Summary Minutes
NEW MEXICO RESOURCE ADVISORY COUNCIL
June 10-12, 2008
Socorro

RAC Members Present:
Crestina Trujillo Armstrong
Gerald Chacon
Bruce Gantner
Cliff Larsen
Randall McCormick
Matthew McQueen
Raye Miller
Lynda Sanchez
William Sapien
Lynne Sebastian
John Thompson
Martha Yates

RAC Members Absent:
Betty Haagenstad
Mark Marley, Chair

Designated Federal Official:
Linda Rundell

BLM Staff:
Eddie Bateson, Roswell FO
Mike Bilbo, Socorro FO
Doug Burger, Pecos DO
Kevin Carson, Socorro FO
Bill Childress, Las Cruces FO
Thomas Gow, Rio Puerco FO
Steve Henke, Farmington DO
Tony Herrell, NMSO
Theresa Herrerra, NMSO
Pat Hester, Albuquerque DO
Donna Hummel, NMSO
Jesse Juen, NMSO
Mark Matthews, Socorro FO
Bill Merhege, NMSO
John Merino, Socorro FO
Dorothy Morgan, Carlsbad FO
Tom Phillips, Las Cruces FO
Tim Sanders, Las Cruces FO
Ed Singleton, Albuquerque DO
Gary Thompson, Pecos DO

Scribe:
Karen Meadows

JUNE 10, 2008 FIELD TRIP

A Field Trip was hosted by the Socorro Field Office which included a tour of San Lorenzo Canyon and Quebradas Back Country Byway.

PUBLIC COMMENT PERIOD

RAC Acting Chairman Bruce Gantner opened the Public Comment Period at 6:10 p.m. He introduced himself and Linda Rundell. RAC members and BLM staff introduced themselves. Members of the public were invited to speak. No one took the floor.

Terry Last, editor of the Socorro newspaper, *El Defensor Chieftain*, introduced himself. Bruce asked the editor to speak. Mr. Last said he came to hear what the RAC might say. He had looked at the agenda and would send reporters if possible. Bruce spoke about the RAC and its purpose, and thanked him for attending.

Announcements followed.

Linda said the RAC asked at their last meeting that BLM invite off-highway vehicle (OHV) users and those interested in the paleontology of the Trackways to share their perspectives. They also asked for uranium and alternative energy information. Presentations on those topics were included on the agenda. The RAC had also considered basing working groups on best management practices for alternative energy, and the best type of management for Trackways. She had a copy of the Trackways

bill for the RAC (Attachment 1). She said it had gone through the Senate, and she suspected it would be passed this year, with one year for BLM to develop a management plan. She anticipates that BLM will have to have at least one meeting in Las Cruces to see what the public wants. It would be very helpful to have a functioning RAC working group helping BLM with Trackways.

They also needed to talk about when to meet again. Choices included having a full RAC meeting, having working group meetings, or having no meetings. One consideration was that after September 19, five RAC members' terms end.

Bruce closed the Public Comment Period at 6:30 p.m.

JUNE 11, 2008 RAC MEETING

CALL TO ORDER, WELCOME & OPENING STATEMENTS

Bruce called the meeting to order at 8:05 a.m. All present introduced themselves. Bruce welcomed Representative Pearce.

Linda said the Permian Basin Memorandum of Agreement on how to handle archaeological resources in SE New Mexico had been signed after three years of intense negotiation and 14 drafts. Now oil and gas companies have the choice to continue to do clearances on projects as they have done, or to put that dollar amount aside for BLM to test and excavate for scientific research. There will be an oversight group.

Also, BLM is working to develop a special status species plan for the sand dune lizard and lesser prairie chicken in SE New Mexico. One change in the record of decision might be to create an area of critical environmental concern that BLM would turn into a prairie chicken preserve. No livestock are being run there, so it would be a good opportunity to continue to stay ahead of listing those two species.

SNOWY RIVER CAVE DISCOVERY

Mike Bilbo, BLM Socorro Field Office (Attachments 2)

Mike manages caves for BLM and has been a caver since the 1970s. He said Snowy River Cave was discovered with the help of the caving community and volunteers associated with digs. Without their dedication, BLM would not have been able to come so far. Plans to develop Snowy River as a national cave conservation area are packaged with the Trackways bill before the U.S. Congress. He hopes that will go forward.

In 2001, a small party opened a project in Ft. Stanton Cave that had been worked on for 30 years, and found a hard and dangerous 700-foot passage that took seven hours to descend. Beyond it was Snowy River Cave, two miles of continuous underground calcite formation. Calcite forms stalactites and stalagmites, but occurs here in the longest pool deposit in the entire world.

Mike introduced BLM's Donna Hummel as a hard-core caver. He said BLM's Eddie Bateson and Doug Burger, and RAC member Lynda Sanchez, were also instrumental in all aspects of work on this cave. Mike wrote an environmental assessment that set things up. John Corcoran, seen in the DVD he was about to show the RAC, got a national award, and has researched Ft. Stanton Cave for 30 years. Jim Cox made the DVD documentary. At the time it was filmed, 18 inches of water flowed in the cave. The water is gone now, so they are surveying.

They don't know the source or the outlet of the water or the calcite. Researchers include world-class cavers and scientists. They wear 80-pound packs, changing muddy clothes from their trek in to ensure that they don't contaminate Snowy River. Scientific samples taken indicate bacteria never seen before.

As the field manager responsible for signing permits, Mike knew that 15-18 hours underground was a real safety risk. So specialists calculated another passage using cave radios with surface beacons and a team in the cave—the phenomenal new Mud Turtle Passage. In the future, BLM will drill a portal hole to Mud Turtle that will take off another several hours. They are stabilizing and establishing

facilities. What's the ultimate outcome? With university research, the sky is the limit. According to some cavers, Snowy River has international importance. Discoveries being made there could go all the way to curing cancer.

Lynda Sanchez distributed an article she wrote about Snowy River with photos showing the perspective of the cave. She said the caving community does everything including hauling lumber down to shore up passages. Geologists, engineers and other volunteers have put thousands of hours into these caves in the last 40 years. BLM needs to give them more credit. Could we recognize them officially and provide funding—at least for mileage? We receive so much in return, and they are endangering their lives, she concluded.

Mike distributed copies of the Snowy River clothing and changeover procedures. He reminded the RAC that BLM also manages Lecheguilla and Carlsbad caves where volunteers are at work. And he repeated that investigating whether these bacteria could be used for health purposes is a very big deal.

Question/Answer/Comment

- Can the RAC help recognize cave volunteers? There's a statewide cave team, with discussion among BLM staff for all aspects of support and recognition. There's also an assistance agreement underway between BLM and other agencies to facilitate cave research.
- Where is the legislation? The recommendation is for Snowy River Cave to be part of the national conservation system—to set the cave apart for research rather than recreation and make it eligible for federal funding.

CONTINUATION OF PALEO TRACKWAYS DISCUSSION

Greg Smith, Trackways Foundation (Attachments 3)

Greg said 280 million years ago, 50 million years before dinosaurs, Trackways was part of an inland sea. The Robledo Mountains were a shoreline. Petrified wood recently found there was from the late Permian period, prior to Triassic/Jurassic. Creatures ranging from tiny insects to large reptiles, including the sail-backed dimetrodon, walked on muddy areas and left tracks. This is a very important scientific resource, he emphasized. A lot of the footprints have been identified. And the petrified wood includes both identified and unidentified species.

He showed a DVD of the area, and concluded that Trackways has a unique set of resources, completely unique in the world in range and quality. Remains found include two 5,000-11,000-year-old spear points, fossils, and geologic and archaeological specimens. He said he spoke on behalf of the foundation's 11-person board, which feels very strongly that this resource needs protection.

Question/Answer/Comment

- Vandalism in the area is hard to measure. Awareness is a two-edged sword. BLM is strapped to have enough rangers to patrol Trackways.
- Jerry MacDonald at New Mexico State University (NMSU) researched Buffalo Soldiers' relics in that area 20 years ago.
- The Trackways Foundation is working with NMSU—talking to its president and professors, although NMSU is not represented on the foundation's board.
- Tony Herrell said Bill King, deceased NMSU paleontologist, did defining work on petrified wood in the 1960s and 1970s with the Geological Society of America. W.R. Seager and W.A. Clemens mapped the area in the 1970s. Seager was world famous for his work on the Rio Grande Rift. Trackways is part of the area where they worked. It would be good to get some of that original work included.
- The Trackways Foundation does plan to take what's known from prior work and other parts of the world. They're on a shoestring budget now, but hope to expand.

- Tony said NMSU worked with BLM's geologic field staff for years, and he was sure they'd want to be involved. Brachiopods in their textbooks, for example, come from areas like the Trackways.
- This area does have a lot of marine fossils. The footprints themselves represent a different level. Again, the abundant combination of resources is extremely helpful.
- Cliff said a vast majority of people agree that it needs protecting, but making it a national monument is meant to draw people in, which might not be protective. Why is the national monument the only mechanism being considered?
- Senators Domenici and Bingaman both felt that was the proper approach because the land was BLM-managed.
- No one is sure which level of protection would be most useful—and BLM's resources of rangers and volunteers are limited now.
- What are national monument characteristics? Why will a family from PA stop here? They would see where some of these things have been found. It's inspiring. They could go into an area that looks like it might have little value and find resources. Both youth and adults could see beyond red stone to look at details. Scientists are asking what else can we find out? There's enough for both.
- Lynne said the national monument design comes with expectations of a high level of interpretation and substantial conservation. Will we shut off the paleontological community from doing research?
- Greg said his board discussed that quite a bit. At Utah's Dinosaur National Monument, for example, a large portion of the monument is not easily accessible. There are areas of less importance where the public can be easily allowed and not interfere with research. As is done at Dinosaur National Monument, Trackways visitors could actually see researchers at work.
- The draft resolution addresses that.
- Linda said people wouldn't be going out there with shovels and hammers.
- Martha said she understood that up-to-95% of species were destroyed during that catastrophic event. She read the study citing 34 sites of significance. How many are in the drainages?
- Erosion has exposed those layers, so it is a concern that further human or natural exposure will wash it away. Humans naturally travel through those drainages.
- When the RAC visited the area Martha asked, "Where's the beef?" Then she read the study and was struck by the fact that the fossils that show up there are older than just about anything in our museums. There's little like it anywhere else in the world. Both volume and quality are phenomenal, followed by the rarity imposed by extinction. They won't be available many other places. Even in the 723 acres studied they found a tremendous amount of information that's changed thinking. Signs of some insects, for example, don't appear anywhere else.
- From the study of this small place scientists know the dimetrodon, formerly shown as belly- and tail-dragging, stood erect and walked differently than had been thought. These may even be another species.

PROPOSED PREHISTORIC TRACKWAYS NATIONAL MONUMENT

Jerry Arp, Las Cruces Four-Wheel Drive Club President (Attachment 4)

Jerry said he is a PhD geobotanist and life-long jeeper, currently working with the Department of Defense. His group would love to keep Trackways exactly as it is. Dona Ana County is 94.5% federal or state land; and off-highway vehicle (OHV) travel is restricted to existing routes. Their best area—at Trackways—is now being threatened with closure.

When the Wilderness Study Areas (WSAs) in this district were established, it was promised that existing OHV routes would be kept open. However, BLM has systematically closed routes over the years. When BLM closed existing routes in the Robledo Mountains Wilderness Study Area, the Apache Canyon routes were designated as an OHV area.

The Chile Challenge race caused Apache Canyon to be unofficially renamed Chile Canyon. Each year about 1,000 people participate in the Chile Challenge. In addition, over the course of a year, at least 1,000 visitors come to Las Cruces to enjoy other OHV challenges and opportunities. Hundreds of local people come out to watch the Chile Challenge. All of those visitors have a large positive economic impact. This is a sport. People like those on the RAC are interested in being out there and in preserving the area as an OHV route. The OHVs mostly follow-the-leader at 5 m.p.h.

The Las Cruces Four-Wheel Drive Club believes that the Trackways legislation has been designed to take multiple-use out of the plan. There's no new discovery here. This area's resources have been known for many years. There's only one site that ever produced significant tracks, and the mountain has fallen down over the tracks, or they were removed. All parties agree that there are currently no exposed trackways anywhere within the proposed national monument boundaries. Gravity is a big issue. In most places hundreds of feet of overburden cover the formation and would require millions of dollars to remove. Clearing the overburden would be not only difficult but also dangerous and costly.

He listed several researchers who explain why so few track sites have ever been found. It would cost $50-100 million to put in a national monument. Overall, the community does not support making this a monument.

In 2006, the Department of the Interior submitted written testimony recommending against making Trackways a national monument. Lack of significant exposed trackways makes a very weak argument for a monument. Fred Huff of the Las Cruces Four-wheel Drive Club distributed chunks of petrified wood. Jerry said petrified wood at the Trackways site has been known about and studied since the late 1980s, and was documented by the NM Museum of Natural History in 1995. Although the Las Cruces museum director said this discovery could dwarf the Petrified Forest in AZ, this is not a petrified forest. This is a thin band of petrified driftwood in limited areas, primarily along a long-established road, and not newly discovered.

What protection is needed for the Robledo Mountains? Protection is needed from amateur paleontologists. Protection comes with responsible stewardship. Jerry showed the only place in Chile Canyon where the red bed crosses the bottom of an arroyo—polished smooth by eons of water scouring. BLM asked the Las Cruces Four-Wheel Drive Club to protect the outcrop, which they did, overseen by BLM staff. The club put rubber mats over the outcrop, moved huge rocks, cleaned up after themselves and others, purchased 1,000' of waterline and helped a local rancher install it. During the 2008 Chile Challenge, they hired sheriff's deputies, search and rescue and a mounted patrol.

The club is concerned because closures are already starting. Jerry said the Sierra Club sued to close a nearby quarry that led to the discovery of the tracks. As a result, the quarry was closed, employees lost jobs, and stone for building in Las Cruces has to be trucked in. Roads have been closed. People need someplace to go, he concluded. Most of the area does not have track sites, and most of the sites have tiny tracks. There's no road to the primary site. The Las Cruces Four-Wheel Drive Club feels that Senator Bingaman's proposal is a massive land grab to close more public land to recreation. They suggest a more reasonable alternative that controls access and supports multiple use.

Question/Answer/Comment

- You presented facts as you see them, but the Sierra Club did not sue to close the quarry.
- Nobody sued. BLM closed the quarry because of pending legislation and complaints from neighbors.
- Linda has no doubt that the national monument bill will be passed by the end of the year.
- Las Cruces Four-Wheel Drive Club member Fred Huff said that bill had been replaced, taken out of consideration. There is no monument bill on the table.
- How much of what you presented can I believe?

- How did the Chile Challenge end up in this area? When the WSA was set up, BLM closed roads and the jeepers asked for another area. They proposed this area in 1997 and it was opened in 1998. BLM oversaw its development and issued permits to them. The routes are down in the canyons, so jeeps drive on shelves and benches, not on ridges or steep slopes. The four-wheeling is very technical.
- Does this environment for OHV-use exist elsewhere? No, except in the WSA.

Linda said both presenters provided some misinformation. BLM is working under the assumption that this will become a national monument. The RAC got a flavor of the polarity of opinions, and the difficulty BLM faces at having to provide what everyone wants. BLM is planning to provide the type of experience the public will want to have at a national monument. She proposed that the RAC put together a working group to sort through issues, and hold a series of public meetings in the Las Cruces area, to discover how the community and city planners want to go. Then they can come up with a proposed plan from which she can develop management. Are any proposed new RAC members from that area? No.

Cliff said this presentation was mostly about the Chile Challenge. Are there other concerns? Small groups are active throughout the year. Club members and locals are there weekly. Trash is collected in this specific area and also where larger amounts are dumped near the old quarry.

Martha, Lynda and Raye volunteered to form a working group on Trackways. Martha will take the lead. Randall would serve as an alternate if needed. They can ask others to provide information and support. The Las Cruces Field Office will provide technical support, take them into the field, and provide office and conference space.

THE MAGDALENA TRAIL
Brenda Wilkinson, BLM Socorro Field Office Archaeologist (Attachment 5)

Cattle and sheep were driven along the Magdalena Trail and Livestock Driveway to the railroad from 1885 to 1970. Bringing public attention to the historic and scenic trail is a BLM Heritage Tourism project in partnership with local communities. The Magdalena Trail, along scenic Highway 60, was highlighted in association with the Preserve America executive order. Lynda said Brenda is also a researcher on special women's projects. BLM plans to establish signs keyed to CD and iPod tours. They have done and will do more oral histories of the trail, and are working with historical societies.

RESTORE NEW MEXICO
Dorothy Morgan, BLM Carlsbad Field Office

Dorothy showed a DVD highlighting Restore New Mexico projects. Restore New Mexico does numerous treatments necessary for maintaining healthy landscape. With agreements for treatments across landscapes and agencies, they are getting native grasslands back by restoring balance, using techniques including removing brush plants. Grasses improve landscapes for many reasons, including capturing rainfall, and stabilizing the ground. Through Restore New Mexico, 150,000 acres were treated in 2008.

DEVELOPMENT OF URANIUM RESOURCES IN THE BLM URANIUM STATES
Bill Dalness, BLM New Mexico State Office Geologist

Bill said most people don't know that a lot is going on with uranium in New Mexico. Uranium is principally used for nuclear power plants. Currently 103 nuclear power plants in the U.S. provide 20% of our electricity. It's clean in that there are no greenhouse gas emissions. Uranium supply reached a low in recent years while demand worldwide increased, so the price went up. There are over 400 nuclear plants in the world. France has 50 or so, generating 80% of its electricity. Uranium occurs in most states and most of it has been located. A tremendous amount is available.

Companies are doing confirmation drilling to verify presence of uranium. Rigs are truck mounted and drill pads are usually low impact. Bill showed a Mt. Taylor uranium mine that produced for a couple of years and shut down in the 1990s, owned by Rio Grande Resources, part of General Atomics. That mine has the largest known reserve of uranium in the U.S. at 3,500'. Mill byproducts, called tailings, are probably the biggest remediation problem. Tailings have to sit and dry out, and windborne tailings can pollute groundwater.

Bill showed a drawing of what he said might be our salvation. Starting in the early 1960s, in-situ leach mining was done in formations that held both uranium and an aquifer. In aquifers not being used as sources of drinking water for humans, uranium is mined in-situ. Wells are patterned so that a solution injected down one is extracted by another well and the yellowcake (uranium concentrate) is removed. Several injection wells are built around an abstraction well. Monitoring wells ensure that there is no incursion above, below or around. The process does change the water, making it higher in other metals. So water resulting from in-situ mining in an aquifer that provides water for livestock would have to be reclaimed. That is one of the problems—because reclamation is not easy.

There are 12 in-situ leaching recovery facilities in the U.S., in Texas, Wyoming and Nevada. Several have been proposed for New Mexico. Recently a restraining order was placed on drilling in Arizona's Kaibab National Forest. Legislation is underway to withdraw an area near the Grand Canyon from drilling. Bill outlined other problem areas. Wyoming has the largest reserves in the U.S. New Mexico's Grants Mineral Belt, stretching from Navajo lands past Grants into an area west of Albuquerque, holds most of New Mexico's uranium. New Mexico is unique in that land patterns are very complex and varied.

Companies have to acquire rights to drill. While claims can be made on state, Indian, private or federal lands, companies prefer private mineral lands. Some companies own their own mineral lands. Agencies involved in operational permits include federal surface management agencies, NM Mining and Minerals Division, Indian tribes, the Nuclear Regulatory Commission, the Environmental Protection Agency (EPA) and the NM Environment Department. Also involved are the state engineer, the Mine Safety and Health Administration, and the U.S. Department of Energy. Agency representatives have met in Albuquerque and in Crownpoint. They are writing a generic environmental impact statement to be out in draft this month, and to be final in January. The EPA is responsible for protecting humans and animals from radiation, and for the clean water and clean air acts. All of those come into play with in-situ wells. The NM Environment Department would be responsible for those actions except on Indian lands. However, there's controversy over who does what.

Bill showed a graph of the increase in new claims by percentage and number. Northwest New Mexico is where the action is. He outlined the Grants Mineral Belt on the New Mexico map, and pointed out anomalies, e.g., split estate stock-running homesteads. A good percentage of the uranium mining claims are purely speculative. There was notice from a Canadian company that wanted a claim on public land near Navajo. The state and BLM did cultural and endangered species reviews and were ready to approve it. But the state has to prove legal access and the company didn't have access, so they withdrew.

In the past, most mines were on private land, and that will probably be true for the future. Legal considerations involve the Dine Natural Resource Protection Act of 2005, affecting Indian country and traditional cultural properties, including all the lava flow lands extending around Mt. Taylor. Can a tribe legislate what's going on outside the boundaries of its reservation? There may be no more drilling within the Navajo reservation, but will they control what's on their boundaries?

Bill concluded that there are environmental, economic and political considerations. Governor Richardson has remained silent; and Senator Domenici is an advocate for nuclear power.

NEW MEXICO URANIUM EXPLORATION AND MINING

Bill Brancard, NM Department of Energy, Minerals and Natural Resources Division Director

For a time, New Mexico was the largest uranium mining area in the world. That was a time of lesser regulation and little reclamation. There's constant discussion about how state and federal agencies can allow new mines when old ones have not been reclaimed. Bill listed the roles of regulatory agencies. Current uranium categories are exploration, conventional mining and in-situ leach operations. The state is in the process of issuing permits while interacting with numerous other agencies. If a requested permit is on federal land, the state will not proceed without seeing what decisions the managing agency has issued. For example, the U.S. Forest Service (USFS) has gone through processes for about a year to show the boundaries of Mt. Taylor cultural properties. It's a done deal, so that must be considered in any other agency's decisions.

Conventional mining comes under the New Mexico Mining Act. Under that act, a new mine application requires 12 months baseline data. And before that, applicants must give the state a plan for how they will sample and analyze. Meanwhile they would issue a discharge plan in line with the Water Quality Act. Water will be a major issue. These mines will be deep. However, in-situ leach mines come under the Atomic Energy Act, not the New Mexico Mining Act. And the New Mexico Water Quality Act still applies. Two facilities near Crown Point have permission, but are still working out water quality issues.

There have been 16 applications for uranium mines in New Mexico. Two pending applications include the Marques, east of Mt. Taylor on the edge of traditional cultural properties, with 40 drill holes planned. Most are less than five acres, which means they don't have to hold public hearings. Seven applications were granted permission. Some projects were denied because minimal-impact applications were adding up and thus considered not minimal. Others, on USFS land, will require environmental impact statements.

Question/Answer/Comment

- Is the environmental impact statement (EIS) requirement official? Yes. BLM met with all the companies and told them that. Lynne was there. They are talking about doing an EIS as a regional group effort.

The Mine Inventory Project started a little more than a year ago and is meant to determine how many un-reclaimed mines remain. The goal is to identify mines and establish their status. The process is to use existing data to create an inventory of mines with verifiable production and reclamation status; and to inspect sites with no reclamation data, to determine need for future reclamation. Mills had the biggest impact.

BLM reviewed data from various agencies, and identified 259 mines with historic uranium production—137 with no information on reclamation activities. Of those, 66 were on federal land, 10 were on state land, 76 were on private land, 94 were on Indian land, and 13 were on mixed-ownership lands. They are located in 19 counties.

Step 2 was site assessment, prioritizing cleanup and estimating costs. Funds are limited. The state legislature and some uranium companies put money forward. Twenty-three sites were chosen because they were public land sites and easy to access. They are primarily on BLM land near Grants. Fieldwork began in the winter of 2008. After a 1985 BLM survey, the state reclaimed mines, focusing on public health and safety, therefore closing shafts. In 2008, they looked at remaining hazards. These were primarily smaller mines from the early part of the uranium boom when there was no regulation.

The next step is a modeling effort to determine priorities for future work. Priorities will include high radiation readings, and proximity to dwellings, domestic wells, watercourses and ground water. All will be entered into the database.

Bill showed radiation reading samples for five sites, with average readings well above background. Where do they go from here? They need to continue to inventory while establishing funding sources. Costs could be huge, even millions of dollars per site. He is working closely with BLM and other agencies.

Question/Answer/Comment

- Has the NM State Land Office shown interest in reclamation? Potentially yes; we will take this data to them.
- During the last legislative session the idea was thrown out in an interim committee meeting, but a bill was drafted. It bounced between houses and passed in the senate. But it was very controversial and the governor vetoed it. He wanted more study on the issue.
- Bill Dalness said he read the legislation, and part of the problem is the implication that there will be uranium mining, and everyone likes it, so let's tax it. It felt like the legislators would be advocating for uranium mining.
- There's a lot of use on those checkerboard areas especially in Navajo. They herd sheep, etc. The general threat is that these things could get into public water supplies. Livestock use those wells and isolated homes use their own wells.
- Why not sink new shafts going a different direction? Rio Grande Resources said the cost to reopen an existing mine would be over $100 million, no less than starting a new mine.
- They have to process the water. Then will somebody buy it?
- Are the traditional cultural properties reviews near Mt. Taylor available for us to read? What does it mean? Bill said the Cibola National Forest district office in Grants or the Department of Cultural Resources would send a copy. The federal documentation is probably more valuable. Under the National Historic Preservation Act, this would be similar to an archaeological site. With traditional cultural properties, the harm is to the people who use it or in how they use it. Grants people, for example, gather wood and have other traditional uses for surrounding lands. You might not be able to block a project because of traditional uses, but you could make them follow a procedure.

OIL & GAS UPDATE

Tony Herrell, BLM Deputy State Director, Minerals

Energy and where we're going with it will be the issues of the 21st centaury, including demands on public lands. It's important that we discuss these issues in a manner we haven't used in this country before.

Energy outlook

- World energy consumption is expected to increase by 57% by 2030, even with all of us implementing alternatives.
- Seventy percent of global growth will come from emerging economies.
- The U.S. produces 10% of oil and consumes 24%.
- The U.S. produces 18 percent of gas and consumes 21%.
- Demands on public lands for all energy sources, renewable and nonrenewable, will increase.

We need to apply conservation and communication in ways that have never been done before. We need to bring people together to have these dialogues in advance. Sixty percent of our resources are on the outer continental shelf. Foreign countries exploring off our coasts are looking at those abundant resources.

The varied resources, solar, geothermal, wind and oil and gas, will compete for the same land, demanding profound dialogue. Meanwhile, the public demands recreational access to those lands.

We're shifting from an oil and gas society into something we haven't experienced before. The dialogue will address questions including, "What kind of land? What's the best use for it? How can we incorporate multiple uses?"

We may be able to reduce the percentage of oil and gas that we import. The Western Environmental Law Center recently protested lease sales in New Mexico, Utah and Montana based on greenhouse gas (GHG) emissions. We want them to quantify past, present and foreseeable GHG emissions, adopt a GHG emission limit, adopt pre-commitment lease stipulations, and track and monitor GHG emissions.

- NM leases 6.3 million acres for oil and gas out of 28 million total acres, about 22%.
- Approximately 73% are producing.
- Nationwide, about 43% are producing.
- With all conservation measures, plus renewable energy sources, projected energy use will increase by 34% by 2030.

Ultimately this comes down to economics. Gasoline is up $1.97 from 2005. We are approaching European prices. That is good news if it promotes conservation.

New Mexico is ahead of the game in how we do things. To be good minerals managers, we have to be good conservation and environment managers. And we have to do things differently from the past. He showed the numbers of approved applications to drill (APDs) and inspectors since 2005. There are fewer APDs, more inspectors, and a changed philosophy on inspections—covering more companies rather than the highest producers. The emphasis is on environmental inspections. That shift revealed underreporting of royalties, so BLM is bringing past unclaimed funding to public attention. They have to go beyond either/or to the good of the whole.

Question/Answer/Comment

- I'm assured that whether we drill it here or not, we will still be using that energy and affecting greenhouse gases. The U.S. has reduced emissions in the past 10 years, while other countries haven't, so this is a global issue. BLM has to consider GHG now. Logic doesn't necessarily apply.
- Concerning U.S. companies not being able to drill off our shoreline; if Brazil is, why can't we?
- They are legitimately leasing from the U.S. This is an emerging issue.
- But they're draining our resources.
- Aren't we saving our O&G resources in case of an emergency? Bottom line is that we're producing only 1/3 of what we use and that makes us vulnerable. The other aspect is that it takes a lot of drilling to hold current production because wells deplete. Last year and this year, for the first time, we've held our own or increased production. It takes years to develop the facilities to drill, transport and refine so that O&G can be used.
- It's easier to develop established continental areas. And we have to think about more than O&G. BLM has tried to protect federal lands, but we have to increase access to resources to meet needs.
- For the next year or two there will be a lot of talking and some changes. But supply and demand fluctuate. Raye remembers the lines of cars in the 1970s waiting to fill tanks. As soon as the crisis passed, the American people forgot. The significant price rise in the 1980s stimulated drilling. The barrel that cost more-than-$10 in the 1990s now costs more-than-$100.
- The big difference is that China and other third-world countries are increasing demand.
- Raye's company is leasing less than in the 1980s, but four different times in the past two years their leased lands were nominated for special uses, or are waiting for RMP amendments. Numbers deceive. With existing O&G rigs, companies have to schedule during times that they end up not being allowed

to drill. Realistically, when you're on the ground trying to get projects done, it is torture. He's waiting for an APD to be processed now.

- This is the honest dialogue that needs to go on.
- Raye added that six months ago he couldn't have perceived that getting steel for a casing would be a problem. Now it is.
- The worlds' supply of oil is diminishing. There is a finite resource. That counts for a lot. We will eventually have to transform, and hopefully technology will come around. This will be part of the equation for several lifetimes. Renewable resources don't diminish. Does geothermal? There needs to be more done with technology. Science evolves. Renewable energy is good to supplement needs, but not a substitute for base load. We need to start that now. This is an at-least 30-year solution.
- Cheap O&G may be finite and it may not be finite. But there's a lot out there that's untapped. Our understanding changes.
- They call it finite because it's not produced at the rate it's being consumed. We expect that there will be more resources, but what is economically possible? Further discussion.
- Bruce said he's read that by 2050 use of alternatives will be up 70% but will still only provide 60% of what's needed.
- We built this country on cheap energy. It is predicted that we will reach European prices for gas.
- A lot of the differential is tax. A barrel of oil costs the same there as here.
- Because of geography, the hardship of rising gas costs means more for people in the western U.S. than for people in Europe.

ALTERNATIVE ENERGY

Owen Lofton, BLM Carlsbad Field Office Realty Specialist (Attachment 6)

Carlsbad Field Office is a pilot office set up by the Energy Policy Act of 2005. The Act encourages approval of 10,000 megawatts of renewable energy in 10 years. The New Mexico renewable portfolio standards call for 10% by 2011. Regulated utilities must have at least 15% renewable energy by 2015 and 20% by 2020.

Wind Energy Development

BLM issued a programmatic environmental impact statement (EIS) on wind energy development; amended 52 resource management plans bureau-wide; established best management practices ranging from noxious weeds to restoration; and employed adaptive management. BLMNM began to see applications for wind energy. The Washington D.C. office came out with guidance on implementing programmatic EIS records of decision. And high priority was placed on renewable projects.

There are three types of wind energy authorizations:

1. site-specific wind energy testing and monitoring facilities
    - can be issued to various right-of-way holders in the same area
    - companies pay $50 per year rental fee for each tower
    - they have a 3-year term with no renewal
    - BLMNM has not seen many of these
    - this type authorization provides no preferential rights to development

2. wind energy site testing and monitoring project area
    - most typical
    - applicants identify large tracts of land they want to test and monitor, with multiple towers over many acres

- they pay $1 per acre per year rent with a minimum of $1,000
- they retain an interest to preclude other wind projects
- terms are limited to three years, and renewal is permitted if a development application is filed
- establishes no right to development

Linda pointed out that there are concerns that wind energy applicants that want to locate where O&G operations are going on may cause proliferation of roads, or safety issues.

3. full-scale utility wind farm
   - requires application and a development plan
   - includes wind turbine facilities and infrastructure
   - separate linear authorizations may be required for off-site facilities
   - minimum rent is $2,365 per megawatt per year
   - term is generally 30-35 years, and typically includes a right-of-way grant
   - due diligence, with two years to construct

Question/Answer/Comment

- In reality, BLM is receiving, or expected to receive, conflicting applications for the same areas. They will permit first-come-first-served completed applications.
- Tom said the Rio Puerco Field Office is having discussions over companies that have gone through steps 1 and 2 on private land and want to develop there and on additional federal land. There is no requirement that they go through steps 1 and 2 to get to 3. Tom said companies expect to pay $1 per tower.
- Doug asked, "What if company A wants to take step 1 and company B wants to go direct to development on the same land?"
- Owen thought that was unlikely if there's no data for that area. However, first in the door with a completed application can proceed.

Owen continued. When they're testing for feasibility, wildlife is considered. Models vary. New-model turbines do about 20 RPM. Diameter and length of turbine affects wildlife. A tower from base to hub measures from 200' to 350'. With the turbine, total height is 400'. A 6-watt generator for offshore use is being developed. It takes 7,000 gallons of water just to pour a tower's foundation. Beyond construction of turbine generators, the infrastructure related to this is significant. Diameter needed around the turbine is 300'. Cranes, cement trucks, etc., demand a 50'-75'-wide road. There's an enormous amount of surface disturbance. Each turbine blade is 70-90' long. They're brought in singly by truck and assembled on-site.

Best management practices

- Reduce avian mortality
  - Evaluate avian and bat use during site testing and monitoring
  - Bury all in-plant utility lines
  - Build tubular towers
  - Avoid wetlands and waterfowl flight areas, saddles, and set-back end-row turbine placement on ridges or mesa tops
  - Avoid guy wires on permanent meteorological towers
- Visual resources
  - Similar turbine tower types are more acceptable
  - Non-reflective paint

- No commercial messages on towers
- Minimum FAA lighting
- Tower color varied to minimize contrast

Question/Answer/Comment

- The Guadalupe Mountains are the best wind farm resource in NM, where plant species are more likely to be disturbed.
- Do the turbines give out sounds that would impact wildlife? Study results on that are mixed.
- They are able to turn off the turbines during bird migrations.
- TX has about 5% energy provided by wind, and NM has less-than-1%.

Owen continued with U.S. wind energy status.

There are:

- 11,961 megawatts (MW) produced by wind in the U.S.
- 22 existing projects on public land (±500 MW)
- 14 pending projects on public land nationwide (±1,175 MW)

Solar Energy Development

- The utility scale requires a consistent level of sunlight.
- Lands having the best solar resources are usually in the arid or semi-arid Southwest.
- The most-eligible states are Arizona, California, Nevada, New Mexico, Utah and Colorado.

There are two types of solar energy systems.

Photovoltaic (PV) systems

- Most are small, use little or no land, and have minimal or no environmental impact.
- They use semiconductor materials similar to those in computer chips.
- They're usually off grid, in remote areas, with low power applications.
- PVs provide power directly to homes and small buildings, especially in rural areas, or to communication towers, water pumps, and road and traffic signs.
- Most are less than 5 kilowatts in capacity.
- Most are installed on existing facilities, under existing authorization.

Concentrating solar power plants

- Generally large systems that use mirrors to focus sunlight to create high temperatures.
- Use either a heat engine or a conventional turbine.
- Can be combined with natural gas fuel power to form hybrid systems for periods of low sunlight.
- Require sunlight not diffused by clouds.
- Need a large area—five acres per MW of power; therefore 500 acres for a 100 MW plant.
- Must submit a plan of development—facilities require roads, water, structures for protection from gusty winds, security fencing, cooling, etc.
- Limitations include proximity to transmission facilities, and site slope.

The Las Cruces Field Office has received an application to install a solar power plant on 24,000 acres. In Needles, California, almost every BLM acre is covered with solar panels. The technology has

not yet been developed for solar panels to move with changes in the sun's direction. And the panels contain some hazardous materials.

Environmental considerations
- Require large areas
- Create avian perching opportunities
- Impact archaeological resources
- Interfere with existing land uses
- Visual impact
- Hazardous materials
- Some systems strain available water resources

Owen concluded with information on solar energy policy and status of the programmatic environmental impact statement. He invited RAC members to read more at http://solareis.anl.gov/.

Question/Answer/Comment
- The 100 MW plant mentioned previously could provide power to 200,000-250,000 homes per year. Power varies with weather and length of daylight. This alternative too augments a base load.
- Applicants need to include potential customers and agreements with a power company. Wherever the energy is sent, the credit stays within the state where it's produced.
- Where does the U.S. stand in solar use worldwide? Scandinavian companies are way ahead in both wind and solar. Other European countries, e.g., Spain, are at about 15%.
- Minimum bond is set at $2,500/turbine based on where it's located. No baseline has been set for solar.
- What about ground disturbance for solar? The panels are built on legs with piping and tubing, and stand about 3' high.
- A maximum of 3% slope is the limit for solar fields.
- Types of disturbance are thought to be the same for different types of panels.
- Solar thermal is more efficient.
- There can be a significant amount of water used.
- Ed Singleton said a German solar company moved into Mesa del Sol and is employing 500 workers.
- We'd better be talking about grading and drainage plans for these developments.

The meeting recessed at 4:30 p.m.

JUNE 12, 2008 RAC MEETING

Linda called the meeting to order at 8:12 a.m. She announced that two RAC members had been called away, so there was no longer a quorum. She reviewed the agenda.

Raye reported that he was assigned to do two things at the last RAC meeting. One, a letter to congressional delegates, was redirected. He had worked with BLM staff and drafted a letter but there was concern about the letter interfering with a Trackways decision. Raye's second task was to request that the state consider funding Restore New Mexico. He contacted Department of Energy and Minerals Secretary Prukop's office. John, Gerald, Raye and Cliff met in Santa Fe with Ron Dunton. They presented information on Restore New Mexico to the secretary, RAC governor's representative Sally Rodgers and two others. They seemed to be receptive, and requested more information from BLM, especially about upcoming projects. Ron was charged with follow-up. Is there anything else Linda needs for them to do?

Linda thanked Raye and said she talked with Lt. Governor Denish about a Wyoming-type bill for Restore New Mexico funding. She and Jesse were meeting the following week with Secretary Prukop. It could be very helpful for the RAC to write a letter to the governor advocating a bill funding Restore-NM-type projects. BLM hoped for a pot of money they could bank and draw interest from for projects on federal, private or state lands. Raye thought they should consider leveling out the ups and downs of O&G revenues.

Gerald mentioned the Land and Water Conservation Fund as another potential permanent fund for land improvements. Raye suggested circulating a draft letter among RAC members to gain a quorum. Linda reported that the Trackways bill was moving forward and would be passed. But it gives BLM three years to plan rather than one year.

BEST MANAGEMENT PRACTICES FOR ALTERNATIVE ENERGY
Tony Herrell, BLM Deputy State Director, Minerals

Tony reiterated how important it is to look now at energy issues and to create rational dialogue. He distributed binders with materials for the RAC to take with them and read. He asked RAC members to bring those binders to each meeting, and said he would continue to provide materials so they could keep track over time. The original materials included:

- The O&G gold book—practices apply situationally and are usually not mandatory. They are used sometimes on an individual application for permission to drill, sometimes area-wide. It's the best example of a product, to give the RAC an idea.
- Information on solar and wind energy development, including notice of public meetings, and the policy for how solar is permitted. That's wide open and therefore tough to determine, he said, because BLM hasn't yet worked with the upcoming scale of things.
- Information on wind energy development through the national programmatic environmental impact statement—to give an idea how it's being looked at on a broad level.

Tony asked the RAC to see how those examples would apply to New Mexico, and to make additional recommendations. He will e-mail a series of links and further information.

The materials he distributed included geothermal information. There are some geothermal activities in New Mexico, and will be more, so he included best management practices for that use. There are inconsistencies in needs and requirements between O&G, wind, etc., for example in road construction. Reading current best management practices will give the RAC a way of assessing the knowledge for now. It is changing. There has been some talk about going down into old O&G wells to access geothermal opportunity. Permitting processes are different for alternative energies. For example, geothermal, like O&G, is leasable. Solar and wind permitting calls for use authorizations under rights-of-way. BLM will have to adjudicate who gets there first, rental rates, appraisals, and different laws and mechanisms, to determine how to apply best management practices (BMPs).

<u>Question/Answer/Comment</u>

- Linda asked the RAC not to lose sight of uranium. She suggested that uranium come under alternatives as well. It could also come under mining.
- Tom said uranium is very critical for the Rio Puerco area. And BMPs are very important because of rising interest and because BLM's uranium expert is retiring. Federal agencies will also probably have to establish BMPs for companies extracting with water. Another issue is spill containment.
- Water is our lifeblood. Water is vital to all these alternatives, and New Mexico doesn't have much. For example, in the California solar field the RAC was shown that covers hundreds of acres, panels are cleaned with water every three weeks. How are we going to fit in water requirements? That will have

to be part of the applications and part of the environmental impact statements. Water rights are both very complex and misunderstood. Don't gloss over that. How do we write that in? Tony said they don't yet know.

- Does BLM anticipate getting additional staff to address these things? If not, are there agency partners to help? Linda said they might get a few additional staff, but not many. BLMNM has had to get very proficient about partnership in the last few years. They're all new to the alternatives and grappling with technology. If they must hire someone they will find a way to do that.
- BLMNM will provide RAC working groups with expertise and a point person, for example, Bill Childress and Pat Hester for Trackways. For BMPs, point persons would include Steve, Doug, Ed and Tony. They will make others available as needed.
- Raye asked whether the BMPs that working groups are concentrating on should be broad or should be tailored to New Mexico. Linda said they have broad BMPs, so need ones tailored to New Mexico. There are some examples. It would also be of value to do a statewide map overlaying different land ownership as it would apply to alternatives. Bill Childress would like to be involved with solar energy, since Las Cruces Field Office has three solar applications right now.
- Bill thinks tailored BMPs will boil down to standard operating procedures. Lynda asked for a state water availability map. Further discussion. It is not known what kind of water will be needed for these alternatives.
- Gerald said counties are interested in these issues and it would be good to incorporate them into working groups. We want to keep everyone at the table. The Association of Counties has helpful information and would appreciate receiving a BLM presentation.
- Bill volunteered to be a liaison with the Association of Counties. Randy thinks we need to work together statewide to figure out what we require. His county commission has a resolution for an area around Hobbs.
- Leasing is a discretionary act. When parcels are nominated, BLM looks at them from the basis of the resource management plan (RMP) on several levels. RMPs give general guidance, but specifics determine whether a lease is approved. When looking at solar and wind development, does BLM contemplate the same approach—looking at areas that would be suitable or not?
- Linda said a new round of RMP alternatives would be addressed. As issues arise, RAC advice would be helpful.
- Some didn't realize the massive amount of planning called for. It looks like a 24,000-acre solar array brings up a whole new level of issues—unlike a well pad that once producing can be brought back to its former status to allow wildlife to return. The public doesn't realize what's behind door #2.
- Linda speculated that when an applicant proposes a use that interferes with current use, BLM would have to work with them. They haven't yet been faced with an application for something that would potentially take out someone else's livelihood. Are the needs of a community more important than those of an individual?
- Tony said that's an important reason for the RAC working groups. RAC members are not government employees so can recommend new policies and changes. They can get that dialogue going, while BLM has to function under current laws. Bill said they might have to use techniques similar to those used for the Spaceport and other land disposals. They probably will have to do plan amendments. The 24,000-acre solar field has other issues not determined, like fencing and security.
- There's a large wind farm outside Abilene that does not benefit Abilene. Residents are upset because of the community's lack of involvement. There will be a lot of community interest here and people will want a say.
- Linda said personally she would ask applicants, "Have you talked to the ranchers out there?" If not, BLM would wait until they do. There is no guidance at this point.
- Rights-of-way in RMPs are a preliminary for these issues.

- Did the solar applicant specify how many acres would be used for which exact thing? It's not yet a complete application, but there will be a very sizable footprint. Tom has wind applications but not solar. BLM staff could bring applications to the table for working groups to discuss and comment on directly.

Tony concluded that this discussion was actually developing preliminary BMPs. The sooner it's out in front of the public the better. NIMBY (not in my backyard) always applies. Discussion turned to whether the full RAC or one or more working group needed to address BMPs for alternative energies.

Results:

- Wind Energy Working Group—Raye (lead), Randall, Cliff, Mark and Matthew, with Doug Burger as BLM point person.
- Solar & Geothermal Energy Working Group—John (lead), Bill, Crestina, Bruce and Randy, with Bill Childress as BLM point person, and with Lynne as cultural resource specialist if needed.
- Uranium Working Group—Lynne and Cliff (co-leads) and Bill Childress, with Ed Singleton as BLM point person.
- Bill and Gerald will act as liaisons with counties, and their BLM point persons will include Tony Herrell, Steve Henke, Ed Singleton and Doug Burger.

Working groups will be responsible for contacting BLM staff to arrange meetings and request help or further resources.

Question/Answer/Comment

- Randy said people come to county commissioners positive about benefit to the tax base of something new, but when it's up they say, "I didn't want to see it!"
- What does BLM want from the working groups?
- Working groups would benefit BLM with lists of ideas and recommendations.
- There are no large solar energy projects in New Mexico at this time. Talking to California experts would be helpful, as well as talking to PNM and Excel. The proposal for solar development Randy knows about is a 220-acre project on private land.
- One application outside Phoenix would be on BLM land.
- It would be good to contact schools or universities where students need projects and could contribute to working groups. There's a solar institute in Las Vegas.
- Both wind and solar take substantial investments.
- Plan for half of the next RAC meeting to apply to alternatives, and the other half to apply to issues related to the region in which we meet.

The RAC decided to schedule a one-day meeting focusing on BMP recommendations with an update on Trackways, in Albuquerque. The meeting was tentatively set for late July or August, dates to be confirmed by e-mail. They could tour a uranium mine.

Linda said there was no need to have a completed product, but BMP groups would need to wade through what's been done, including nationwide BMPs that might be appropriate. Tailor them for New Mexico. Specify areas of the state that should be kept out of consideration for certain types of projects, e.g., those with cultural resources. The Trackways Work Group will arrange field trips, and find out what city and county people want.

The meeting was adjourned at 10:08 a.m.