

Avoiding a Risky Gamble with America's National Parks

A smarter approach to oil shale and tar sands in the West



The Bureau of Land Management (BLM) is considering allocating up to 2.5 million acres of public lands in Utah, Wyoming and Colorado for new commercial leases to develop oil shale and tar sands. This decision could have major impacts on lands that surround some of our most popular national parks—affecting not only visitors' experiences, but also air quality, water supplies, and the local economy.

Oil Shale 101

Oil shale is a rock (not to be confused with shale oil, a liquid) that contains kerogen, a waxy precursor to oil. To become oil, the kerogen must first be mined then heated in a furnace to 900°F in a process called retorting. Excess shale rock must be buried or reclaimed. If mining is impractical, the shale rock can be heated in underground ovens at 700°F for several years—a process called in situ retorting—until the kerogen liquefies and can be pumped out. In both cases, the resulting petroleum-like substance must be upgraded before being shipped to a processing refinery.

The current BLM review is actually a "do over" of a controversial decision made during the final weeks of the Bush administration to allow commercial-scale development of oil shale and tar sands on close to 2.5 million acres of public land. In early 2011, Secretary of the Interior Ken Salazar restarted the public review process to better evaluate the significant risks new oil shale and tar sands development could pose to lands surrounding the region's prized national parks. When he announced the new approach in February 2011, Secretary Salazar said, "With commercial oil shale technologies still years away, now is the time to ensure that our rules and plans reflect the latest information and will deliver a fair return to the American taxpayer." In his previous statements on oil shale and tar sands, Sec. Salazar promised that all future decisions of leases would be based on "sound policy and public input." And as Department of Interior re-examines this issue, they are requesting public input on topics such as royalty rates, resource protection plans, and "which lands are best suited for this kind of development." That's why the BLM is accepting public comments on proposed oil shale and tar sands leases during a 90-day window that ends on May 4, 2012.

When the BLM issues its decision in mid-December 2012, the agency will be choosing among six development alternatives. These options range from allocating 2.5 million acres of land around our parks, to pursuing more limited leasing schemes, including research and development projects, an option NPCA and other concerned citizens support to ensure we fully understand the implications of oil shale development. Few publicly-owned resources are as accessible, honored, and beloved as America's system of national parks. All Americans are the voices for the national parks, and now is the time to make your voice heard.

"The values that drive tourism in western Colorado and other places like Utah and Wyoming could be put at risk if energy development continues at such a rapid pace. It could deter visitors from spending millions of dollars here."

~Joan Anzelmo
Former superintendent
Colorado National Monument

Tar Sands 101

Tar sands are a mixture of clay, sand, water, and a black, syrupy substance called bitumen. Most tar sands are extracted in open pit mines, and then transported to processing plants that separate the bitumen from the sand using vibration and hot water. Tar sands buried too deep can be processed by injecting super-heated steam or igniting pockets of oxygen gas. The separated bitumen is then pumped out and upgraded to synthetic-grade oil at a refinery.

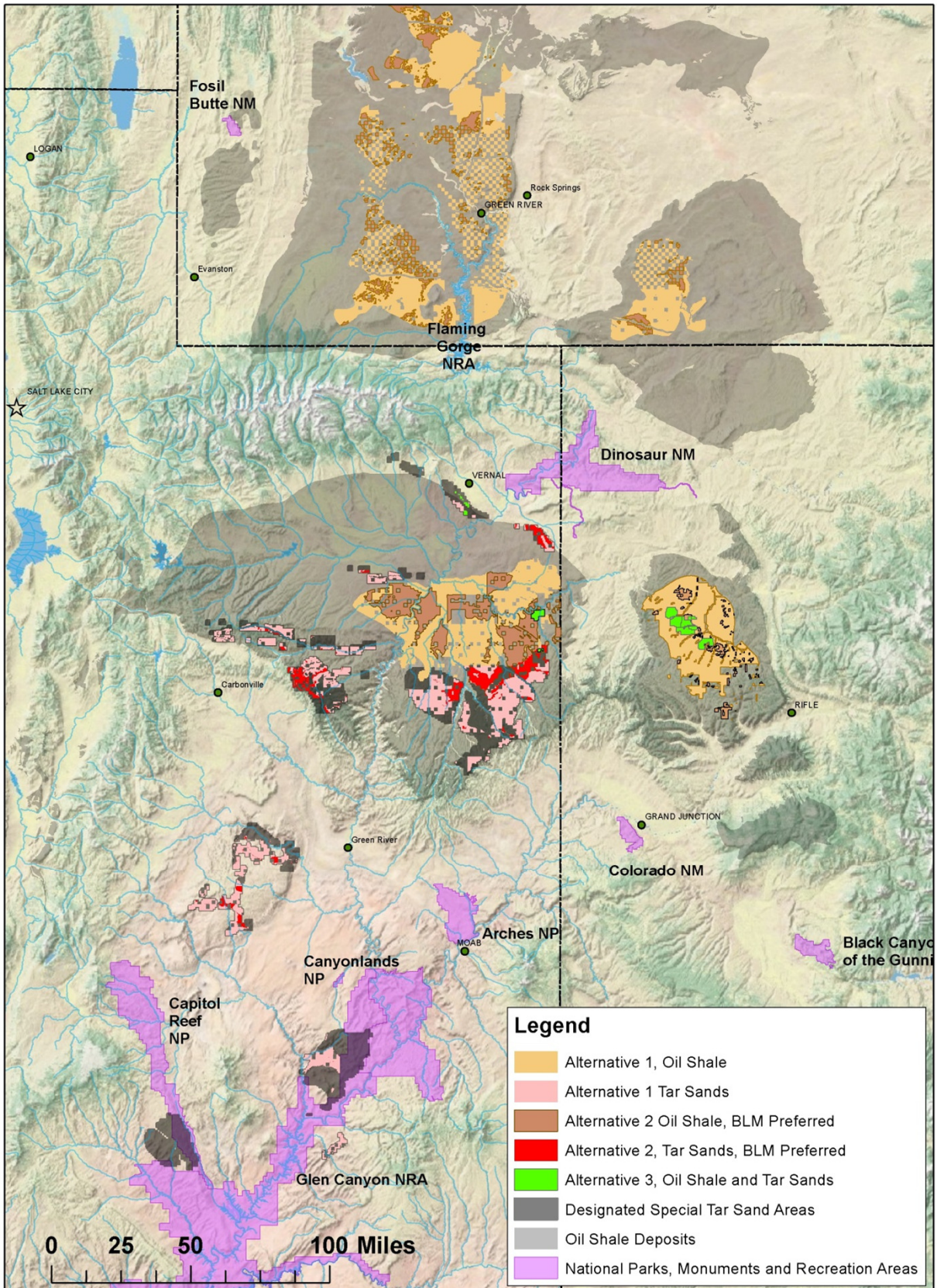
Arches National Park



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Impacts of Oil Shale and Tar Sands:

Although oil shale is a 100-year old idea, until now its extraction has been focused on a few experimental leases on public and private lands as companies attempt to make the process economically viable. Letting it spread across 2 million acres—some of them previously untouched by mining and drilling—would allow energy industrialization on an unprecedented scale in the West. Plus, oil shale and tar sands may introduce new and untested extraction technology to the doorstep of our national parks, creating harmful impacts that would alter the landscape, damage visitors' experiences, risk existing recreation and tourism jobs, and endanger limited water supplies.

Marring the Experiences of Visitors

The proximity of this proposed development to national parklands is alarming—and could have major impacts on the experience of tourists who visit to enjoy nature, solitude, starry night skies, clean air and recreation. In Colorado, for example, lands that might be developed surround Dinosaur National Monument on three sides. In Wyoming, they border Fossil Butte National Monument and contain the headwaters of the fabled Green River. And in Utah—home to five of America's most popular and iconic national parks—excavation and development along the borders of Capitol Reef and Canyonlands, creep close to Arches, and slice across the red rock formations of the San Rafael Swell

Based on the location of potential oil shale and tar sands development, the National Parks Conservation Association has identified eight parks in Utah, Wyoming, and Colorado that are most at risk from this development (see Chart A: Endangered Parks).

Chart A: Endangered Parks

Park Unit	2010 Recreation Visits
Glen Canyon NRA	2,124,467
Arches NP	1,014,405
Capitol Reef NP	662,661
Canyonlands NP	435,908
Colorado NM	433,561
Dinosaur NM	197,812
Black Canyon NP	176,344
Fossil Butte NM	19,700

"Our concerns are for water quality and water quantity. If we were to evaluate a leasing proposal, we would look at its effect on ground water that's important for our area. That's because the 80 to 90 percent of visitors come to Glen Canyon National Recreation Area because of Lake Powell. At this point in time, the tar sands leases are not inside our boundaries, but they could be extended to the borders."

~Brian Carey

Deputy superintendent

Glen Canyon National Recreation Area

Capitol Reef National Park



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"We are focused on the tar sands leases that border Canyonlands and Glen Canyon National Recreation Area. What keeps me up at night is trying to decide how to allocate limited staffing and funding to the many resource challenges that we face. These include managing and protecting the soil, water, air, wildlife, viewsheds (ie. how the landscape appears to visitors), four endangered fish in Colorado River, plus the threatened Mexican spotted owl."

~Mark Miller

Chief, resource stewardship and science
Canyonlands & Arches National Parks

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Economic Implications for Colorado, Utah, and Wyoming

Public lands like national parks, national monuments, and recreation areas are major economic drivers in the West. They also create jobs. According to statistics from the National Park Service, Glen Canyon NRA directly supports 2,200 local jobs and Arches National Park sustains 1,600 jobs. Together, the eight Park Service sites most endangered by oil shale and tar sands development support over 5,500 jobs in Utah, Wyoming, and Colorado.

But local park-related jobs aren't the only American jobs threatened by oil shale and tar sands development. The western recreation economy extends beyond park borders to include companies like Petzl (Clearfield, UT), Black Diamond (Salt Lake City, UT), Osprey Packs (Cortez, CO), and NOLS (Lander, WY). These companies support thousands of diverse, well-paying jobs in manufacturing, design, transportation, and education that cross multiple sectors. According to the Outdoor Industry Association, the recreation economy supports 65,000 jobs in Utah, and pumps \$5.8 billion into the state's economy. In Wyoming, it generates \$4.4 billion of economic spending, sustains 52,000 jobs and represents 17% of all the retail sales and services produced in the state. Meanwhile, Colorado racks up \$10 billion in benefits from its recreational economy, and over 100,000 jobs.

Most of this money is spent in small, rural communities that serve as the gateways to the parks, like Moab Utah, and surrounding Grand County. "Tourism is the economic engine of Grand County—representing 70 percent of the economy," says county tourism director, Marian Delay. "People come here for mountain biking, road cycling, horseback riding, camping, hiking, climbing, photography. You name it." Large-scale oil shale and tar sands development runs the risk of harming these public lands and having negative impacts on the local tourism-based economies in these states.

If the jobs argument favoring the recreational economy is strong, the visitor spending equation is even stronger. In 2010, national park visitation generated \$612 million in local spending in Utah, \$610 million in Wyoming, and \$300 million in Colorado, according to NPS statistics. The four business sectors most directly affected by visitor spending are lodging, food, retail, and amusements.

Black Canyon of the Gunnison National Park



The Myth of Easy Energy

In February 2012, the Chevron Corporation abandoned its oil shale lease in northwestern Colorado, becoming the latest in a list of failed attempts at oil shale development. The company's decision to discontinue oil shale research underlies the uncertainty of this unproven energy source. Throughout Colorado's Piceance Basin, Chevron's retreat brought back memories of May 2, 1982, known as Black Sunday, when Exxon abruptly ended its \$5-billion Colony Shale

Project, putting more than 2,000 people out of work overnight, thousands more in the following weeks, and destabilizing the regional economy for years. Both of these events are emblematic of oil shale's 100-year history of repeated boom-to-bust failures. The technologies these companies are researching—which include heating underground shale deposits to 700°F for several years, or injecting superheated steam to separate bitumen from tar sands—will place significant demands on the limited water and power resources of the West.

The Water Equation

Producing one barrel of oil from shale or tar sands using current technology requires between one to five barrels (42 to 210 gallons) of water, making access to water a crucial element to new energy development. In Utah, Colorado, and Wyoming, however, water is an already scarce resource subject to numerous demands from development, agriculture, and power generation. Adding a thirsty industry like oil shale and tar sands production to the equation would stretch this diminishing resource even further and require a massive redistribution of water to new areas. According to the GAO and BLM, producing 1.5 million barrels of oil a day from oil shale could require up to 122 billion gallons of water a year—equal to 1.5 times the annual consumption of Denver Water's 1.3 million customers. The precarious balance of water in the West can't support both growing populations and a massive new industry like oil shale.

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Help Protect Our National Parks

The BLM has identified six oil shale and tar sands leasing options for consideration (see Chart B: BLM Development Alternatives). The BLM's own preferred option is known as "Alternative 2b" which would open about half the total area—about one million acres—to leases for energy companies to continue research and development projects to prove the concept of their technology.



Chart B: BLM Development Alternatives

Options	Oil Shale (acres)	Tar Sands (acres)	Description
Alternative 1	2,017,714	430,686	No change from 2008 proposal
Alternative 2(a)	461,965	< 229,000	Conservation focus
Alternative 2(b)	461,965	< 229,000	Only RD&D leases (BLM preference)
Alternative 3	32,640	2,100	Research only (NPCA preference)
Alternative 4(a)	2,017,714	430,686	Moderate development
Alternative 4(b)	2,017,714	430,686	Moderate development with RD&D focus

NPCA believes the BLM's preferred alternative endangers too much public land in close proximity to our national parks and recreation areas. Along with the Park Service, NPCA supports Alternative 3, which limits oil shale and tar sands leases to a combined 34,740 acres. This policy option requires oil shale and tar sands companies to prove their technology works, is economically viable, and is environmentally compatible with the surrounding land, water, and recreational needs. The message to policy-makers and energy companies is simple: Let's prove the technology before more of our public land is sacrificed to leasing. As Joan Anzelmo, former superintendent of Colorado National Monument explains, "The values that drive tourism in western Colorado and other places like Utah and Wyoming could be put at risk if energy development continues at such a rapid pace. It could deter visitors from spending millions of dollars here."



X How to Get Involved

Submit a comment to the BLM about oil shale and tar sands leases

Go to: <http://ostseis.anl.gov/involve/comments/index.cfm> or <http://tinyurl.com/7zoygme>
Submit your comment before Friday, May 4, 2012. The most effective comments are short, personal, and reference specific parks or geographic areas.

Learn more about oil shale, tar sands, and your national parks

Contact Erika Pollard, program manager at the National Parks Conservation Association (NPCA)
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