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Best Management Practices (BMPs): What?
How? And Why? (May 26)

2011

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AGENDA: Best Management Practices (BMPs): What? How? And Why?

Houston Advanced Research Center. Environmentally Friendly Drilling Systems Program

Research Partnership to Secure Energy for America

University of Colorado Boulder. Natural Resources Law Center. Intermountain Oil and Gas BMP Project

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BEST MANAGEMENT PRACTICES - WHAT? HOW? AND WHY?

MAY 26, 2011 • BOULDER, COLORADO

[Presentations](#) :: [Sponsors](#) :: [Registration List](#) :: [Speaker Bios](#)

The [Environmentally Friendly Drilling Systems](#) (EFD) Program, managed by the [Houston Advanced Research Center](#), works to identify, develop and transfer critical, cost effective, new technologies that can provide policy makers and industry with the ability to develop natural gas reserves in a safe and environmentally friendly manner. Funding for the EFD Program is through a grant from the [Research Partnership to Secure Energy for America](#), established under the 2005 Energy Act. Within the EFD Program, some projects focus on technologies for developing energy sources in environmentally sensitive areas; others (like the NRLC's [BMP Project](#)) seek ways to reduce the environmental footprint in all types of environments. The EFD Program currently provides the majority of funding for the Intermountain Oil and Gas BMP project.

The EFD Program holds quarterly workshops to share ideas among the program partners, sponsors, and with the broader community. The NRLC hosted the EFD's quarterly meeting in a workshop on May 26, 2011 at the Wolf Law Building on the University of Colorado campus.

With presentations from EFD project researchers and perspectives invited from all participants, the May, 2011 EFD workshop explored the value of different methods for incorporating BMPs into a development as well as the benefits and cost of implementing BMPs. See the NRLC's [Intermountain Oil and Gas BMP Project](#) for more information on BMPs and how they can be implemented in oil and gas development.



PRESENTATIONS*

PRESENTATIONS	PRESENTERS
Introduction to Large-scale Planning and	Kathryn Mutz

<u>the Intermountain BMP project</u>	<u>Natural Resources Law Center</u> University of Colorado Law School
<u>Environmentally Friendly Drilling Systems Program</u>	Rich Haut <u>Houston Advanced Research Center</u>
PLANNING OF MULTI WELL DEVELOPMENT	
<u>Wildlife Mitigation Plan (WMP), Comprehensive Drilling Plan (CDP), Geographic Area Plan (GAP)</u>	Ginny Brannon <u>Colorado Department of Natural Resources</u>
<u>Master Development Plans (MDPs): Oil and Gas Projects</u> <u>Master Development Plans (MDPs) / Geographic Area Plans (GAPS): Comprehensive Planning Tools for Oil and Gas Projects</u> (Allen Crockett, BLM - unable to attend)	Mary Bloomstran Edge Environmental
<u>Collaborative Planning and Lessons Learned</u>	Matt Sura <u>University of Colorado Law School</u>
<i>Discussion only; no visual presentation</i>	Tisha Schuller <u>Colorado Oil and Gas Association</u>
Environmentally Friendly Drilling Project: Public Perception Study <i>(Powerpoint presentation coming soon)</i>	Brian Gentry Ph.D. student Environmental and Community Sociology, <u>Utah State University</u>
COST/BENEFIT ANALYSIS OF BMPS	
<u>The Costs & Benefits of Best Management Practices: Insights from the Marcellus</u>	Tim Considine <u>School of Energy</u>

<u>Shale</u>	<u>Resources, University of Wyoming</u>
<u>BMPs for reclamation: Do we know what is effective?</u>	Peter Stahl <u>Wyoming Reclamation and Restoration Center</u>
<u>The Economic Benefits of Completing Initial Reclamation Successfully for Oil and Gas</u>	Joe Schneider and Colby Reid <u>Western States Reclamation</u>
<u>Arctic Ecosystem Services Measurement and Modeling Project</u>	Eric Biltonen <u>Houston Advanced Research Center</u> Ecosystems Services Project
MANAGING AIR QUALITY	
Urban Challenges in the Rural West Gas Patch <i>(Powerpoint presentation coming soon)</i>	Kate Fay Energy and Climate <u>US Environmental Protection Agency,</u> Region 8
<i>Discussion only; no visual presentation</i>	Jeremy Nichols <u>WildEarth Guardians</u>

* Presentations will be added as they are obtained. All presentations in [Adobe Acrobat](#), unless otherwise noted.

SPONSORS

[HARC Environmentally Friendly Drilling Systems Program](#)
[RPSEA: Research Partnership to Secure Energy for America](#)
[University of Colorado Intermountain Oil and Gas BMP Project](#)



Intermountain Oil and Gas BMP Project

NRLC BMP Workshop Bios

Eric Biltonen

Dr. Biltonen is an economist with the Houston Advanced Research Center. He earned his PhD from Colorado State University's Department of Agriculture and Resource Economics. He spent nearly 10 years in Southeast Asia as a consultant working on water related projects at the national level including the drafting of national laws and a strategic plan for an international river basin organization. His current work at HARC involves the analysis and assessment of ecosystem services with a focus on water and other natural resources. He is also involved with a study on Future Fuels for Texas.

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Mary Bloomstran

Mary has more than 25 years of experience in environmental analysis and process design of energy-related projects in the western United States. She obtained a B.S. in Chemical and Petroleum Refining Engineering from the Colorado School of Mines. Her project experience includes impact analysis for federal, state, and local permitting of pipelines, coal mines, powerlines, fiber optic lines, and oil and gas exploration and development projects. She has served as Project Manager for several NEPA projects including both EA's and EIS's for oil and gas development projects, in which she coordinated with the BLM and Forest Service Project Managers, as well as all subcontractors. She coordinated the stakeholders groups for Air Quality Assessment on Regional Haze for the Pinedale Anticline Project and the DM&E Railroad Expansion Project, which included client members as well as agency personnel including the Bureau of Land Management and the U.S. Forest Service.

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Ginny Brannon

As Assistant Director for Energy and Minerals, Ginny Brannon works to develop and implement policy regarding oil and gas, mining, and geology. She advises and coordinates with the Colorado Oil and Gas

Conservation Commission, the Division of Mining Reclamation and Safety, and the Colorado Geological Survey - the three DNR divisions responsible for managing Colorado's mineral and energy resources.

Before joining the Department of Natural Resources in 2010, Ginny worked on climate and energy policy at the Colorado Department of Public Health and Environment for three years. Prior to that, Ginny served as an Assistant Attorney General in the Natural Resources Section of the state Attorney General's Office for seven years where she represented the Colorado Department of Health and Environment on hazardous waste cases and the Department of Natural Resources on cases involving water rights.

Ginny received her JD from Denver University, where she was general editor of the University of Denver Law Review. She also earned an MA in Economics from the University of Colorado and a BA in economics from Colorado College. Ginny is a fourth generation Coloradoan.

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Mark Bullard

Mark Bullard attended the University of Texas at Austin as a National Merit Scholar, and has been active in productions for HBO, the Independent Film Channel, Lions Gate, as well as several acclaimed independent documentary projects. He is the producer, cinematographer and supervising editor for *Haynesville*.

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Tim Considine

Dr. Timothy Considine is a School of Energy Resources Professor of Economics in the Department of Economics and Finance. He received his Ph.D. from Purdue University. His research on petroleum market analysis has been published in the top economics journals. Recently, The Cato Institute published his paper exploring management policy issues facing the U.S. Strategic Petroleum Reserve, and the U.S. Department of Energy's Office of the Strategic Petroleum Reserve currently uses his econometric model of world crude oil markets to estimate the market impacts of various management policies. Dr. Considine also worked as an economist at Bank of America, and as the lead analyst for natural gas deregulation on the U.S. Congressional Budget Office.

Dr. Considine holds a Ph.D. from Cornell University, an M.S. from Purdue University, and a B.A. from Loyola University

(source: <http://www.uwyo.edu/ser/faculty/considine.html>)

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Kate Fay

Kate Fay is a nationally known expert in environmental and energy policy development and implementation. In February 2011, Kate was appointed to serve as EPA Region 8 Senior Advisor for Energy and Climate, reporting directly to the Regional Administrator. For the preceding four years, Kate was Energy Manager for the *Colorado Department of Public Health and Environment* where she has led the Department's participation in the statutorily mandated overhaul of the Colorado Oil and Gas Commission regulations - and their subsequent implementation. Kate is also presently leading an effort to design Colorado's approach for meeting a tighter federal ozone standard, expected to be announced soon by the EPA.

Kate has also been President of *Terra Firma Strategies*, a consulting resource for environmental and energy analysis, permitting, and strategic planning. In the late 1980s and early 1990s, Kate held two positions at the *U.S. Environmental Protection Agency* in Washington, D.C., including Policy Advisor to the Assistant Administrator for Air and Radiation and Senior Analyst in the Office of Policy Analysis and Review, where she worked exclusively on reauthorization of the Clean Air Act and the Act's implementing regulations. Kate began her career in California working in the headquarters Environmental Department of *Tosco Corporation*, an energy developer and at *Sierra Research*, a consulting firm specializing in air quality policy and analysis. Kate holds degrees from the University of California, Berkeley in natural resources economics and public policy.

Kate has been a German Marshall Fund Environment Program Fellow, a member of the Aspen Institute Series on Natural Resources and the Environment, an advisor to the Center for Clean Air Policy's national dialogue on transportation, and the environment and an adjunct professor of environmental planning at the University of Colorado at Denver.

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Brian Gentry

Brian Gentry is a doctoral candidate in sociology at Utah State University working with Dr. Douglas Jackson-Smith and, in conjunction with Dr. Gene Theodori (Sam Houston State), explored the opportunities and barriers to reducing the environmental footprint of natural gas development in Utah's Uintah Basin. His tentative dissertation work will focus on the varying community responses to natural gas development across the United States including the Intermountain West, Texas, and in the Marcellus Shale Region.

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Richard Haut

Dr. Richard Haut is currently a Senior Research Scientist at the Houston Advanced Research Center (HARC). He serves as the Principal Investigator for various projects associated with securing energy for the future, including the Environmentally Friendly Drilling Program.

Dr. Haut served as the Director of the Sustainable Technologies Group at the Houston Advanced Research Center (HARC) from 2002 to 2006.

Dr. Haut's technical background includes a Masters degree and a Ph.D. in Engineering. He has over 25 years of industry, technical, and management experience prior to joining HARC in June 2002, having been responsible for analyzing offerings for key technologies or niche capabilities and developing synergistic, strategic relationships in the energy industry. He also was instrumental in establishing joint ventures and other joint industry programs including the start-up of Enventure Global Technology where he was the Chief Operating Officer. Dr. Haut's career includes a ten-year time period where he was assigned to North Sea operations as a well technology manager and advisor for drilling and completion operations in both Norway and Scotland.

Dr. Haut has been invited to speak at various conferences, has authored numerous papers, has been awarded over three-dozen patents and has several patents pending. He has also been requested to participate in Congressional hearings and briefings. He was featured in the Wall Street Journal as well as the summer 2008 edition of Echoes, the alumni magazine of Rose-Hulman Institute of Technology. He also served on a five-member work group to assist the National BP Deepwater Horizon Gulf Spill and Offshore Drilling Commission. He is a board member of the Research Partnership to Secure Energy for America (RPSEA) where he also chairs the Environmental Advisory Group.
(<http://files.harc.edu/WWW/Staff/rhaut.pdf>)

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Jeremy Nichols

Jeremy Nichols is the Climate and Energy Program Director for WildEarth Guardians, a nonprofit organization dedicated to protecting and restoring the wildlife, wild places, and wild rivers of the American West. Jeremy was born and raised in Boise, Idaho and now lives in Denver with his son.
(source: <http://www.huffingtonpost.com/jeremy-nichols>)

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Joe Schneider

Mr. Schneider has a BS in landscape horticulture from Colorado State and a Masters of Landscape Architecture from Kansas State. He has been estimating and assisting with reclamation plans for oil and gas companies with Western States Reclamation for close to three years.

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Tisha Schuller

Tisha Schuller serves as President & Chief Executive Officer of the Colorado Oil & Gas Association. As President, Ms. Schuller is responsible for leading the industry in Colorado legislative, regulatory, and public relations matters. Previously, Ms. Schuller served as a Principal and Vice President with Tetra Tech, a national environmental consulting and engineering firm. In addition to running business operations, Ms. Schuller has spent the last 15 years conducting environmental permitting for oil and natural gas projects across the country. She has a B.S. in Earth Systems with an emphasis in Geology from Stanford University. Tisha is married to Brian and they have two young boys. They live in rural Boulder County in a log cabin built in 1873.

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Peter D. Stahl (Pete)

Peter D. Stahl was appointed to the Department of Renewable Resources at UW in 2000. Dr. Stahl's research includes investigating soil and ecosystem recovery on reclaimed lands disturbed by resource extraction, as well as the sustainability of different agricultural management practices on western crop-range-livestock operations. He teaches Reclamation of Disturbed Lands, Soil Microbiology, Soil Biogeochemistry, and a Land Reclamation Seminar. Dr. Stahl is currently director of the Wyoming Reclamation and Restoration Center (WRRC) at the University of Wyoming, a former president and current treasurer of the Western Society of Soil Science, chair of the Ecology Technical Division of the American Society of Mining and Reclamation, and chair of the Domain Science and Education Coordinating Committee for the Northern Plains Region of the National Ecological Observation Network (NEON).

Dr. Stahl holds a B.S. from Oklahoma State University, and an M.S. and PhD from the University of Wyoming.

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Matt Sura

Matt Sura is the former director of Western Colorado Congress, a non-profit community action organization that has eight chapters throughout the Western Slope of Colorado. Matt spent over ten years working with landowners and local governments for better regulation of the oil and gas industry in Colorado. Matt is a recent graduate of the University of Colorado Law School.

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