

Preserving habitat for Rockhounds in the Mojave Desert

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Why is the Mojave Desert special to Geologists and Rockhounds?

What is a Rockhound, anyway?

What do Rockhounds do with the rocks they collect?

Rockhounding is a recreational activity under threat. Why?

What the creation of Mojave Trails National Monument means to Rockhounds.

Public lands (including National Monuments) are under threat (redux).

What YOU can do to protect recreational activities on public lands.



Why is the Mojave Desert special to Geologists and Rockhounds?

The Mojave Desert attracts millions of visitors every year. Its geological features are unique in the world, with the symmetrical volcanic cinder cones, lava flows, and lava tubes of Pisgah and Amboy craters among the best representations of their kind.

The Mojave Desert is also world-renowned for the quality and variety of collectable minerals found there – feldspar crystals, fluorites, geodes, obsidian, opalites, petrified reeds and palm root, and quartz varieties, including beautifully colored and patterned agates and jaspers.

Shown above, left - The Pisgah Lava Fields, right – An agate slab cut from a small boulder found in Afton Canyon (east of Barstow). Photos: Bob Wick, BLM.



Amboy Crater is an extinct cinder cone located just off of historic Route 66 between Barstow and Needles - the area was bypassed by Interstate 40 in the early 1970s. The inside of the 250' high crater contains two lava dams behind which has formed small lava lakes. These appear flat, covered with light colored clay, which create the impression of miniature "dry lakes." There is a breach on the west side of the crater where basaltic lava poured out over a vast area. Beyond the crater lies 24 square miles of lava flow containing such features as lava lakes, collapsed lava tubes and sinks, spatter cones and massive flows of basalt.

Source: BLM. Photo: Bob Wick, BLM.



Pisgah Lava Flow. (Pisgah is a lava field in the eastern Mojave Desert.)

The date when Pisgah Crater last erupted is uncertain. Some volcanologists believe that Pisgah Volcano is the youngest vent, of four cinder cones in the Lavic Lake volcanic field. There may have been activity at this site as recent as 2,000 years ago; however others believe the last eruption occurred as early as 20,000 to 50,000 years ago.

Source: BLM. Photo by Bob Wick, BLM.



The lava tubes and caves associated with the Pisgah lava field (located in the eastern Mojave Desert) are among the best representations of their kind anywhere in the world.

Source: BLM. Photo by Bob Wick, BLM.



The Mojave Desert is a great place to learn about rocks and minerals in Nature's classroom and learn the values of responsible stewardship of natural resources,

because ...

"In the end, we will conserve only what we love; we will love only what we understand and we will understand only what we are taught."

- Baba Dioum



Bill Depue and Jonathan Davis, Rockhounding at Lavic Siding, May 2017.



So, what is a Rockhound, anyway?

[Click here to view the BLM video on YouTube](#) (then click the browser back button to return here.)

Rockhound code of ethics

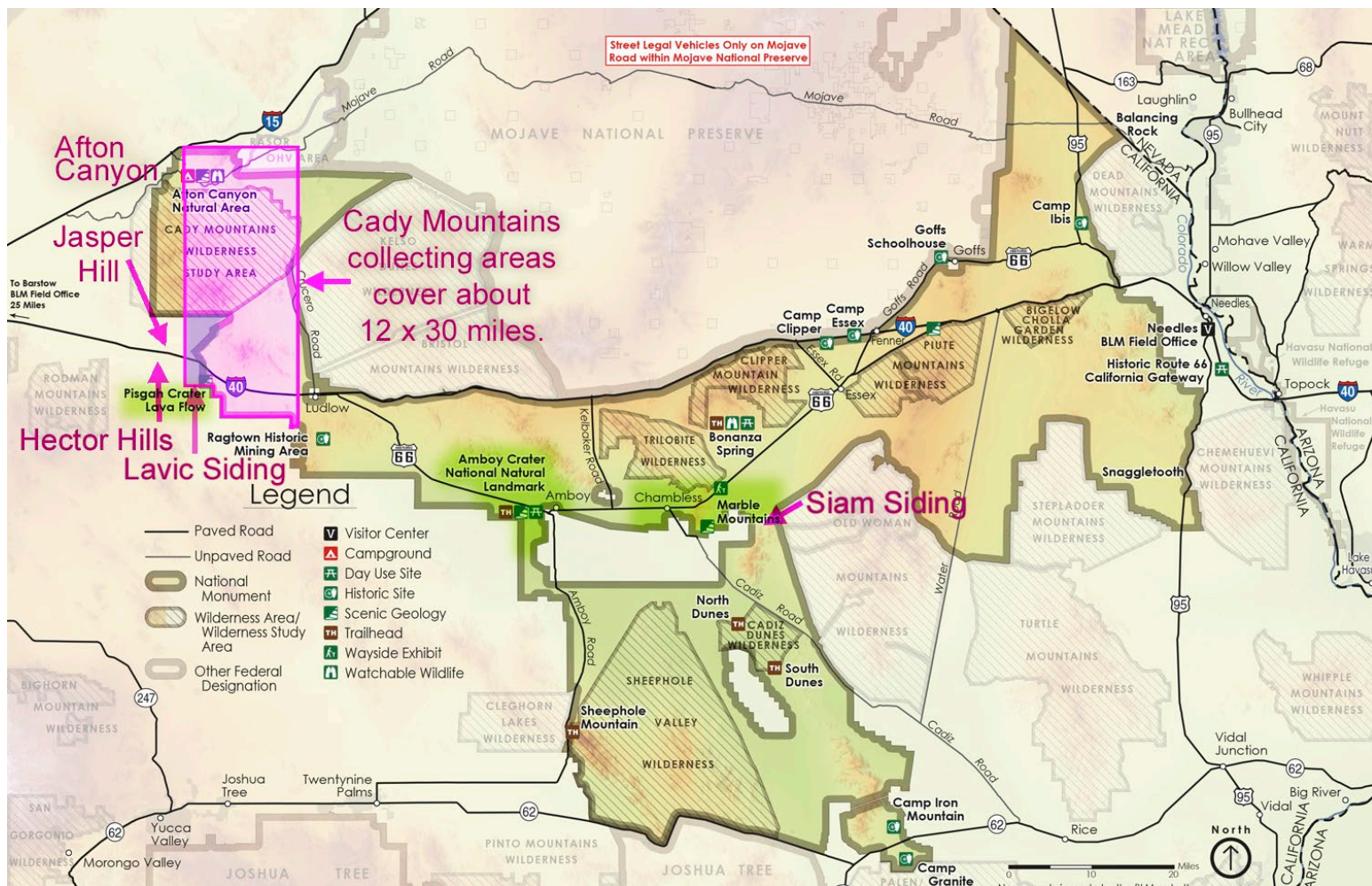
Many Rockhounds go on hobby collecting field trips sponsored by a gem-mineral society for the day or overnight camping. In California there are 110 member societies of the California Federation of Mineralogical Societies, Inc. (CFMS), with a small number of them leading most club-sponsored outings.

In aggregate CFMS represents about 8,400 members, making it one of the largest of the 7 regional affiliates of the American Federation of Mineralogical Societies, Inc. (AFMS), which in turn represents about 51,000 members nationwide.

Anyone participating in a field trip sponsored by a CFMS affiliate society must sign a waiver, follow instructions of the field trip leader, and adhere to the **AFMS Code of Ethics**.

Among the 17 tenets of the Code of Ethics: pack out what you pack in, collect only what you can use, respect private property, practice conservation. The **AFMS Code of Ethics** can be found online at: <http://www.amfed.org/ethics.htm>





Some popular collecting areas in the Mojave Desert (in and around Mojave Trails National Monument) – Afton Canyon, Blythe, Boron, Brown Butte, Cadiz (Siam Siding), Cady Mountains, Chambless, Cinco, Gem Hill, Hector Hills, Hauser Beds, Kramer Junction, Lavic Siding/Jasper Hill, Newbury, Rainbow Rock, Sperry Wash, Stoddard Wells, Yermo, Yuha Basin.

Materials – Actinolite, Agate, Baryte, Calcite concretions with Celestite and Quartz, Diopside, varieties of Chalcedony and Jasper, Iceland Spar, Fluorite, Garnet, Geodes and Nodules and Rosettes, Obsidian, Silver Lace Onyx (from the Calico Mts, not shown), Common and Precious Opal, Petrified Palm Root, Nickeliferous Quartz (from the Calico Mts), Serpentine, Turquoise, Ulexite (Calico Mts), Wollastonite, Wulfenite.

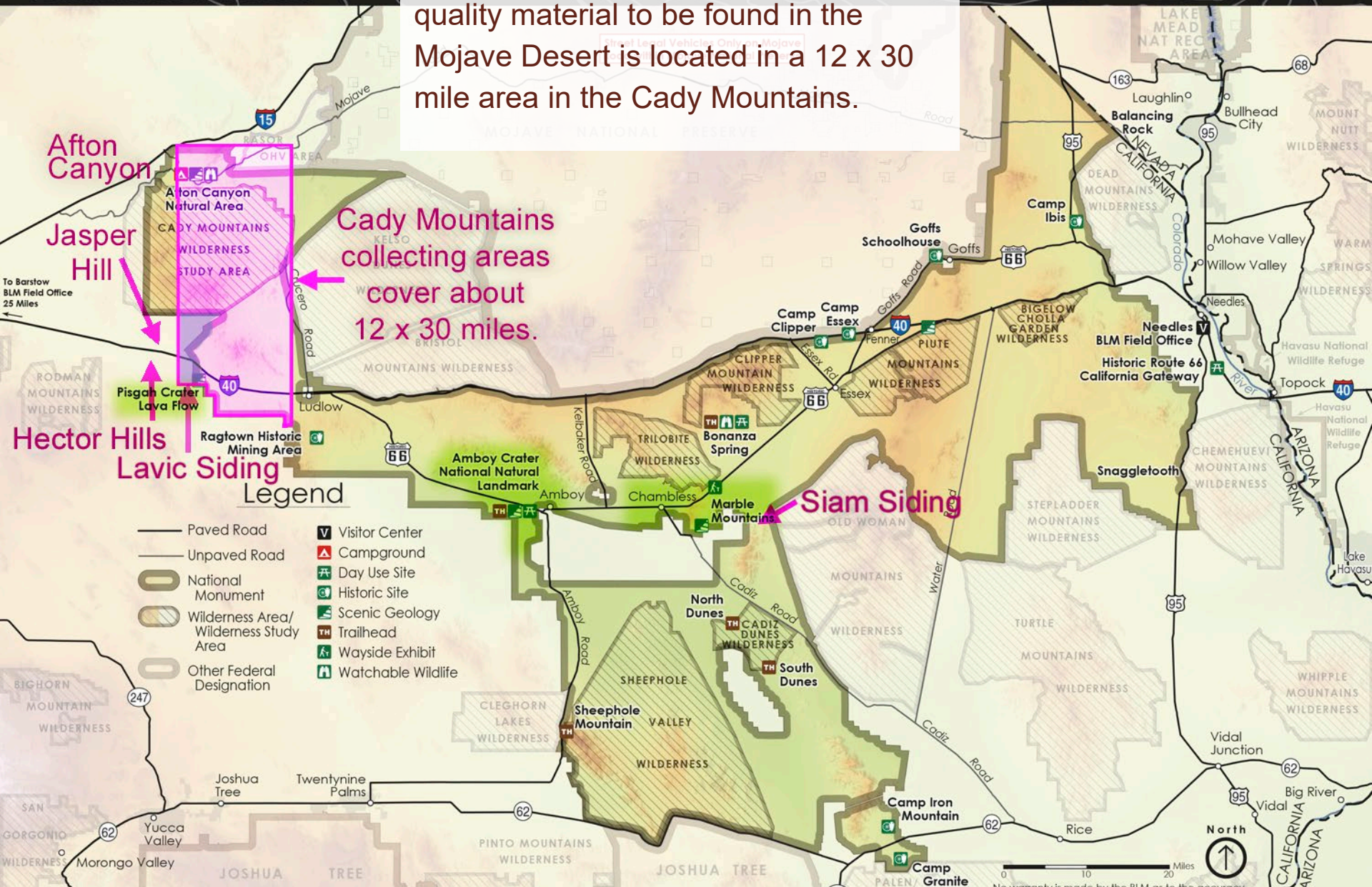


Rockhounds Vivian and Danny Watts trek across a collecting area in the North Cady Mountains well-known for fluorite crystals. Photo: Lisbet Thoresen, May 2016.



Bill Depue, quintessential Rockhound, at the Top Notch Claim in the N. Cady Mts. Bill has been searching for beauty in the desert for more than 75 years – since age 15.

According to Bill Depue, the very best quality material to be found in the Mojave Desert is located in a 12 x 30 mile area in the Cady Mountains.





Bill Depue has discovered an endless variety of agates in myriad colors and patterns in the North Cady Mountains.

Pictured at left – “the pink stuff”.



Top left. Flame agate that grew cactus on top. Cady Mountains. Photo: Diana Brady George.

Top right. Lavender tube agate. Cady Mountains. Photo: Diana Brady George.

Left. Pseudomorph agate from across the way of sicat. Note the star over one of the risers. Cady Mountains. Photo: Diana Brady George.



Top left and right. Sleeping Beauty or Sidewinder. Resembles tubes trapped in agate. Cady Mountains. Photos: Diana Brady George.

Left. A piece of the orange lacing off the top of a piece of Sicat Plume Agate. There was a section of the seam that was covered in this lacy tops. Cady Mountains. Photo: Diana Brady George.



Top left. Bubbly agate with red stringers; from in an area above the Stinkhole Dig. This specimen was found in blow sand. It probably was formed in a cave-like area in the mountain before the hillside settled. Agate Cave, Cady Mountains. Photo: Diana Brady George.

Top right. There was a lot of tube-like agate in parts of the Stinkhole Dig. Most has red flower like plumes. Cady Mountains. Photo: Diana Brady George.

Left. Moss agate. Material from the backside of the mountain seems to have darker green colors. Cady Mountains. Photo: Diana Brady George.



Top left. Sicat Plume Agate. Cady Mountains. Photo: Diana Brady George.

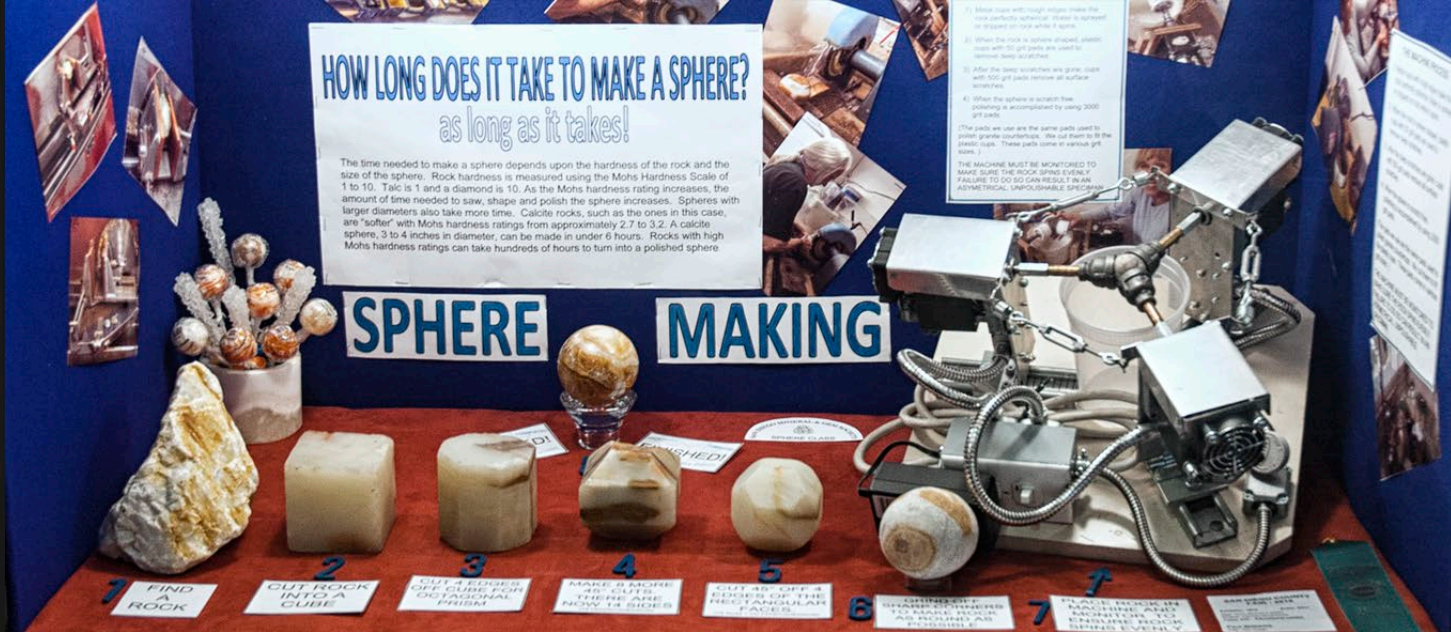
Top right. A small piece of a cave area in the Sicat Dig. There is a drusy covering in these stalagmite-like pieces. Several that were dug out were about the size of a large grapefruit. Cady Mountains. Photo: Diana Brady George.



Left. A cave-like agate from Agate Cave was once near the Pickett Plume. Most of the material from this dig was filled in with pink-colored flames. Cady Mountains. Photo: Diana Brady George.



What do Rockhounds do with the rocks they collect? Display them with pride. Shown above - an educational exhibit of “rough and cut” agates and jaspers from the Mojave Desert. The lapidary carvings were made by Bill Depue and Danny Watts from self-collected material, exhibit design by L. Thoresen. San Diego County Fair 2017, Gems, Minerals & Jewelry Dept.



What do Rockhounds do with the rocks they collect? Carve them.

Shown above two exhibits by SDMG members at the San Diego County Fair, 2017. (Top) an exhibit by Paul Williams showing how to carve a sphere; (bottom) a case of carved spheres made by David Lipson.



Bill Depue made a business out of his mineral collecting hobby, employing 30+ people since 1974.



Bill Depue demonstrates the grinding and sanding process of fashioning a cabochon on a machine he invented. Lapidary artists all over the U.S. have used his equipment for decades.



Bill Depue stands in front of a table covered with Riker boxes filled with cabochons he carved from self-collected material found in the Cady Mountains. He has never sold a single piece in 75 years.



Photo: Tom Brewster Photography.

Rockhounding is a recreational activity under threat.

Utility scale renewable energy projects – wind, solar and geothermal – are driving public land use policy throughout the U.S. The Desert Renewable Energy Conservation Plan (DRECP) will guide the process in California.



Land Use Plan Amendment

DESERT RENEWABLE ENERGY CONSERVATION PLAN

DRECP

Land Use Plan Amendment to the California Desert Conservation Plan,
Bishop Resource Management Plan, and Bakersfield Resource Management Plan

Prepared by the U.S. Bureau of Land Management | September 2016



DRECP

(Desert Renewable Energy
Conservation Plan)

The most ambitious land use amendment
in California history.

DRECP is supposed to be a programmatic
“guideline” for administering 22.5 million
acres of public and private lands in
California’s deserts (through 2040).

8 years in the making

12,000+ pages

more than 16,000 comment letters

Record of Decision signed on Sept 14, 2016

DRECP to be implemented in phases

Phase I focuses on conservation and
recreational values of 10.8 million acres
within an overall area of 22.5 million acres.

WEST

Jerry Brown pushes plan for a Western power grid

California's governor has been working with Oregon and other states to broaden the grid



California Gov. Jerry Brown speaks at the California Independent System Operator stakeholders' symposium. (Rich Pedroncelli/The Associated Press)

BY JULIET WILLIAMS

The Associated Press

SEPT. 11, 2016



SACRAMENTO — Gov. Jerry Brown said last week that he remains committed to expanding California's power grid to include other Western states, despite a delay announced this summer when it appeared the state Legislature was unprepared to grant the broader approval needed to advance the project this year.

Utility-scale projects built in remote locations have to be connected with densely populated metropolitan areas (load centers) via power link corridors, which have yet to be built.

A vast interstate network of power links will be built to distribute energy and alleviate problem of localized over-production.

The Western power grid will cover states west of the Rockies and between US border with Mexican to the south and Canada to the north.

The #1 priority of the Dept of the Interior: Greenlight Utility-scale Renewable Energy projects where practical on public lands

– recreation (including rockhounding) and other values have low priority



Advancing Renewable Energy

goals on public lands

DESERT RENEWABLE ENERGY CONSERVATION PLAN

DRECP

DRECP.org



DRECP will enable fast-track permitting for renewable energy projects so that as many utilities and power links can be built ASAP. In 2016, Dept. of the Interior Secretary Sally Jewell estimated that 500 permits would be approved over the next 10 years.



Streamlining Renewable Energy

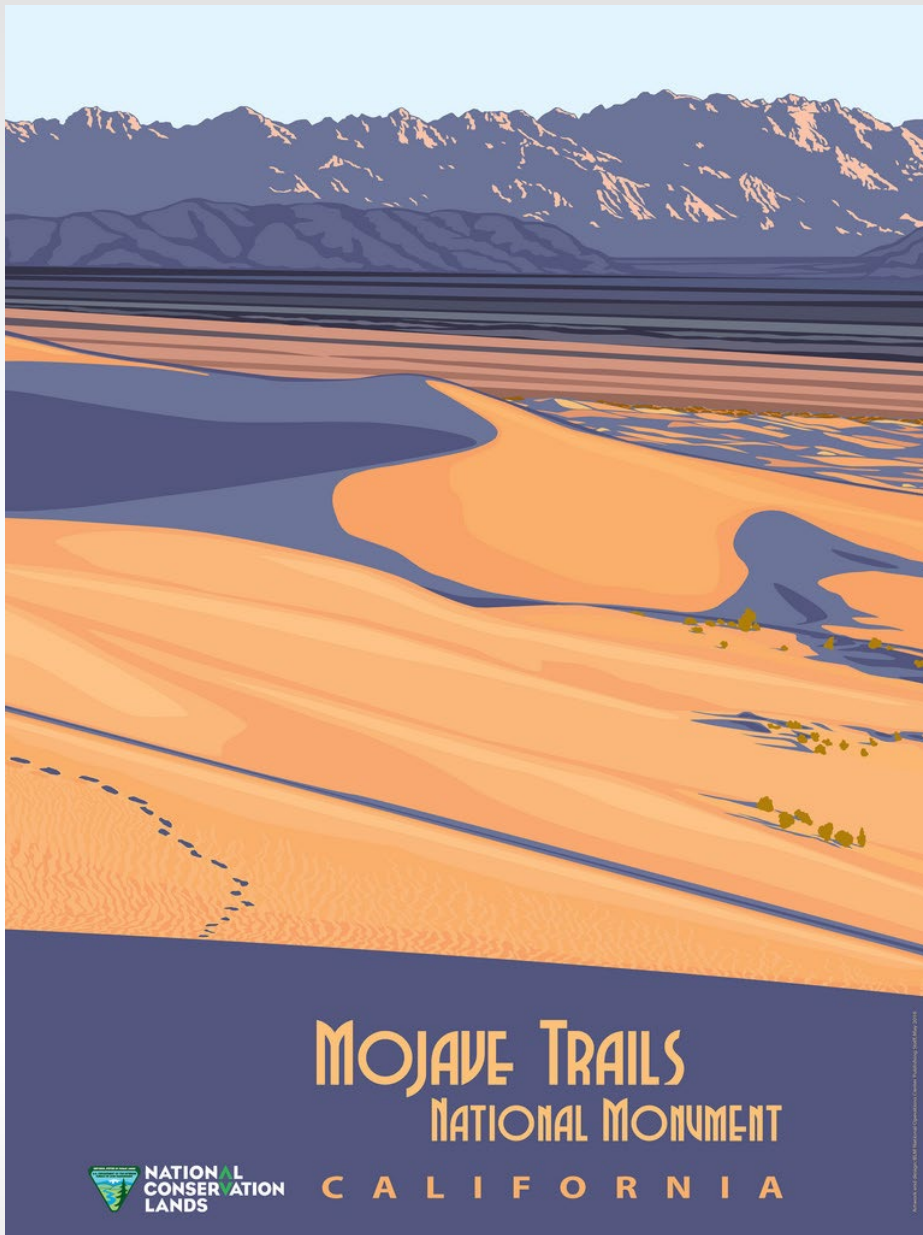
development on public lands

DESERT RENEWABLE ENERGY CONSERVATION PLAN

DRECP

DRECP.org





Recognizing the Dept. of the Interior's priorities to industrialize more and more of public lands, Senator Dianne Feinstein urged President Obama to establish three National Monuments in California by Presidential Proclamation, which he did on February 12, 2016:

- 1.) Mojave Trails (1.6 million acres)
- 2.) Sand To Snow (154,000 acres)
- 3.) Castle Mountains (<21,000 acres)

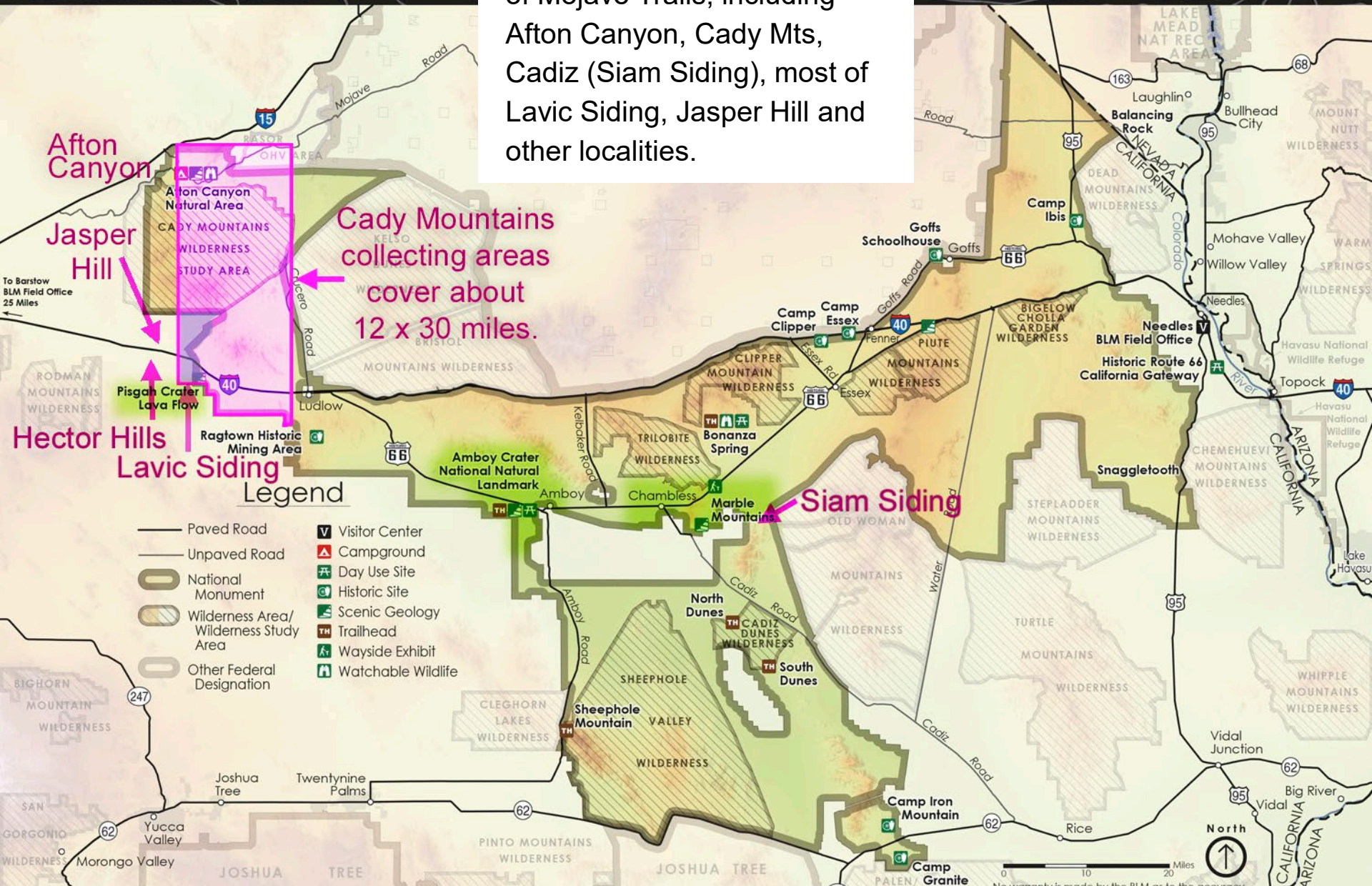


Mojave Trails National Monument (MTNM) spans 1.6 million acres, including more than 350,000 acres of previously congressionally-designated Wilderness. MTNM is comprised of a stunning mosaic of rugged mountain ranges, ancient lava flows and spectacular sand dunes.

The monument protects irreplaceable historic resources including ancient Native American trading routes, World War II-era training camps, and the longest remaining undeveloped stretch of Route 66. Additionally, the area has been a focus of study and research for decades, including geological research and ecological studies on the effects of climate change and land management practices on ecological communities and wildlife.

Source: BLM. Photo: Kyle Sullivan, BLM.

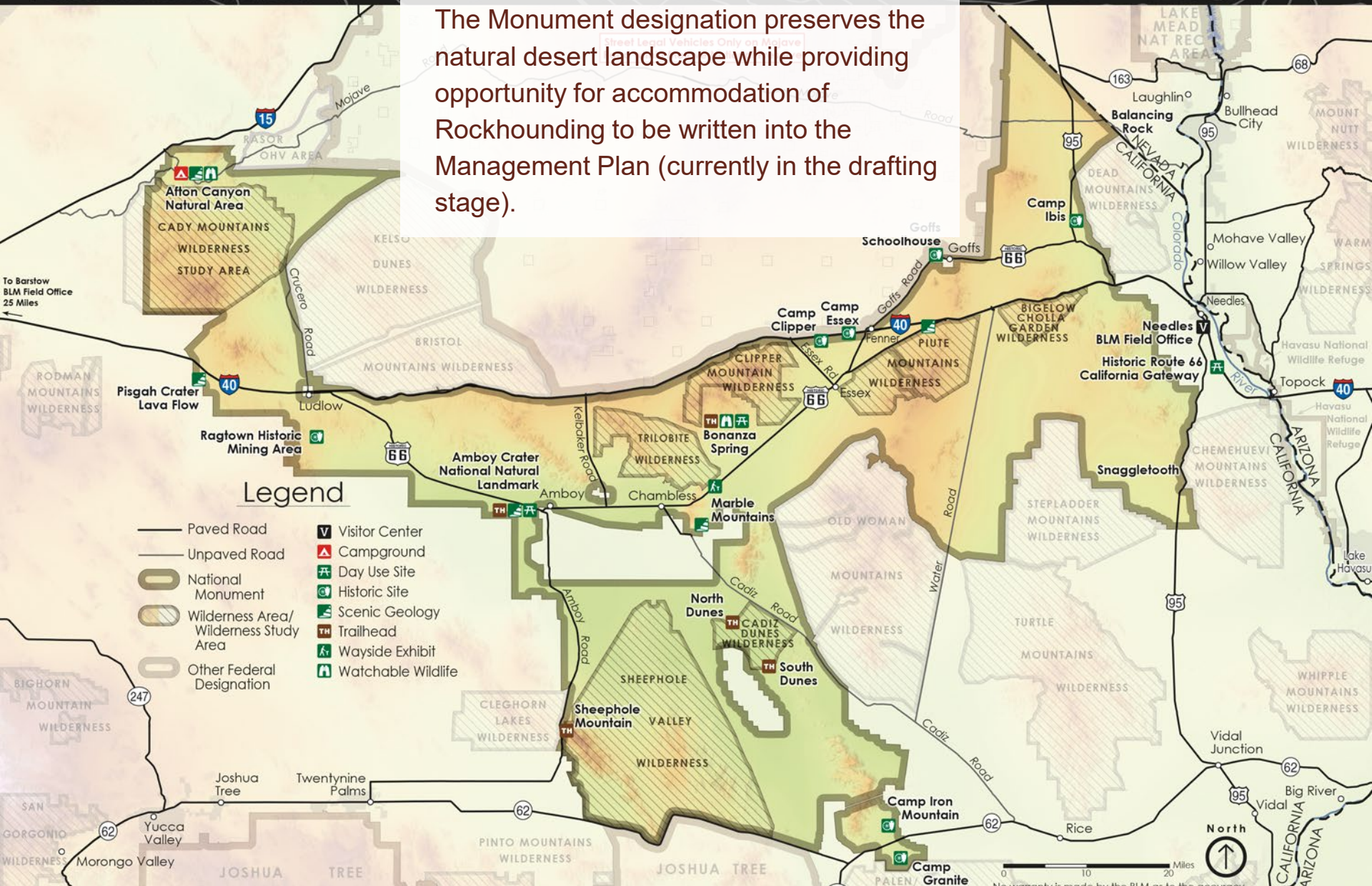
Many favorite collecting areas are now within the boundaries of Mojave Trails, including Afton Canyon, Cady Mts, Cadiz (Siam Siding), most of Lavic Siding, Jasper Hill and other localities.



Mojave Trails National Monument

Power link corridors could have been built through collecting areas, if Mojave Trails National Monument had not been created.

The Monument preserves the natural desert landscape while providing opportunity for accommodation of Rockhounding to be written into the Management Plan (currently in the drafting stage).



*Coming Soon
to your public lands
courtesy of DRECP*



Photo composite: Kris Rowe and Wiki user Z22.

What the creation of Mojave Trails National Monument means to Rockhounds.

Wilderness Areas & National Monument designations protect public lands from incursions of utility scale projects under sweeping planning efforts like DRECP.

These designations may be
the only available options
that accommodate Rockhounding.
Open access is never coming back.

Don't like executive proclamations? Most legislators favor sacrificing public lands to utility-scale renewable energy projects because they are perceived as job creators.

Ditto Indian tribal councils.

DRECP ROD (9/14/16) includes an agreement with 49 California Indian tribes to site renewable energy projects on tribal lands.

The Agency tasked with managing Federal Lands determines the permissible activities on them.

The National Park Service provides no accommodation for hobby collecting (Rockhounding). The U.S. Forest Service may provide some accommodation. The Bureau of Land Management (BLM) provides the most accommodation. (*BLM is tasked with administering multiple uses, including recreation.*)

In practice, policies can be implemented somewhat arbitrarily. BLM field offices in some parts of the United States do not accommodate Rockhounding, because the local field office regards it as an intrusive activity.

In Southern California the BLM regards hobby collecting as a low-impact recreational activity, so the field offices tend to be more expansive toward Rockhounds.

Rockhounding on Public Lands with protective designations

Since the 1970s, Rockhounds have lost access to many collecting areas. The loss of habitat for Rockhounds has been a trend that corresponds with the progressive expansion and implementation of conservation policies.

Lands under protective designations such as Area of Critical Concern and Wilderness Area may allow limited or no access to hobby collecting.

Similarly, the designation of National Preserves and National Parks is bad news for Rockhounds, not because they don't care about preservation values but because they are shut out, in many cases, from areas where they have been hobby collecting freely for generations.

In principal, the National Monument designation may accommodate multiple uses, including hobby collecting, according to the policies of the managing Agency.

Usually the previous management policy of the managing Agency responsible for administering a newly designated monument provides the guideline for multiple use accommodations. (Again, BLM is the most accommodative agency.)

In practice, to date, no National Monuments administered by any agency, including the BLM, have allowed hobby collecting.

Mojave Trails National Monument (MTNM)

Current and long term prospects for Rockhounds

In 2016, California State BLM Director Jerry Perez approved temporary accommodation of Rockhounding in Mojave Trails while the Management Plan is being drafted. (eta: 2019?)

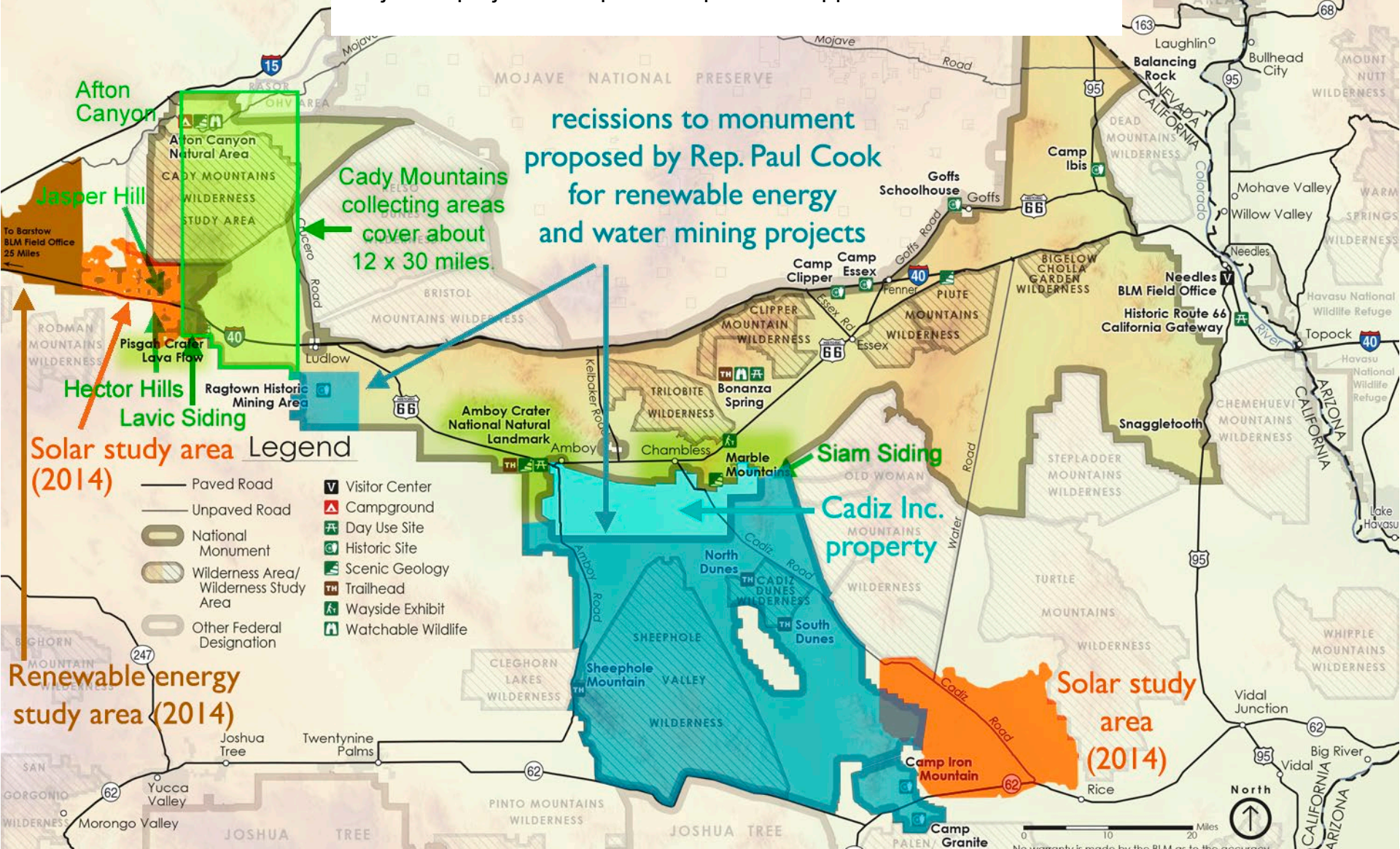
Collecting areas and routes of motorized access have to be written into the Management Plan to make the accommodation permanent. BLM says it's committed to ensuring Rockhounding is permitted in Mojave Trails. *However, it's up to Rockhounds to provide the necessary input. Any sites & motorized routes not explicitly included in the Plan could be excluded.*

Senator Dianne Feinstein wrote a letter in 2016 to Dept of the Interior Secretary Sally Jewell – the letter robustly supported hobby collecting in all National Monuments wherever feasible.

Mojave Trails National Monument

Mojave Trails is still under threat of industrialization.

Rescissions to the monument could jeopardize access to hobby collecting areas by accommodating new utility-scale projects and transmission corridors. Reviving some previously (and repeatedly) rejected projects has powerful political supporters.



What YOU can do to protect recreational activities on public lands.

Show up and speak up - Attend public meetings of the Desert District Advisory Council (DAC) and BLM. The DAC meets 2 to 3 times per year for a day-long meeting held on a Saturday.

It is important for Rockhounds to get their comments formally entered into the public record. BLM takes notice when large numbers of Rockhounds show up and speak.



DAC Recreation representative Randy Banis speaks in support of Rockhounds at the May 20th BLM Field Tour, Lavic Siding. Photo: L. Thoresen.



Lisbet Thoresen speaks with Secretary Sally Jewell about rock collecting in National Monuments at the DRECP signing ceremony held in Palm Desert on Sept 14, 2016. Photo: L. Barrett.



The Desert District Advisory Council (DAC) represents the interests of the public and Stakeholders. Specialists in their fields, the 11 to 15 Council members volunteer their time and apply their expertise to provide input to BLM on land use planning proposals. They listen to public input and pass along their concerns, along with recommendations, to the BLM. Shown above, the DAC members at the meeting held in Barstow in May 2016.



Stakeholders often have competing values and historically have disagreed, sometimes strongly, about acceptable uses of public lands.

- Trust at this point is difficult.
- Mutual respect is difficult.
- Everyone feels they've already given up a lot.
- The idea of more compromise is really, really difficult.



Mojave Fringe-toed Lizard (*Uma scoparia*).
Photo: Joyce Gross.



Desert Tortoise (*Gopherus agassizii*) in the Mojave Desert.
Photo: Dana Wilson, BLM.



Whatever was true in the past, today no one is getting everything they want. If Stakeholders who have competing values cannot compromise and agree on making mutual accommodations for one another on acceptable uses of public lands, then industrialization of the desert will probably prevail over the interests of everyone else.



Every visit to the Mojave Desert provides a new and different opportunity to experience what makes it so very special, to appreciate its unspoiled character and the fragile balance of sustaining every living thing in it, and to understand why it's all worth preserving.

Some useful resources

Gem Trails of Southern California by James R. Mitchell

Online articles by Stephen P. Mulqueen + Mojave minerals

The Mojave Desert, A Highly Mineralized Region of California. In: *Rockhound Ramblings*, newsletter of the Ventura Gem & Mineral Society (Sept 2018) avail. at: <http://vgms.org/> and the SDMG website short URL: <https://goo.gl/M6GMX3>

The Mojave Project: Rockhounding 101 by Kim Stringfellow, 2015

<https://www.kcet.org/shows/artbound/the-mojave-project-rockhounding-101>

Desert Minerals and Geology

<https://www.desertusa.com/thingstodo/geo/geology.html>

Rare Gems and Minerals in California

<http://www.goldrushnuggets.com/rageandmiofc.html>

Gator Girl Rocks

<http://www.gatorgirlrocks.com/state-by-state/california.html>

Old Ores: Mining History in the Eastern Mojave Desert

<http://nsm.fullerton.edu/dsc/images/DSCdocs/2005oldores.pdf>

Acknowledgments

Thank you to the Bureau of Land Management (BLM) for making available content produced by the agency, including Copy writing, Photographs, Maps and *Rockhounding in Mojave Trails National Monument* [video] by John Ciccarelli. For photographs, reference materials, support, resources, and personal stories related to Rockhounding, thank you to:

Randy Banis, Chairman and recreation representative, Desert District Advisory Council.

Jonathan Davis, Rockhound.

Bill Depue, Rockhound.

Diana Brady George, Rockhound.

Stephen P. Mulqueen, Geologist (ret.).

Kris Rowe, Rockhound.

Kyle Sullivan, BLM.

Joe Sumners, Rockhound.

Vivian and Danny Watts, Rockhounds.

Bob Wick, BLM.

#MonumentsForAll #SaveOurMonuments

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Baxter Wash, North Cady Mountains. May 28, 2016. Photo: L. Thoresen