

BLM

Bureau of Land Management

El Mirage Dry Lake Dumont Dunes Silurian Dry Lake Stoddard Valley

Johnson Valley Soggy Dry Lake Cougar Buttes Odessa Canyon Afton Canyon

Dear BLM Applicant:

The following is information about the **Bureau of Land Management Commercial Film Permit Application**.

Attached you will find:

- 1. BLM Cover Page with instructions and fee information 3 pages
- 2. Land Use Application and Permit, 3 pages (signature required on Page 1 & 2)
- 3. Commercial Use Application, 2 pages (signature required on page 2)
- 4. Commercial Filming Stipulations, 2 pages (signature required on page 2)
- 5. Map(s) of Specific Location (please mark your location on map and return with permit)
- 6. Special Circumstances Forms and Stipulations (sign and return only if applicable)
- 7. Driving Directions yours to keep
- 8. Wildlife & Misc. Information yours to keep

Please include with your return Email:

- a. #2 6 (and #7 if applicable), signed and completed (required)
- b. A **Storyboard** or a **detailed description of activities** (not required but highly recommended)
- c. A Certificate of Insurance **and** a Letter of Endorsement listing the **Bureau of Land Management** as additionally insured (Required see page two (2) for details)

Please read and complete the aforementioned forms. Any pages left unsigned or incomplete will halt the permit process and delay your permit. Please use the checklist above to verify you have prepared all the appropriate documents. Once the signed and fully complete application has been received, along with required insurance documents and payment, the IEFS will process you permit within 4-7 working days. It is important to list ALL props, vehicles, and equipment to be used, along with a detailed description of your activities and/or a storyboard. You must list all stunts, precision driving, pyrotechnics, explosive devices, airplanes, helicopters or drones used in your shoot. If you need to create dust for your shoot, the use of Fuller's Earth is allowed, but must be listed on the permit.

FEES*

All Motion Filming (Film, Digital, Video, etc.)Permit Rates:	01-30 people = \$250/day 31-60 people = \$500/day 61+ people = \$600/day
Commercial Still PhotographyPermit Rates:	01-10 people = \$100/day 11-30 people = \$150/day 31+ people = \$250/day
Processing FeeTo be determined based on	BLM Review (Starts at \$136)
Monitoring FeeTo be determined based on	BLM Review (Starts at \$136)
IEFS Fee ⁺	\$220 per permit

ALL FEES ARE NON-REFUNDABLE. FEES SUBJECT TO CHANGE WITHOUT NOTICE.

^{*}Regulations (43 CFR 2920.6(b)) require the collection of cost recovery and monitoring fees for land use permits.



Bureau of Land Management

Page 2

ALL FEES ARE NON-REFUNDABLE

All invoices will be sent via Square.com where you can pay online with a credit card or via ACH

If you want to pay by check, make it payable to the <u>Inland Empire Film Services</u>, <u>Inc</u>. Once you have been given your total, overnight (via FedEx, UPS, etc.) your check to the address supplied by the IEFS representative. <u>Keep in mind that the check has to clear the bank before the permit will be issued</u>.

You must provide <u>proof of liability insurance</u> and a <u>Letter of Endorsement</u> (ISO Form CG-20-12-07-98 or equivalent) naming the Bureau of Land Management as additionally insured for the amount of \$1 million.

The Insurance Certificate *must* read in the "Certificate Holder" Box *verbatim*:

"Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311"

The Insurance Certificate *must* read in the "Description of Operations" Box *verbatim*:

"U.S. Department of the Interior, Bureau of Land Management, as additional insured"

The Letter of Endorsement *must* read *verbatim*:

"Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311"
And

"U.S. Department of the Interior, Bureau of Land Management, as additional insured"

In the event of the use of aircraft, an Aircraft Insurance Certificate and Letter of Endorsement is required naming the Bureau of Land Management as additionally insured for the amount of \$5 million in the event of the use of airplanes, helicopters, or any other aircraft. If you are using drones, additional <u>Aircraft/UAS</u> insurance of \$2 million is required along with your FAA drone documents and a POA with Aeronautical maps, copy of 107 cert and FAA drone registration.

The Aircraft Insurance Certificate *must* read in the "Certificate Holder" Box *verbatim*:

"Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311"

The Aircraft Insurance Certificate *must* read in the "Description of Operations" Box *verbatim*:

"U.S. Department of the Interior, Bureau of Land Management, as additional insured"

The Aircraft Letter of Endorsement *must* read *verbatim*:

"Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311"
And

"U.S. Department of the Interior, Bureau of Land Management, as additional insured"

A Copy of your "Plan of Activities" (POA) filed with the FAA is also required for aircraft

Please contact us once a specific location has been chosen to determine the availability of that location on the date you desire. All locations requested are tentative and are not guaranteed reserved until your paperwork is received, completed, signed and paid in full.

All vehicles to be used during filming must have displayed the approved *Film Access Vehicle Permit* on the front, driver's side dashboard (issued with the approved permit). Also, a complete copy of your permit, stipulations, maps and insurance must be on site at all times.





THANK YOU for permitting Bureau of Land Management Lands

"Hollywood's Largest Backlot!" TM

Inland Empire Film Services has crew and services available for film production, feature films, commercials, television, still photography, music videos, industrial videos, independent films, student films, and more! Just check out our website (www.iefilmpermits.com), email us (blm@iefilmpermits.com) or give us a call.

If you need any assistance please do not hesistate to contact us

Dan Taylor(951) 415-9600 Linda Kai-Gorman.....(951) 415-3419

Thank you for filming our "27,000 Square Miles of Filming Opportunity!" TM

Form 2920-1 (February 2005)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT LAND USE APPLICATION AND PERMIT

(Sec. 302(b) of P.L. 94 - 579, October 21, 1976, 43 U.S.C. 1732)

FORM APPROVED OMB NO.1004-0009 Expires: December 31, 2007

FOR BUREAU OF LAND MANAGEMENT (BLM) USE ONLY

Application Number

1. Name (first, middle initial, and last)	Address (include zip code)		Phone (include area code)
2. Attach map or sketch showing public lands		DS WITHIN JOHNSO	N VALLEY OHV AREA
3. Proposed date(s) of use: from		to	
4. Give legal basis for holding interest in land the State of		Resident Corporation Local Govern Other	Partnership County State Government
5. Are the lands now improved, occupied or u	ised? ✓ Yes No (If "yes," describ	e improvements and pur	poses, identify users and occupants.)
This is an open a	rea used for recreation as well as filmi	ng	
6. Do you need access to the land? ✓ Yes	No (Describe needed or existing ac	ecess)	
Existing Roads			
7a. What do you propose to use the lands for?			
See attached Cor	nmercial Use Application		
b. What improvements and/or land developm may be required)	ent do you propose? (To complete applicat	tion processing, engine	ering and construction drawings
N/A			
c. What is the estimated capital cost? d.	What is the source of water for the proposed	i use?	
\$	For personal use only		
I CERTIFY That the information given by me in t	his application is true, complete, and correct to	the best of my knowledge	and belief and is given in good faith.
(Signature of Applicant		(Date)
Title 18 U.S.C. Section 1001, makes it a crim any false, fictitious, or fraudulent statements or rep	e for any person knowingly and willfully presentations as to any matter within its jurisdic	to make to any departr	ment or agency of the United States

(Continued on page 2)

			PERM	MIT	
Permission is hereby	granted to				Permit Number
of					
to use the following of	lescribed lands: l	PUBLIC LANDS WIT	HIN Johnson Va	alley OHV Area	
TOWNSHIP	RANGE	SECTION		SUBDIVISION	
T4 N	R5 N	Sections 7-8, 15-22,			
		25-30, 32-34		JOHNSON VALLEY OHV AREA	
T3 N	R5 N	Sections 1-4, 10-12,			
		SBBM			
Meridian SAN BERN	ARDINO	State CALIFORNIA		County SAN BERNARDINO	Acres (number)

for the purpose of commercial filming per Decision Record (EA CA-068-93-36), standard stipulations and map,

and subject to the following conditions:

- This permit is issued for the period specified below. It is revocable
 at the discretion of the BLM, at any time upon notice. This
 permit is subject to valid adverse claims heretofore or hereafter
 acquired.
- 2. This permit is subject to all applicable provisions of the regulations (43 CFR 2920) which are made a part hereof.
- This permit may not be assigned without prior approval of the BLM.
- 4. Permittee must not enclose roads or trails commonly in public use.
- Authorized representatives of the Department of the Interior, other Federal agencies, and State and local law officials will at all times have the right to enter the premises on official business.
- Permittee must pay the United States for any damage to its property resulting from the use.
- Permittee must notify the BLM of address change immediately.
- 8. Permittee must observe all Federal, State, and local laws and regulations applicable to the premises and to erection or maintenance of signs or advertising displays including the regulations for the protection of game birds and game animals, and must keep the premises in a neat, orderly, and sanitary condition.
- 9. Permittee must pay the BLM, in advance, the lump sum

- of \$ for the period of use authorized by this permit or \$ XXXXXXXXXXXX , annually, as rental or such other sum as may be required if a rental adjustment is made.
- 10. Use or occupancy of land under this permit will commence within XXXXXXXXXX months from date hereof and must be exercised at least XXXXXXXXXXX days each year.
- 11. Permittee must take all reasonable precautions to prevent and suppress forest, brush, and grass fires and prevent pollution of waters on or in the vicinity of the lands.
- 12. Permittee must not cut any timber on the lands or remove other resources from the land without prior written permission from the BLM. Such permission may be conditioned by a requirement to pay fair market value for the timber or other resources.
- 13. Permittee agrees to have the serial number of this permit marked or painted on each advertising display or other facility erected or maintained under the authority of such permit.
- 14. This permit is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the Equal Opportunity clauses. A copy of this order may be obtained from the BLM.
- Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.
- 16. Special conditions (attach additional sheets, if necessary)

SEE ATTACHED STIPULATIONS / FILMING OPERATION SUBJECT TO OTHER RECREATION USES

Permit issued for period	X	
	(Permittee)	
From		
110111	(BLM)	
To	FIELD MANAGER	
	(Title)	(Date)

INSTRUCTIONS

- Submit, in duplicate, to any local office of the Bureau of Land Management having jurisdiction of the lands.
- 2. Applications for Land Use Permits will not be accepted unless a notification of the availability of the land for non-BLM use (Notice of Realty Action) has been published in the Federal Register and for 3 weeks thereafter in a newspaper of general circulation. This provision does not apply in those situations where the publication of
- a (Notice of Realty Action) has been waived by the BLM.
- 3. If the annual rental exceeds \$250 dollars per year; costs of processing the application must be paid by the applicant in advance.
- The BLM may require additional information to process an application. Processing will be deferred until the required information is furnished by the applicant.

(Continued on page 3) (Form 2920-1, Page 2)

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application for a Land Use Permit. AUTHORITY: 43 U.S.C. 1201; 43 CFR Part 2920 PRINCIPAL PURPOSE: The information is to be used to process your application. ROUTINE USES: (1) The adjudication of the applicant's request for a Land Use Permit. (2) Documentation for public information. (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in public lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions. EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, the application may be rejected.

The Paperwork Reduction Act of 1995 requires us to inform you that: Information is needed to process application for land use authorizations, pursuant to 43 CFR Section 2920. Information shows if the applicant and proposed use meet the requirements of 43 CFR Section 2920.1. Applicant must respond before he/she can be granted an authorization to use public lands. BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 1 hour per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0009), Bureau Information Collection Clearance Officer, (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

COMMERCIAL USE APPLICATION (revised 8/13/98)

Fax phone ()
Name of Company
Address
Telephone () City/State/Zip
Name, title & phone # of Person Responsible on Location
rame, the a phone if of the contraction of the contraction in Education
Location of Site Desired (See enclosed map) Specific Locations to be Used (i.e., what part of lake bed/dunes/area, etc.) and circle on the map the area you will be using for filming/still photos and return the map with your application.
Type of Use: commercial production; nonprofit production; community service production; educational production
Purpose of use: feature film; advertisement; documentary; still photograph; video; other (state)
State name of feature film, TV series, commercial product, music video group, other:
Dates of Use Hours of Use
Number of Personnel Involved; include production, cast and crew
Statement of Activity to Take Place - in detail
Animals to be used on location; how many?
what kind? None

Equipment, Vehicles, and/or Aircraft to be U	Jsed:
# of Cameras	# of Camera Cars
# of Small Vehicles (one ton or less)	# of Large Vehicles (one ton or more)
# of Motorhomes	# of honeywagons
# & type of equipment	# & kind of transport vehicles
# & kind of Aircraft	Other:
Props/sets/scenes to be used/constructed,	give details:
Use of Pyrotechnics, give details and full de	escription of use:
WE REQUIRE A COPY OF PICTURE ID OF	F PYRO TECHNICIAN, COPY OF HIS LICENSE, A
A LETTER STATING WHAT EXPLOSI	VES HE/SHE WILL BE USING. WITH DET
EXPLANATION OF USE AND EVENTS.	
Name and telephone number of person/pers	sons to contact in case of emergency:
	Telephone Number
	Telephone Number
	Telephone Number
	1 Sophene Hamber
<u>X</u> Signature	 Date

COMMERCIAL FILMING STIPULATIONS FOR JOHNSON VALLEY OHV AREA

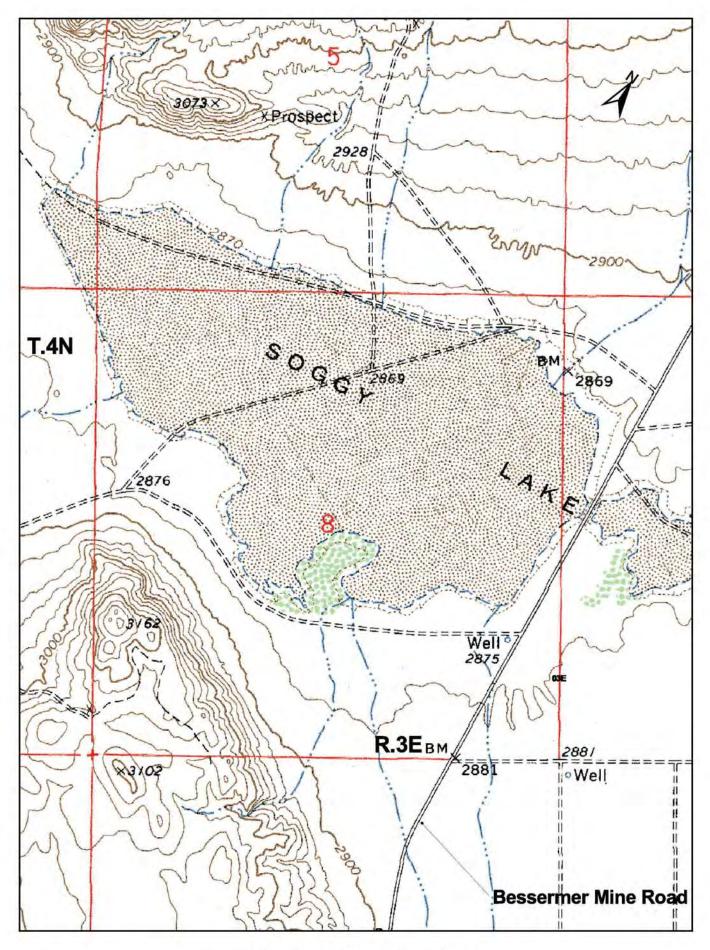
- 1. The permittee shall designate a representative for field operations before activities may commence, who shall be the sole field representative of the permittee's employees or contractors in dealing with the authorized BLM officer. Said representative shall be employed on behalf of the permittee's employees or contractors to communicate with the authorized officer, and to receive and comply with all communications and decisions of the authorized officer.
- 2. A copy of the permit and the stipulations shall be kept available on location at all times, for review for BLM personnel upon request. All persons (e.g., permittees, contractors, subcontractors) working at the site will be familiar with the permit stipulations. Non-compliance with permit stipulations may result in cancellation of the permit, or other adverse actions against the permittee.
- 3. Availability of all authorized areas for commercial filming activities is subject to restrictions based on their compatibility with recreational and other authorized activities as well as area carrying capacity limits.
- 4. The permittee shall confine all activities within the Johnson Valley OHV Area specifically defined by the attached map at the specified times and dates. If the Johnson Valley OHV Area location or other limitations on this filming authorization are deemed not appropriate by the permittee, no action shall be undertaken by the permittee at other times or on other public lands suitable to him/her until said changes are approved by the Barstow Field Manager. Anytime filming activities move off BLM land, the Inland Empire film Services must be notified.
- 5. THIS PERMIT AUTHORIZES THE USE OF PUBLIC LANDS ONLY. PERMISSION FOR THE USE OR OCCUPANCY OF PRIVATELY OWNED LANDS OR PROPERTY MUST BE OBTAINED FROM THE OWNER(S) AND REQUIRES A COUNTY FILM PERMIT. CONTACT THE INLAND EMPIRE FILM SERVICES FOR MORE INFORMATION.
- 6. Any soil disturbance such as ditching, ponding, leveling, mounding, etc. must be specifically authorized by BLM on the permit, and must be cleared by the Barstow Field Office if in desert tortoise habitat or known cultural resources area. Any authorized disturbance must be returned to original condition within 24 hours of completion of filming.
- 7. The permittee shall provide the filming operation employees or contractors, prior to commencing film activities, BLM printed materials describing:
 - Occurrence of the desert tortoise in the area,
 - Status of the desert tortoise,
 - Prohibitions against take and the penalties associated with take, and
 - Methods being employed as a part of the event to protect the tortoise and its habitat.
- 8. Desert tortoise handling is not authorized. Should a situation arise where "take" of desert tortoises becomes likely, filming operations shall cease and the Barstow Field Office and the Inland Empire Film Services shall be notified to determine an appropriate course of action.
- 9. The area shall be kept clear of trash and debris. Trash containers must be raven-proof (with lids secured at all times) and all trash and debris generated by the filming operation shall be removed immediately after completing filming operations to reduce the attractiveness of the area to ravens and other desert tortoise predators. Waste and other discharges from camping vehicles or other equipment is prohibited.

- 10. The Barstow Field Office and the Inland Empire Film Services must be notified of any commercial filming in the Yucca Rings ACEC and it must be specifically authorized by BLM on the permit. Only still photography is authorized in the Yucca Rings ACEC. All commercial filming activity is prohibited within the fenced area within the Yucca Rings ACEC.
- 11. The Barstow Field Office and the Inland Empire Film Services must be notified of any commercial filming involving exotic (i.e., non-desert and desert plants and animals not native to the West Mojave, such as camels) or domestic species. The permitted filmmakers are responsible for controlling and cleaning up after these species, including feces, to avoid the dissemination of seeds or diseases in the desert.
- 12. Filming operations shall be conducted in such a manner as to avoid creating safety hazards to other public land visitors and users and to the filming crews. The Permittee shall use whatever signs, flagging, help of individuals, or other authorized safety devices for the safe conduct of the filming operation and the protection of other users and visitors before, during, and after filming activities. Props, equipment and vehicles that are left at ongoing filming sites overnight must be clear of existing roadways and accompanied by a guard and warning lights and no structures or equipment are to be left over the weekend.
- 13. The Barstow Field Office and the Inland Empire Film Services must be notified of any commercial filming involving aircraft or pyrotechnic or explosive devices and it must be specifically authorized by BLM in advance. The Permittee must obtain additional appropriate permits from other agencies as necessary, such as for special effects, pyrotechnics, and aircraft.
- 14. **Application and rental fees will not be refunded once a filming permit has been processed.** Please contact the Inland Empire Film Services at (909) 460-8100 to reschedule.
- 15. For movie projects, acknowledgement through the film credits shall be given to: <u>U.S. Department of the Interior</u>, <u>Bureau of Land Management</u>, <u>Barstow Field Office</u> <u>and Inland Empire Film Services</u> for the portions of the movie filmed on lands administered by BLM.

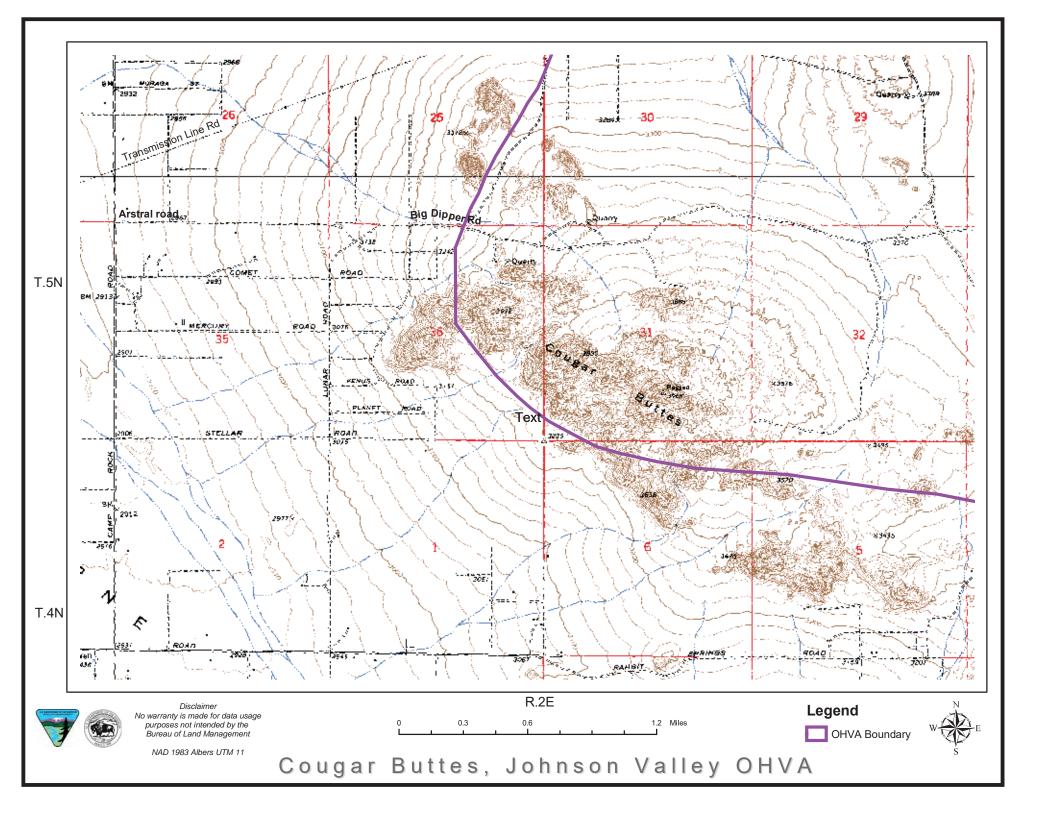
Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.

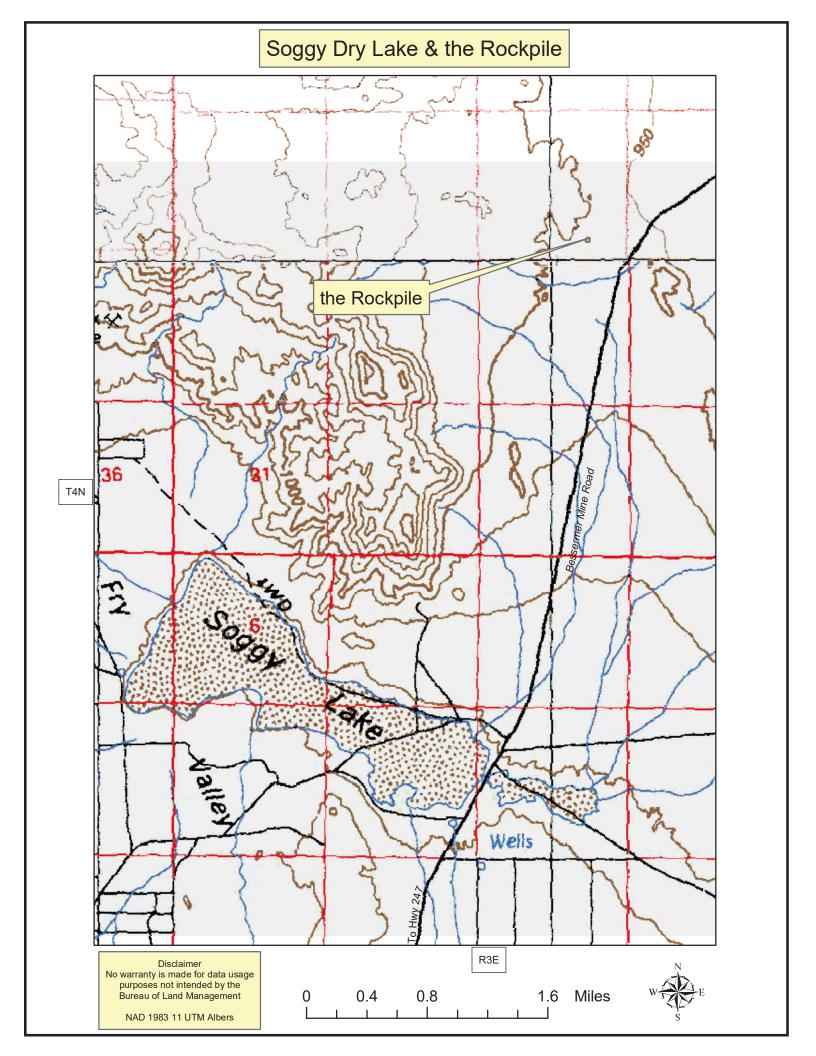
Permittee Signatur	re		
Title			
Date			

Amended June 1, 2000



Soggy Dry Lake





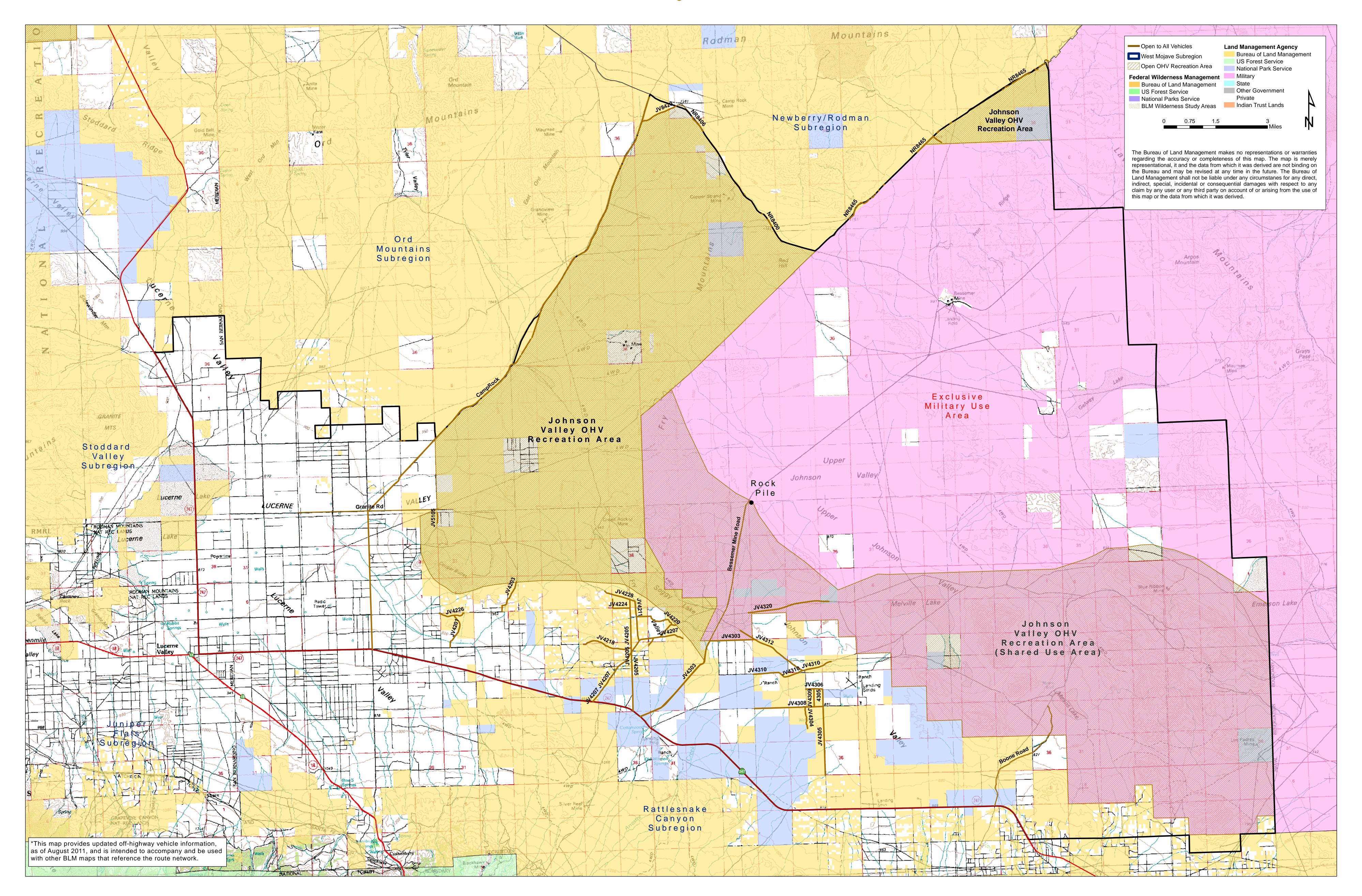


Johnson Valley Subregion

Off-Highway Vehicle Route Supplement*



Bureau of Land Management - California



BUREAU OF LAND MANAGEMENT BARSTOW FIELD OFFICE SPECIAL ANIMAL STIPULATIONS FOR COMMERCIAL FILMING

- 1. Animals not endemic to the area shall be under the control of **qualified handlers** at all times. Animals shall **not** be allowed to feed on natural vegetation.
- 2. Permittee is responsible for providing appropriate feed and water for the animals. Plant eating animals shall be fed non-germinating pellets or certified weed-free hay for two days prior to filming AND during filming while at the BLM location. Animals will be either tied to a parked vehicle; contained in a free standing fenced corral; and/or housed within a trailer in a parking area or road, when not in use.
- 3. All animal "waste" shall be removed from the public lands on a daily basis. Transmission of diseases from domestic animals to wildlife will be avoided through appropriate action (vaccines, avoidance of contact, etc).

Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.

Production Company	Animal Handler Company
Permittee Name (Please Print)	Animal Handler Name (Please Print)
Title	Animal Handler Signature
Permittee Signature	Address
	City, State
	Phone number



Special Effects and Hazardous Conditions Worksheet

Permit #	Date
Special Effects Coordinator	License #
Film Production Company	SFX Coord. Telephone #
Film Production Co. Address	
Location(s)	
Assistants	License #
Assistants	License #
Activity/Special FX Materials (pleas	e note quantities to be used for each material listed):
Date(s) of Activity:	Time(s):
SFX Coord. Signature	Date
Production Co. Signature	Date
	efilmpermits.com. You must also email a copy of the front and back of the Pyrotechnicians who will be on location, in addition to the Special Effects
This form and a copy of your State Py	vrotechnics license(s) are required before a permit can be issued
EOD COLDITY LICE ONLY	
FOR COUNTY USE ONLY Fire Approval (initial) Da	ateBy
Sheriff Approval (initial) Da	ateBy





THE DESERT TORTOISE

STATUS: On April 2, 1990 the desert tortoise was listed by the U.S. Fish and Wildlife Service as a threatened species. Under the provisions of the Endangered Species Act, anyone who takes (the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) a tortoise is subject to civil and/or criminal penalties of up to a \$50,000 fine and one year in jail or both. BLM will be assisting the Fish and Wildlife Service in the enforcement of the Act. Additionally, the desert tortoise is considered by California to be a threatened species with associated penalties.

BIOLOGY: Like other reptiles, the desert tortoise is cold blooded. To survive in the desert the tortoise "sleeps" through the heat of summer and the cold of winter in a burrow deep underground. Tortoises come out in the spring (and for a short period in the late summer and fall) to eat, drink, socialize, travel, etc. At other times of the year they are less active or not active at all.

The desert tortoise lays from 4 to 14 ping pong ball size eggs each year after reaching 10 to 20 years of age. Since a tortoise may live for 60 to 100 years, many eggs will be laid in a lifetime. However, only about 5 out of every 100 hatchlings will survive to become an adult tortoise. For the first 6 or 8 years, the young tortoise's shell is no thicker than your fingernail, and therefore, it is easy prey for many other desert animals.

Many of man's activities are also threatening the survival of the desert tortoise and are considered illegal. Some of these include:

- removing wild tortoises from the desert,
- 2. releasing pet tortoises into the desert (they often carry disease),
- 3. driving off roads in areas not designated for off-highway vehicle play.
- crushing tortoises as they are crossing roads,
- shooting at tortoises, and
- handling tortoises found in the desert (this may cause them to lose vital water supplies).

Some DOs and DON'Ts:

- If you find a desert tortoise in the desert, DO take pictures, get down and look at it (but not too
 closely so that you don't harass it), watch to see how it moves and what it eats, and then walk
 away and know that you have done a good deed by letting it live in peace.
- While driving on desert roads, DO keep an eye out for tortoises crossing the road. If you encounter one and have plenty of room to pass, drive slowly and carefully around it. If you don't have room to pass, stop and let the tortoise move across the road of its own accord. If the tortoise is on a paved road and in immediate danger, pull your car over and stop in a safe place. Lift the tortoise slowly and gently, keeping it level. Move it to a safe place, no more than 100 yards away, in the same direction that it was traveling. Carefully set it down, preferably in the shade of a shrub.
- 3. If you want a pet desert tortoise DON'T take one out of the desert! Do call the California Turtle and Tortoise Club (Linda York in Palm Desert at (760) 347-2647 or Bunny Williams in San Bernardino at (714) 862-4777) or the California Department of Fish and Game at (714) 597-8235. You also will need to get a free permit from the Department of Fish and Game to legally keep the tortoise.
- If you get tired of a pet desert tortoise DON'T let it go in the desert. Release of captive tortoises
 is a violation of the Endangered Species Act. Instead, call one of the numbers listed above to find
 a new home for your pet.

Revised 3/27/97





Heat Related Illness

Body Temperature Regulation

Regulating ones body temperature is a constant balancing act of heat input from ambient temperature, metabolism, physical work, sunlight, and heat output from radiation, evaporation, conduction, and convection.

Normally, radiation accounts for about two-thirds of heat loss, with one-third resulting from evaporation. If you are very hot, or working hard and sweating, evaporation can become a major factor in heat loss, except for when it very humid, in which case evaporation has no effect. Conversely, water conduction may also be a major factor in heat loss. When immersed in water, one can lose significant body heat (unless the water is around body temperature). Infants and very young children lack effective heat regulatory mechanisms and are more at risk for heat related injuries.

Acclimatization by exertion (i.e. working or working out) in the heat encourages the body to adjust to a hot climate. Until one is acclimated, heavy exertion should be limited to 30-90 minutes per day, avoiding the hottest part of the day.

Clothing should be lightweight, light in color, and a loose weave. A wide-brimmed hat will help keep you cool and prevent sunburn.

Be aware of humidity! Even in relatively cool temperatures (75 degrees), marked exertion in very high humidity can lead to heat illness due to failure of evaporative cooling.

Heat Disorders

Heat Cramps

These are painful cramps, usually following exercise or heavy exertion, and often affecting major muscles such as the calves and thighs. Stretching, maintaining good hydration and electrolyte balance, as will becoming acclimated to the heat has been found to be the most effective in alleviating this painful condition.

Heat Syncope

Heat Syncope is when one faints due to heat exposure, often after prolonged standing or when standing up from a seated position. Most people recover quickly to fluid replacement. Older individuals and those on hypertension medications are most at risk.

Heat Exhaustion

This is caused by dehydration and depletion of electrolytes, or body salts. Its symptoms are weakness, headache, dizziness, nausea, vomiting, and diarrhea. An increased body temperature and pulse rate may also be present. The treatments for heat exhaustion is to rest, get out of the heat/sun, sponge the body with water and fanning it, and to replace the body's fluids and salt with a sports drink, or water and salty snacks. If not taken seriously, this can progress to heat stroke.

Heat Stroke

In this condition the body loses its ability to regulate temperature causes the body temperature to soar, often to above 106 degrees. Sweating may or may not be present. Heat stroke will result in physical collapse and mental deterioration ranging from confusion to coma. If someone is exhibiting these systems, call 911 immediately. This is a medical emergency and must be treated aggressively with rapid cooling and IV fluids. If not, permanent damage to kidneys, heart, or liver may result, and is some cases, death. If you suspect someone is experiencing heat stroke, here are a few emergency treatment that will help until emergency crews arrive: 1) remove clothing, 2) cool/wet the body, with whatever water that is available, 3) fan the body, 4) if victim is able to drink, give them water, a sports drink, or any oral rehydration formula.

Preventing Heat Illness

Even marginal dehydration interferes with the body's ability to regulate temperature. It can also cause mild diarrhea, which can dramatically increase dehydration. In hot climates, you should always consume enough water so that you urinate every two to three hours. If your urine becomes dark yellow, it means that you are getting dehydrated or that you are getting jaundiced.

Desert Survival Safety Tips

Before any trip, always let someone know where you are going, the route(s) you plan to take, and when you expect to return. Make sure to stick to your plan. It will increase your chances of survival greatly. Be sure to check the road and weather reports before traveling as well.

When in hot weather, you need to adapt gradually, going into the heat for short periods at first. Always keep your clothing on. It helps to keep the body temperature down and reduces the dehydration rate. Also, cover your head. If a hat is not handy, improvise a head covering. Also make sure to drink fluids frequently and eat small meals regularly during the day. Do not drink alcohol. It will decrease your ability to tolerate the heat. If you have water, drink it. Do not ration it. Carry at least one gallon of water per person per day. In a pinch, use plastic gallon jugs. They are handy and are transported easily. If water is limited, keep your mouth shut. Do not talk, do not eat, do not smoke, and, as mentioned before, do not drink any alcohol.

The best thing to do is find shade, sit down, and prop up your feet. You may adjust your shoes and socks, but *do not remove them* – you may not be able to get them back on your swollen feet (a common problem). If you must walk in the sun/heat, rest for at least 10 minutes every hour. If you are not normally physically active, rest up to 30 minutes every hour. Try to avoid sitting or lying directly on the ground. It may be 30+ degrees hotter than the surrounding air.

Make it a point to keep an eye on the sky. If you see "Thunderheads," near or far, be prepared to evacuate. Flash floods may occur in a wash in a matter of moments. They can fill low spots to dangerous levels very quickly. During evacuation, or any other time, do not drive through flooded roads if you can't tell how deep it is.

Be sure your vehicle is in good condition with a sound battery, good hoses, spare tire, spare fan belts, necessary tools, reserve gasoline, and extra oil. Other spare parts and extra radiator water are also valuable.

Before driving through washes and sandy areas test the footing. One minute on foot may save hours of hard work changing a flat, digging your vehicle free, or replacing a punctured oil pan. It is recommended to use a four-wheel-drive vehicle when traversing these areas.

If caught in a dust storm while driving, immediately get off the road, Turn off your headlights, and turn on your emergency flashers. Try to position your vehicle with the back to the wind. This will reduce windshield pitting by sand particles.

If you vehicle breaks down, stay near it. Your car and various items within it can be useful in an emergency. You can raise the hood and truck lid to denote "Help Needed." Also, a vehicle can be seen for miles, but a person on foot is very difficult to find. Only leave a disabled vehicle if you are positive of the route to help. If you must walk for help, wait until sunset and leave a note telling which way you went.