



# Bureau of Land Management

El Mirage Dry Lake Dumont Dunes Silurian Dry Lake Stoddard Valley Lucerne Dry Lake Sperry Wash **Rasor**  
Johnson Valley Soggy Dry Lake Cougar Buttes Sawtooth Canyon Odessa Canyon Afton Canyon Mule 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. Map(s) of Specific Location – (please mark your location on map and return with permit)
5. Animal Stipulations & SFX Form – (sign and return only if applicable)
6. Wildlife & Misc. Information – yours to keep

**Please include with your return Email:**

- a. #2 – 4 (and #5 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 your permit within 14-16 business 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.

**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 Photography.....Permit Rates: 01-10 people = \$100/day  
11-30 people = \$150/day  
31+ people = \$250/day

Processing Fee ..... To be determined based on BLM Review (Starts at \$151)

Monitoring Fee ..... To be determined based on BLM Review (Starts at \$151)

IEFS Fee<sup>+</sup> ..... \$225 per permit

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

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

\*to avoid this fee you can contact the BLM directly for permit processing – (760) 252-6000. This will also increase your permit processing time to 4 - 6 weeks or more.



# 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, ACH or cash app**

If you want to pay by check, make it payable to the Inland Empire Film Services, Inc. Once you have been given your total, overnight (via FedEx, UPS, etc.) your check to the address supplied by the IEFS representative. Keep in mind that the check has to clear the bank before the permit will be issued. This can add 5-7 days to your permit timeline.

You must provide proof of liability insurance and a Letter of Endorsement (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 Liability Insurance Certificate and Letter of Endorsement is required naming the Bureau of Land Management as additionally insured for the amount of \$5 million. *If you are using drones, additional UAS/Aircraft liability insurance Certificate and Endorsement in the amount of \$2 million is required along with FAA drone licenses & registrations and a POA with flight maps showing the flight area.*

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 manned 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, paid in full and received by the BLM.**

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



THANK YOU for permitting  
Bureau of Land Management Lands

*Part of*  
*"Hollywood's Largest Backlot!"™*

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](http://www.iefilmpermits.com)), email us ([blm@iefilmpermits.com](mailto:blm@iefilmpermits.com)) or give us a call.

If you need any assistance  
please do not hesitate 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!"™

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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: March 31, 2014

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 for which you are applying

3. Proposed date(s) of use: from \_\_\_\_\_ to \_\_\_\_\_

4. Give legal basis for holding interest in lands in the State of \_\_\_\_\_  
(Check appropriate box at right and explain.)

<input type="checkbox"/> Resident	<input type="checkbox"/> Partnership
<input type="checkbox"/> Corporation	<input type="checkbox"/> County
<input type="checkbox"/> Local Government	<input type="checkbox"/> State Government
<input type="checkbox"/> Other	

5. Are the lands now improved, occupied or used?  Yes  No (If "yes," describe improvements and purposes, identify users and occupants.)

6. Do you need access to the land?  Yes  No (Describe needed or existing access)

7a. What do you propose to use the lands for?

b. What improvements and/or land development do you propose? (To complete application processing, engineering and construction drawings may be required)

c. What is the estimated capital cost? \$ _____	d. What is the source of water for the proposed use?

I CERTIFY That the information given by me in this 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 crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

PERMIT

Permission is hereby granted to of to use the following described lands:	Permit Number
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TOWNSHIP	RANGE	SECTION	SUBDIVISION
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Meridian	State	County	Acres <i>(number)</i>
----------	-------	--------	-----------------------

for the purpose of

and subject to the following conditions:

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. 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.</li> <li>2. This permit is subject to all applicable provisions of the regulations (43 CFR 2920) which are made a part hereof.</li> <li>3. This permit may not be assigned without prior approval of the BLM.</li> <li>4. Permittee must not enclose roads or trails commonly in public use.</li> <li>5. 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.</li> <li>6. Permittee must pay the United States for any damage to its property resulting from the use.</li> <li>7. Permittee must notify the BLM of address change immediately.</li> <li>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.</li> <li>9. Permittee must pay the BLM, in advance, the lump sum of \$ _____ for the period of use authorized</li> </ol> | <p style="text-align: right;">by this permit or \$ _____, annually, as rental or such other sum as may be required if a rental adjustment is made.</p> <ol style="list-style-type: none"> <li>10. Use or occupancy of land under this permit will commence within _____ months from date hereof and must be exercised at least _____ days each year.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>15. Permittee acknowledges, by signing below, that he/she knows, understands and accepts the terms and conditions under which this permit is issued.</li> </ol> |
|--|---|
16. Special conditions *(attach additional sheets, if necessary)*

Permit issued for period

From _____  To _____	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">_____</td> <td style="text-align: right;">(Permittee)</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: right;">(BLM)</td> </tr> <tr> <td style="text-align: center;">_____</td> <td style="text-align: right;">(Title) _____ (Date)</td> </tr> </table>	_____	(Permittee)	_____	(BLM)	_____	(Title) _____ (Date)
_____	(Permittee)						
_____	(BLM)						
_____	(Title) _____ (Date)						

**INSTRUCTIONS**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Submit, in <i>duplicate</i>, to any local office of the Bureau of Land Management having jurisdiction of the lands.</li> <li>2. Applications for Land Use Permits will not be accepted unless a notification of the availability of the land for non-BLM use (<i>Notice of Realty Action</i>) 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</li> </ol> | <p>a (<i>Notice of Realty Action</i>) has been waived by the BLM.</p> <ol style="list-style-type: none"> <li>3. Costs of processing the application must be paid by the applicant in advance.</li> <li>4. The BLM may require additional information to process an application. Processing will be deferred until the required information is furnished by the applicant.</li> </ol> |
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## 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 (    ) \_\_\_\_\_
1. Name of Company \_\_\_\_\_  
Address \_\_\_\_\_  
Telephone (    ) \_\_\_\_\_ City/State/Zip \_\_\_\_\_
2. Name, title & phone # of Person Responsible on Location \_\_\_\_\_  
\_\_\_\_\_
3. 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.
4. Type of Use: \_\_\_\_ commercial production; \_\_\_\_ nonprofit production; \_\_\_\_ community service  
production; \_\_\_\_ educational production
5. Purpose of use: \_\_\_\_ feature film; \_\_\_\_ advertisement; \_\_\_\_ documentary; \_\_\_\_ still photograph;  
\_\_\_\_ video; \_\_\_\_ other (state) \_\_\_\_\_
6. State name of feature film, TV series, commercial product, music video group, other:  
\_\_\_\_\_
7. Dates of Use \_\_\_\_\_ Hours of Use \_\_\_\_\_
8. Number of Personnel Involved; include production, cast and crew \_\_\_\_\_
9. Statement of Activity to Take Place - in detail \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. Animals to be used on location; how many? \_\_\_\_\_  
what kind? \_\_\_\_\_ None \_\_\_\_\_

11. Equipment, Vehicles, and/or Aircraft to be Used:

# 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: \_\_\_\_\_

12. Props/sets/scenes to be used/constructed, give details:

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13. Use of Pyrotechnics, give details and full description of use:

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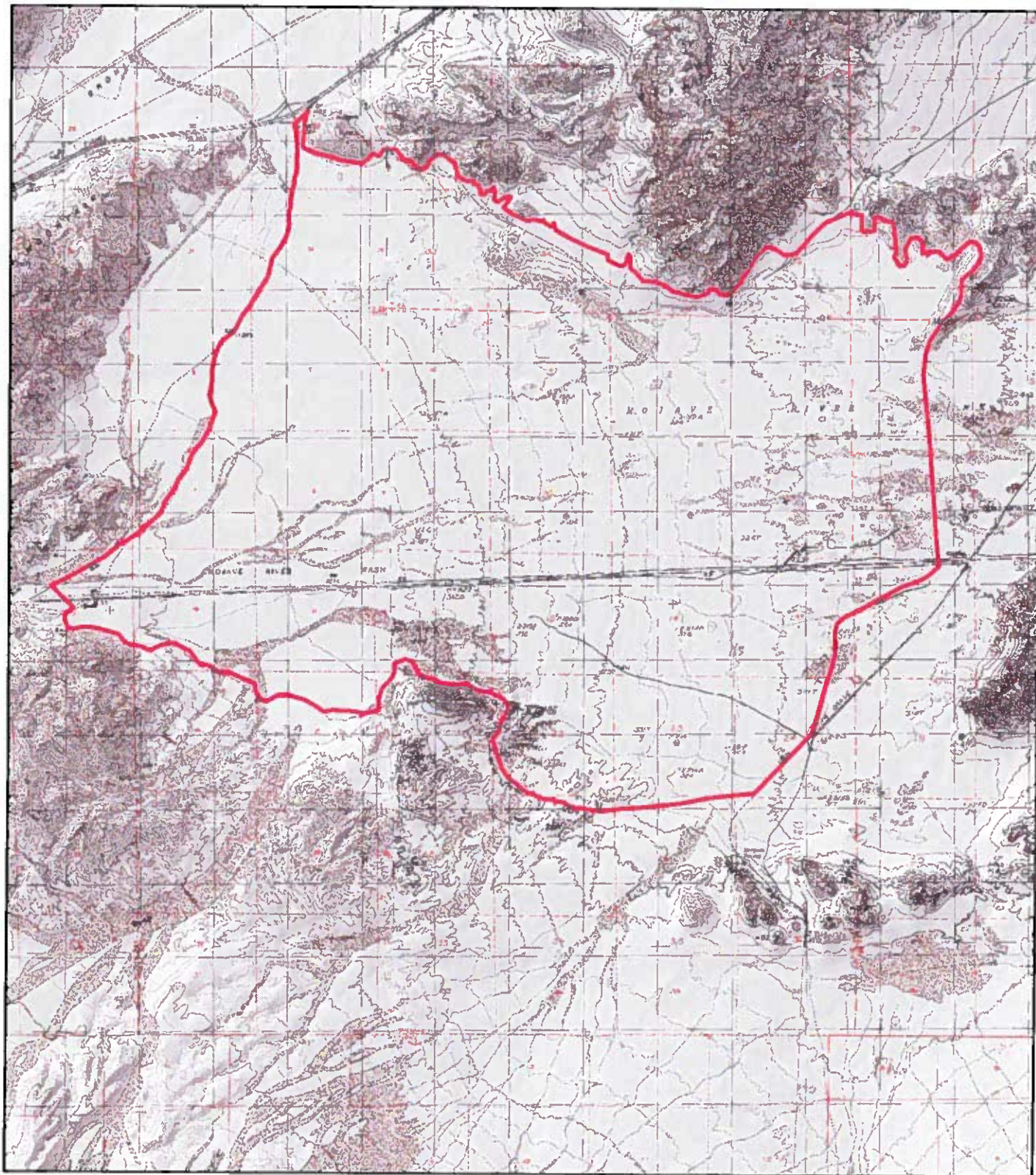
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**\*\* WE REQUIRE A COPY OF PICTURE ID OF PYRO TECHNICIAN. COPY OF HIS LICENSE. AND A LETTER STATING WHAT EXPLOSIVES HE/SHE WILL BE USING. WITH DETAILED EXPLANATION OF USE AND EVENTS.**

14. Name and telephone number of person/persons to contact in case of emergency: \_\_\_\_\_  
\_\_\_\_\_ Telephone Number \_\_\_\_\_  
\_\_\_\_\_ Telephone Number \_\_\_\_\_  
\_\_\_\_\_ Telephone Number \_\_\_\_\_

X \_\_\_\_\_  
Signature Date





LSA

LEGEND

Filming Study Area

Note: No CNDDB areas or designated critical habitat located within the study area

FIGURE 4



*Programmatic Environmental Assessment  
Commercial Filming Barstow Resource Area*

**CNDDB and Critical Habitat for  
Razor Off-Highway Vehicle (OHV) Area**

SOURCE: Bing Maps (c 2008), CNDDB (2011), USGS 7.5' Quad: Cave Mountain (1986) and Crucern Hill (1983), CA, I:\FC0901\GIS\RazorOHV\_FA\_Species.mxd (12/1/2011)

**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



# Film Office

## 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 (please note quantities to be used for each material listed): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date(s) of Activity: \_\_\_\_\_ Time(s): \_\_\_\_\_

SFX Coord. Signature \_\_\_\_\_ Date \_\_\_\_\_

Production Co. Signature \_\_\_\_\_ Date \_\_\_\_\_

Please **email** this form to [SBCounty@iefilmpermits.com](mailto:SBCounty@iefilmpermits.com). You must also **email** a copy of the front and back of the State Pyrotechnics license of all of the Pyrotechnicians who will be on location, in addition to the Special Effects Coordinator's license.

**This form and a copy of your State Pyrotechnics license(s) are required before a permit can be issued**

### FOR COUNTY USE ONLY

Fire Approval (initial) \_\_\_\_\_ Date \_\_\_\_\_ By \_\_\_\_\_

Sheriff Approval (initial) \_\_\_\_\_ Date \_\_\_\_\_ By \_\_\_\_\_



## 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:

1. 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,
4. crushing tortoises as they are crossing roads,
5. shooting at tortoises, and
6. handling tortoises found in the desert (this may cause them to lose vital water supplies).

### Some DOs and DON'Ts:

1. 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.
2. 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.
4. 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



## 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 your 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.

# 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 in 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.