

Shannon D. Phelps
sphelps@seacrestgroup.com

Education

Master of Science in Land Rehabilitation, Montana State University, Bozeman
Master of Science in Land Resources and Environmental Sciences, Montana State University, Bozeman
Bachelor of Science in Resource Conservation and Forestry, University of Montana, Missoula

Professional Activities

Member, Society of Environmental Toxicology and Chemistry
Member, American Society of Mining and Reclamation
Member, Lefthand Watershed Organizational Group (Board)
Member, Technical Advisory Group for Lefthand Watershed (Board)
Associate, Institute for Environmental Solutions

History of Employment

9/03 - Present Technician -Owner/Technical Director, Seacrest Group

Responsibilities include directing the laboratory and consulting operations of the Seacrest Group's domestic environmental activities. In this role, responsibilities include management of biotoxicity studies conducted for municipal, government, industrial and military clients with wastewater and stormwater dischargers. This work is done under the provisions of NPDES permits mandated under the Clean Water Act. These studies include implementation of laboratory and field surveys, detailed biological and chemical analyses to identify and eliminate sources of toxicity in wastewaters, and interface and coordination with Federal and state regulatory agencies charged with implementing the provisions of the CWA.

6/05 - Present Technical Expert, Lefthand Canyon Watershed Oversight Group

Appointed to provide expert technical support to the Lefthand Canyon Watershed Oversight Group (LWOG). The LWOG is a group of county, state and Federal regulatory officials, university and private industry scientists, and local citizens charged with overseeing the investigation and reclamation of the Lefthand Canyon Watershed in Colorado. In this role, Mr. Phelps consults with the group, prepares public presentations, and has conducted field and laboratory investigations to monitor sediment and water quality in the watershed as reclamation progresses of Superfund designated and other abandoned mining sites.

8/06 - Present Environmental Expert, XTO Energy, Raton Basin, Colorado

As Project Manager for this investigation, Mr. Phelps is conducting field surveys to map riparian and agricultural land uses in the watershed where XTO is exploring and producing coal bed methane (CBM). Discharges from the CBM wells are released into streams which have been given cold water fishery status by the Colorado Water Quality Control Commission (CWQCC). The investigation involves an analysis of the significance of boron contained in these discharges and its possible impact on the agricultural uses of the watershed. Literature reviews of boron impacts are being performed as well as minutes and findings of the CWQCC to establish a basis for the classification of various stream segments in the watershed. A report for presentation to the CWQCC will be prepared.

10/00 to 5/ 03

Graduate Research Associate – Montana State University

Developed and published research funded through the Department of Energy identifying halophytic vegetation characteristics and their potential use in the remediation of saline-sodic coalbed methane production water in the Powder River Drainage of northern Wyoming and southern Montana. Mr. Phelps developed research identifying disturbed soils' chemical and physical properties, soil drainage and water quality, and revegetation strategies for these disturbed sites. These investigations brought about a thorough understanding of the socio-economic effects from mining and an expertise in mineral ownership and water rights. Furthermore, in accordance with the Resource Conservation Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Mr. Phelps has investigated strategies for the reclamation of acidic, metalliferous soils associated with hardrock mining including the use of alternative amendments to mine tailing reclamation.

5/99 – 9/01

Forester – USDA Pacific Northwest Research Station

Conducted extensive forest inventories, stand examinations, and habitat identification of both public and private lands in the Cascade Mountain Range of Oregon and Washington states. Utilized GPS navigation, remote sensing technologies, and fundamental 2 and 3-D map interpretation.

Summary of Experience/ Knowledge

Experience:	Years	Knowledge	Years
Compliance	5	CWA, Watershed Management	5
Natural Resource Management	10	Forest Management, Agricultural and Grazing Management	10
Conservation	10	NEPA	5

Publications

Phelps, Shannon D. (co-author) 2001. The role of plants in the bioremediation of coalbed methane product water. In: 2001 Montana Water Quality and Irrigation Management (web). Montana State University Publishing, Bozeman.

Phelps, Shannon D. 2002. Coalbed methane ownership and responsibility: A summary of surface, mineral, and split-estate rights. In: 2002 Montana Water Quality and Irrigation Management (web). Montana State University Publishing, Bozeman.

Phelps, Shannon D. (co-author) 2002. Plant and soil response to irrigation with water comparable to coalbed methane water from the Powder River Basin. In: 2002 Montana Water Quality and Irrigation Management (web). Montana State University Publishing, Bozeman.

Phelps, Shannon D. 2003. Effects of irrigation water quality and water table position on species biomass production, crude protein, and base cation removal. Reported to the 9th. Billings Montana Land Reclamation Symposium. Published first by Montana State University Publishing, Bozeman.

Phelps, S.D. (co-author). 2005. Characterization of Acute Toxicity to *Ceriodaphnia dubia* in the Lefthand Creek Watershed, Boulder County, Colorado. Society of Environmental Toxicology and Chemistry (In Progress).

Phelps, S. D. 2006. Report on water quality criteria and environmental conditions from the Golden Eagle, Apache canyon, and Hill Ranch leases. Reported to XTO Energy and Colorado Department of Public Health and Environment.

Browning, L.S, Bauder, J.W., and Phelps, S.D. 2006. Effects of irrigation water salinity and sodicity and water table position on water table chemistry beneath *Atriplex lentiformis* and *Hordeum marinium*. Arid Land Research and Management. 20: 1-15.

Phelps, S. D. 2007. Report on water quality criteria and environmental conditions from the Golden Eagle, Apache canyon, and Hill Ranch leases (Year 2). Reported to XTO Energy and Colorado Department of Public Health and Environment.