Project biologist responsibilities on the CFWMA included personnel supervision, budget supervision, habitat development and maintenance programs, monitoring wildlife population responses to habitat development activities, water management on the impoundment system, and supervision of agricultural leases with adjacent private landowners.

My statewide waterfowl coordinator duties include personnel supervision, budget management, development, coordination, and implementation of migratory game bird surveys, population trend assessment, banding programs, hunting season

recommendations and habitat enhancement and mitigation programs. I serve as the Montana representative on the Pacific Flyway Study Committee and participate in a wide range of flyway related activities which include population assessment and development of migratory game bird hunting season regulations in conjunction with the US Fish and Wildlife Service, other western states and Canadian provinces. I coordinate the Montana Waterfowl Stamp Program, including selection of artwork, contracts with stamp and print publishers, development and construction of suitable wetland enhancement projects and other associated duties. I serve as the department's contact for wetland related activities, including but not limited to, mitigation projects, highway reconstruction activities, wetland protection efforts as they relate to the Clean Water Act and the Federal Farm Program, and wetland habitat enhancement efforts involving both public agencies and the private sector.

Q: What knowledge and information do you have about wetland and wildlife resources in northeastern Montana?

A: I coordinate MDFWP involvement in the implementation of habitat enhancement activities under the US Prairie Pothole Joint Venture (PPJV). This includes the Northeast Montana PPJV project area which encompasses Sheridan, Daniels and Roosevelt Counties. The focus of this joint venture is to enhance wetland habitats and associated upland areas to increase waterfowl recruitment rates from this important duck breeding area. This includes cost effective application of management strategies designed to improve waterfowl production from these wetland complexes. This includes wetland creation and restoration, island construction, nest structure installation, establishment of dense nesting cover, and implementation of managed grazing systems.

Q. What is the purpose of your objector's testimony?

A. The purpose of my testimony is to describe the effects that the proposed Sheridan County Conservation District ground water development projects as described in the Lower Missouri River Basin Draft Environmental Impact Statement (DEIS) may have on wetland, migratory bird and other wildlife resources in Sheridan County.

Q. Please explain the value of these wetland/wildlife resources in Sheridan County?

A. Sheridan County is located within the heavily glaciated prairie pothole region of the northcentral United States and prairie Canada. Wetland densities are high and the area is characterized by a diversity of wetland communities. The Montana Comertown PPJV project plan (MDFWP 1988), the Montana PPJV Implementation Plan (MDFWP 1990), and the Mountain - Prairie Region Wetlands Concept Plan (USFWS 1990) document the

importance of wetland values within this area of the state. Approximately 26% of Montana's wetlands have been lost to development (Dahl 1990).

This area was designated as one of the two first-step projects under the Montana Prairie Pothole Joint Venture effort. Many of the wetland types found in this area are classified as palustrine emergent (PEM) or shallow, temporary wetlands, under the Cowardin system of wetland classification. These PEM types are listed as a nationally decreasing wetland type of importance. This is especially true for PEM seasonally flooded, temporarily flooded and semi-permanently flooded wetland types (PEMC, PEMA, and PEMF, respectively). These PEM types in conjunction with more permanent, larger marshes form a very important complex within this prairie pothole region.

Continental duck populations have declined significantly since the late 1980s. Much of this decline is attributed to habitat degradation in the form of extended drought, wetland drainage, and conversion of native grassland habitats to cropland. Poor annual recruitment of young ducks is symptomatic of this decline and low nest success rates due to depredation is one of the primary factors. This is especially true for the eastern Dakotas, Minnesota, Iowa and the Canadian provinces of Saskatchewan and Manitoba. The western Dakotas, eastern Montana, and Alberta consistently exhibit much higher nest success rates and thus, contribute more towards the annual fall flight of migratory birds.

Breeding pair surveys flown by the USFWS indicate this area contains the highest number of mallard pairs and total breeding ducks of any surveyed area in Montana. The Nature Conservancy's Comertown Pothole Preserve Design Package (1987) documents the diversity of nongame species associated with this geographic area and notes the occurrence of species of concern. Sheridan County also represents some of the best ring-necked pheasant habitat in the state and the 1992 Hunting and Harvest Statistics (MDFWP 1993) document both the highest pheasant harvest and hunter participation rates for the state occur here.

Annual precipitation rates and adjacent land uses can affect water availability, water quality and wetland functional values of these Sheridan County wetland basins. Functional values include such things as flood control, ground water recharge and discharge, sediment filtration, nutrient recycling and food chain support. This in turn, impacts the status and productivity of wildlife populations associated with this geographic area.

Q. What impacts to these resources might occur under the proposed groundwater development projects?

A. The DEIS indicates that irrigation development may have a direct impact on maintenance of shallow groundwater necessary to sustain connected surface water bodies. In addition, other authors such as Winter (1989), have discussed the complex relationship between surface water and groundwater in the glaciated prairies and indicate that there is a close interaction between groundwater and surface water features such as lakes and wetlands.

Prairie wetlands undergo within-year and between-year fluctuations dependent upon climactic conditions and precipitation rates. This wet/dry cycle is a characteristic of these basins and over time contributes to their overall productivity by recycling nutrients. During periods of extended drought, basins may dry up completely. Then, during periods of above average precipitation, they will recharge and retain water throughout the year. The DEIS indicates that groundwater capacities are also affected by extended drought. Development of ground water supplies could mimic extended drought conditions and negatively impact even the more permanent interconnected basins in the project area such as the Medicine Lake complex.

Q. Are wetland functional values affected more by evaporation than changes in groundwater distribution and availability?

A. Precipitation and snow-melt runoff are the major water sources for temporary and seasonal basins. Evaporation and infiltration are both processes which remove water from a basin. Many temporary and seasonal wetlands will hold water for only short periods of time during the spring and early summer and this contributes to their functional values. They are especially productive for breeding waterfowl both from a foraging and territorial basis.

More permanent wetland basins that are supplied through surface runoff and subsurface infiltration provide both brood rearing and molting habitats which require the presence of deeper water well into late summer. If groundwater tables are lowered due to over utilization, the overall functional values of an individual basin may be permanently reduced because the water depletion will be added to that which occurs naturally. Semi-permanent and permanent basins may become much more transitory in nature and thereby reduce the functional value of the associated wetland complex. Water quality may be reduced due to increased salinity.

Q. How might this affect plant communities and wildlife numbers?

A. If the water supply of the wetland basins is reduced, a series of impacts could be predicted. Vegetation communities would be altered and emergent and submergent plants could be replaced by those requiring a drier substrate. Changes in plant composition may alter forage availability by reducing both

important aquatic food plants and essential aquatic insect populations dependent on those plant communities. Aquatic insects are an important dietary component of females during the egg laying process and of juvenile birds during the early weeks of life. Lack of semi-permanent and permanent basins that provide security for the brood rearing period may increase mortality of young birds and reduce the number of ducks and other water related species recruited to the fall flight.

Reduction of the emergent zone dominated by cattails and bulrush would eliminate an important element of winter cover for pheasants and over-water nesting sites for waterfowl and other species in this area. These changes would reduce the carrying capacity of these sites for both migratory and resident species.

Increased salinity would alter aquatic plant and insect species compositions. This would reduce the overall attractiveness of the area to those species that depend on these communities for both nesting and foraging aspects.

Q. What wetland types will be affected by the proposed action?

A. From the list presented in Appendix F, Table F-1 of the DEIS, it appears that palustrine emergent wetlands will be impacted to the greatest extent. This includes seasonal, temporary and semi-permanent types.

It is not clear if these adverse impacts would be the result of reduced groundwater supplies or increased drainage and cultivation activities. Wetland drainage and cultivation would be prohibited under current USDA programs.

Q. Will the establishment of a controlled groundwater area or other controls offer a reasonable solution to the various user's demands and should it prohibit additional surface water development?

A. Approximately 151 wells have been drilled into this aquifer since 1985. It is estimated that approximately 9,800 to 10,000 acre feet of water are being withdrawn each year from this system. Determination of the sustainable yield may be difficult and should be assessed by hydrologists. If additional development does not reduce groundwater flows to the point where surface water and recharge functions are affected, then controlled, incremental growth seems appropriate. It is imperative that some type of monitoring system be established to evaluate the effects of additional developments on the aquifer. This process should also establish an acreage cap for future developments.

In addition, restoration of drained wetlands or creation of new basins will provide positive wetland functional values

that include ground water recharge. Therefore, we would like to see permits for new surface water wetland developments issued independently of ground water developments that may be constrained by the sustained yields of the aquifer.

I, Jeffrey T. Herbert, being first duly sworn, state that the foregoing testimony is true.

Dated this 19th day of July, 1994.

Jeffrey T. Herbert

Subscribed and sworn to before me this 19th day of July, 1994.

(NOTARY SEAL)

Debra K. McRae
Notary Public for the State of Montana
Residing at Helena
My Commission Expires May 14, 1998