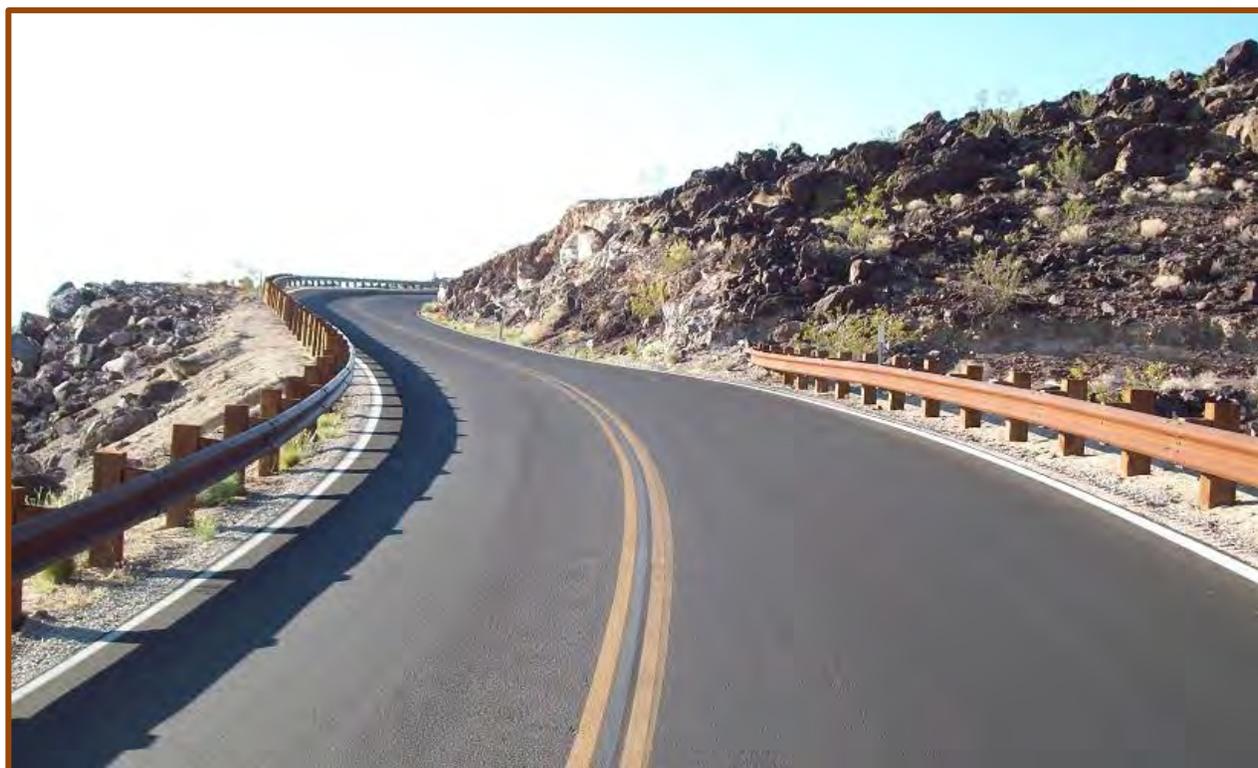




# Special Park Use for Sporting Events Safety Assessment and Recommendations Death Valley National Park August, 2014



Recommended *PS [Signature]* Date 20 AUG 14  
Safety Manager, Death Valley National Park

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Superintendent, Death Valley National Park

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## EXECUTIVE SUMMARY

This safety assessment of permitted sporting events was initiated by Death Valley National Park in response to observations regarding sporting event related safety issues, verbal complaints from visitors, and National Park Service event monitors noting violations of permit conditions. In October 2013, Death Valley National Park placed a moratorium on issuing special use permits for sporting events within Death Valley to conduct a safety assessment on cycling and running permitted sporting events held within the park. The National Park Service (NPS) authorizes sporting events through a special park use permit with terms and conditions to protect park resources and values, ensure employee and visitor safety and minimize conflict between user groups.

The safety of employees and visitors is a top priority for the National Park Service. The purpose of this safety assessment of permitted sporting events was to review past events to identify safety hazards; to evaluate the risks to NPS employees, park visitors, event staff and participants; to assess the use of park roads for events; and to recommend ways to mitigate the hazards and risks for NPS staff and visitors at future events. An interdisciplinary event safety assessment team (ESAT) was tasked to use risk management processes to evaluate risks and hazards relating to sporting events and to provide the following:

- Identification of risks and hazards associated with sporting events.
- Evaluation of sporting events with regard to National Park Service employee safety and staffing capacity, visitor safety, and safety of event staff and participants.
- Assessment of park roads for use by sporting events along with other public uses.
- Identification of other circumstances that should be considered in determining if sporting events can be conducted in a manner that maintains public health and safety and is protective of staff and park visitor safety.
- Development of recommendations to mitigate the identified risks and hazards.
- Recommendations for the permitting process and permit conditions for future events.

Using operational risk management tools, the ESAT assessed different standards and procedures that could be required to reduce risks and hazards related to permitted sporting events. The ESAT also evaluated park management activities related to employee safety, staff operations, and other visitor activities that have a direct relationship on the safety of employees and visitors. The safety team's assessment is provided in Chapter 2.

The evaluation found that some risks could be reduced by applying specific mitigations to current practices and permit conditions while other risks could not be reduced. The ESAT recommended that efforts be made to increase visitor awareness of events taking place in the park, improve event planning, monitor all future sporting events, prohibit events at specific locations and during specific times of the year, create a new special use sporting event permit applicant handbook and conditions, and standardize permit formats. The ESAT recommended that events with associated unacceptable risks not be permitted. Recommendations and findings are detailed in Chapter 3.

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## DEFINITIONS & ACRONYMS

**Aid Station:** Aid stations are locations along the event route that have food and water, and may have shade structures, first aid assistance, restroom facilities, or cycle repair equipment.

**ALS:** Advanced Life Support

**ANSI/ISEA:** American National Standards Institute / International Safety Equipment Association

**ASTM:** American Society for Testing and Materials

**BLS:** Basic Life Support

**CAVC:** California Vehicle Code

**CalTrans:** California Department of Transportation

**CAMUTCD:** California Manual for Uniform Traffic Control Devices

**CFR:** Code of Federal Regulations

**CHP:** California Highway Patrol

**CPSC:** United States Consumer Product Safety Commission

**Daylight hours:** Thirty minutes prior to sunrise to thirty minutes after sunset

**DO:** National Park Service Director's Order

**DVNP:** Death Valley National Park

**EMS:** Emergency Medical Service

**EMT:** Emergency Medical Technician

**ESAT:** Event Safety Assessment Team

**Evening / Night hours:** Thirty minutes after sunset to thirty minutes prior to sunrise

**Event Coordinator:** The person named on the permit responsible for adherence to the terms and conditions of the permit and may or may not be the permit holder. This person must remain on-site at all times and have full authority to make any decisions about the activity. He/she shall be responsible for all individuals, groups, vendors, etc. involved with the permit.

**Event Staff:** Event personnel (paid, compensated or volunteer) who work for the permit holder or event coordinator.

**GAR:** Green, Amber, Red (safety risk assessment tool)

**LE:** Law Enforcement

**Leapfrog:** The act of a person or team to surpass or overtake the participant and to move, stop and wait at a position in advance of the participant.

**Monitor:** Any National Park Service employee who is assigned to observe an event and enforce permit conditions.

**MUTCD:** Manual for Uniform Traffic Control Devices

**NDOT:** Nevada Department of Transportation

**NIOSH:** National Institute for Occupational Safety and Health

**NOAA:** National Oceanic and Atmospheric Administration

**NPS:** National Park Service

**NREMT:** National Registry of Emergency Medical Technicians

**NV:** Nevada

**ORM:** Operational Risk Management

**OSHA:** Occupational Safety and Health Administration

**Park:** Death Valley National Park

**Participant:** The person involved in the activity or event (cyclist or runner). Event staff on cycles and pace runners are considered participants and count toward the maximum number of participants allowed in the permit.

**Permit Holder:** The person named on the permit as the permit holder. He/She shall be responsible for all activities of the Event Coordinator and is responsible for the permitted activity.

**Protection Ranger or Protection Staff:** NPS Federal Law Enforcement Officer(s)

**RM:** Reference Manual to National Park Service Director's Order

**TLV:** Threshold Limit Value. A guideline establishing safe levels of exposure.

**SAG Vehicle:** Vehicle that travels the course or follows participants and provides support and gear to participants and aid stations.

**SPE:** Severity, Probability, Exposure (safety risk assessment tool)

**SR:** State Route

**Team:** Support crew or team. A person or number of persons associated in some action that supports the participant.

**Traffic Control:** Traffic control shall be defined as all signs, signals, markings, and other devices used to regulate, warn, or guide traffic, placed on, over, or adjacent to a street or highway and is used in the supervision of the movement of people or vehicles to ensure efficiency and safety.

**Visitor:** Visitors and other park users including travelers passing through the park, residents of the park, and concessions employees.

**Wet Bulb Globe Temperature (WBGT):** Composite temperature used to estimate the effect of temperature, humidity, wind speed, and radiant heat on humans. WBGT is used to determine appropriate exposure levels to high temperatures.

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# 1 BACKGROUND

## 1.1 INTRODUCTION AND PURPOSE

In October 2013, Death Valley National Park placed a moratorium on issuing special use permits for sporting events within Death Valley to conduct a safety assessment on cycling and running events held within the park. Permit holders with existing approved permits at the time the moratorium was issued were allowed to hold their events as scheduled.

The safety assessment of permitted sporting events was initiated by the Death Valley National Park Superintendent in response to an increase in observations from park staff on safety issues, verbal complaints from visitors, and National Park Service (NPS) event monitors noting violations of permit conditions.

The interdisciplinary event safety assessment team (ESAT) consisted of the park Safety Manager, Permit Administrators, Protection Rangers, the park Public Information Officer and Management Assistant, and a Resources Management representative (appendix A). The safety assessment included consultation with state and federal partners, including: the NPS National Special Park Uses Program Manager, the Public Health Service, California Department of Transportation District 9, and NPS Pacific West Region and Washington, DC offices. The ESAT also received comments from Death Valley National Park employees who have participated in similar events that include multi-sport racing and touring.

The ESAT was tasked by the Park Superintendent to provide the following:

- Identification of risks and hazards associated with sporting events;
- Evaluation of sporting events with regard to National Park Service employee safety and staffing capacity, visitor safety, and safety of event staff and participants;
- Assessment of park roads for use by sporting events along with other public uses;
- Identification of other circumstances that should be considered in determining if sporting events can be conducted in a manner that maintains public health and safety and is protective of staff and park visitor safety;
- Development of recommendations to mitigate the identified risks and hazards; and
- Recommendations for the permitting process and permit conditions for future events.

## 1.2 SPORTING EVENTS IN DEATH VALLEY NATIONAL PARK

Death Valley National Park staffing requirements for events include permit administration and review, monitors, resource management staff, emergency response staff, and protection rangers. Park staff are exposed to risks due to events being located on high speed two lane highways, at night, and occurring during extreme weather conditions.

Organized sporting events have occurred within Death Valley National Park since at least 1987 and over the years have grown from fewer than 20 participants to up to 300 participants per event. Past events have been permitted from September through May, and in July.

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Events take place on over 100 miles of park roads, with some events occurring entirely within park boundaries, some exiting and re-entering the park, and some events passing through the park while beginning and ending outside park boundaries.

In past years the park has permitted up to 14 sporting events in one year, with a total number of approximately 1,800 participants (not including event staff). One permitted event has 100 participants and up to 500 additional staff and team members with over 100 support vehicles. Sporting event participants, staff and teams represent less than 0.25% of the park's annual one million recreational visitors.

Number of Events by Fiscal Year			
Year	Number of Events	Year	Number of Events
2013	9	2009	9
2012	14	2008	6
2011	11	2007	8
2010	12	2006	8

In recent years, there has been an increase in the number of requests to hold events in the park. In 2013 the park issued over 340 special use permits for filming, auto testing, sporting events, and other special use activities, as well as over 170 commercial use authorization permits. Permit holders pay cost recovery charges for all NPS costs associated with permitted events.

Some Past Permitted Sporting Events				
Event	Time of year	Hours road used	Miles of in-park road used	Participants & Staff (estimated)
<b>Cycling</b>				
Cycle Camp (AdventureCorps)	Feb	6 AM – 8 PM	170 round trip rides	120
Spring Double Century (AdventureCorps)	Feb	6 AM - Midnight	90 round trip ride	450
Western Spirits (Western Spirit Cycling)	Sep	8 AM – 8 PM	80 one way ride	70
Whitney Classic (Summit Adventures)	Sep	3 AM – 12 AM day/night event	90 one way ride	90
The Furnace Creek 508 (AdventureCorps)	Oct	3 PM – 7 AM night event	70 one way ride	200
Ride to Cure Diabetes (JDRF)	Oct	8 AM – 6 PM	60 round trip ride	350
Fall Double Century (AdventureCorps)	Oct	6 AM - Midnight	90 round trip ride	450
<b>Walking/Running</b>				
Harmony Marathon (Enviro-Sports)	Feb	7 AM – 4 PM	13 round trip run	350
Walk for Life (Walk for Life)	May	8 AM – 8 PM 2 day event	26 one way walk	80
Badwater Ultra-marathon (AdventureCorps)	Jul	6 AM – 6 PM est. 36 hours in park	90 one way run	500 - 600
Titus Marathon (Enviro-Sports)	Dec	7 AM – 4 PM	26 one way run	350

### 1.3 LOCATION INFORMATION

Death Valley National Park is the largest national park outside of Alaska at 3.4 million acres. The main valley is 130 miles (210 km) long, between 6 and 13 miles (10-21 km) wide, and is surrounded by steep mountain ranges. The highest peak rises to 11,049 feet (3367 meters) above sea level and lies only 15 miles from the lowest point in North America at -282 feet (-86 m) below sea level. Death Valley is the hottest place in the world and holds the record for the highest temperature ever recorded at 134 °F (56.7 °C). Air temperatures, recorded in the shade, commonly reach over 120 °F (48 °C) during the months of June through September. Temperatures from November through March are mild with highs averaging in the 60's and 70's (15-25 °C). Summer low temperatures have been recorded as high as 110 °F (43 °C) with winter nighttime lows usually in the 40's (5-10 °C). Not only does Death Valley feature the hottest world recorded temperature, but also reports the lowest annual precipitation in North America, with an annual average rainfall of less than 2 inches (5 cm) per year, and extremely low relative humidity throughout the year.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
<b>Daily high</b> (average)	67° F 19° C	73° F 23° C	82° F 27° C	90° F 32° C	100° F 38° C	110° F 43° C	116° F 47° C	115° F 46° C	106° F 41° C	93° F 34° C	77° F 25° C	65° F 18° C	91° F 33° C
<b>daily low</b> (average)	40° F 4° C	46° F 8° C	55° F 13° C	62° F 17° C	73° F 23° C	81° F 27° C	88° F 31° C	86° F 30° C	76° F 24° C	61° F 16° C	48° F 9° C	38° F 3° C	63° F 17° C
<b>record high</b>	87° F 31° C	98° F 37° C	103° F 39° C	113° F 45° C	122° F 50° C	129° F 53° C	134° F 57° C	127° F 53° C	123° F 50° C	113° F 45° C	97° F 36° C	89° F 32° C	134° F 57° C
<b>record low</b>	15° F -9° C	21° F -6° C	26° F -3° C	23° F -5° C	42° F 6° C	49° F 10° C	62° F 17° C	64° F 18° C	41° F 5° C	32° F 0° C	24° F -4° C	19° F -7° C	15° F -9° C
<b>precipitation</b>	0.27 in 0.7 cm	0.37 in 0.9 cm	0.22 in 0.6 cm	0.12 in 0.3 cm	0.07 in 0.2 cm	0.03 in 0.1 cm	0.11 in 0.3 cm	0.11 in 0.3 cm	0.14 in 0.4 cm	0.10 in 0.3 cm	0.17 in 0.5 cm	0.19 in 0.5 cm	1.94 in 4.9 cm

All paved roads within the park are two lanes with sections of limited visibility due to curves, hills and dips where passing is prohibited. Roads have limited or no shoulder and the terrain adjacent to the roadway are rocky, steep, and rough. There are sections of road with grades up to 9%, and there are few paved pullouts. California State Route (SR) 190 runs through the park and is managed by the California Department of Transportation (CalTrans). California SR 178 is managed by Inyo County. All other paved roads are maintained by the National Park Service. The majority of these roads have a speed limit of 45 to 65 miles per hour.

### 1.4 NATIONAL PARK SERVICE RESPONSIBILITIES

National Park Service Management Policies 2006, Director's Order 53 (DO 53) and Reference Manual 53 (RM 53) set policy and guidelines for permitting events in national parks. The 1916 NPS Organic Act and a 1978 amendment to the National Park Service General Authorities Act restrict the kinds of activities that may be allowed within the national park system:

## SECTION 1 - BACKGROUND

The National Park Service] shall promote and regulate the use of the [national parks] by such means and measures as conform to the fundamental purpose of the said parks..., which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. (16 USC §1)

The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress. (16 U.S.C. §1a-1)

The following are applicable citations from NPS Management Policies, DO 53 and RM 53 regarding Special Use Permits:

### **Management Policies 2006**

A special park use is defined as an activity that takes place in a park area, and that:

- provides a benefit to an individual, group or organization rather than the public at large;
- requires written authorization and some degree of management control from the NPS in order to protect park resources and the public interest;
- is not prohibited by law or regulation;
- is not initiated, sponsored, or conducted by the NPS; and
- is not managed under a concession contract, a recreation activity for which the NPS charges a fee, or a lease.

### **Director's Order 53: Special Park Uses**

#### **POLICY GUIDANCE**

The NPS should encourage special park uses that accomplish any or all of the following:

- support the mission of the NPS;
- add to the public understanding and enjoyment of the park;
- promote a sense of ownership and stewardship for the park and its resources;
- enhance the protection of park resources and values; or
- provide for an increased level of visitor safety.

The NPS will not issue special park use permits that:

- create an unacceptable impact on park resources or values;
- are contrary to the purposes for which the park was established;
- unreasonably disrupt the atmosphere of peace and tranquility of wilderness, natural, historic, or commemorative locations within the park;
- unreasonably interfere with interpretive programs, visitor activities, visitor services, or NPS administrative activities;
- substantially interfere with the operation of public facilities or the services of NPS concessioners or contractors;

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- create an unsafe or unhealthy environment for other visitors or employees; or
- result in conflict with other existing uses.

The Superintendent may only approve a request to engage in a special park use, or any renewal of an existing use, if the use does not trigger any of the criteria above. Existing uses that trigger any of the above criteria which cannot be mitigated to an acceptable limit through permit terms and conditions must be phased out.

### Reference Manual 53: Special Park Uses

Special park uses that are appropriate within one park area may be inappropriate in another because of differences in park purpose or resources, in program needs, or in various constraints set forth in their respective enabling legislation. Further, special park uses that are appropriate in one management zone within a single park may not be appropriate in designated wilderness areas, historic zones or other management zones in the same park. Certain special park uses could be appropriate in only one season of the year, on only one or more days of the week, or only during certain hours of the day.

The superintendent is required to follow the specific criteria spelled out in *36 CFR 2.50*. These regulations authorize the conducting of special events provided:

- There is a meaningful association between the park area and the event;
- The observance contributes to visitor understanding of the significance of the park, and
- The superintendent has issued a permit.

Generally speaking, these criteria should be interpreted as being inclusive rather than exclusive, since most visits to national parks will entail some meaningful association and impart some understanding of the significance of the park. However, *36 CFR 2.50* requires that a permit be denied if, in the superintendent's opinion, the special event will:

- Cause injury or damage to park resources; or
- Be contrary to the purposes for which the park was established, or unreasonably impair the atmosphere of peace and tranquility maintained in wilderness, natural, historic, or commemorative locations within the park; or
- Unreasonably interfere with the interpretive, visitor service, or other program activities, or with the administrative activities of the NPS; or
- Substantially impair the operation of public facilities or services of NPS concessioners or contractors; or
- Present a clear and present danger to public health and safety; or
- Result in significant conflict with other existing uses.

*36 CFR 2.50* includes procedural guidelines for permit applications, time limits for submission of applications and issuance of permits and standards to be applied in denying permits. If, for example, a special event will cause injury or damage to park resources, provide a clear and present danger to public health and safety, result in significant conflict with other existing uses, unreasonably impair the area's atmosphere of peace and tranquility, unreasonably interfere with Service program activities, or substantially impair the operation of public use facilities or services of National Park Service concessionaires or contractors, then the permit must be denied. The

## SECTION 1 - BACKGROUND

Service believes these to be reasonable criteria to apply to any request for a special use permit for a special event to ensure public safety and protection of park resources.

Special use activities will be monitored by a qualified NPS employee to assure full compliance with all of the terms and conditions of the permit. The NPS monitor has the authority to make decisions to assure compliance with the permit, applicable regulations, and National Park Service policy. The NPS will recover costs incurred in administering permits and monitoring the activities it authorizes. The recovery of costs is based on the actual costs incurred by all park staff involved in monitoring, supporting or cleaning up and restoration after the use.

The superintendent may consider bringing in other Service employees to assist in those instances when the scope of the project exceeds the park's ability to properly manage the activity. The resulting staff costs (e.g., salary, overtime, backfill, travel and per diem) will be recovered from the permittee.

## 2 ASSESSMENT

This section documents the risks and hazards associated with permitted sporting events and utilized Operational Risk Management (ORM) modelling tools to assess employee and visitor safety and evaluate road conditions.

The event safety assessment team (ESAT) evaluated past permitted sporting events for risks to park staff, park visitors, sporting event staff, participants, and participants' support teams in an effort to determine if actions can be taken to mitigate risks and hazards and if so, what those actions would be.

Unsafe acts observed by event monitors, violations of permit conditions, and violations of state laws add to the need for this assessment. These violations and unsafe activities include:

- Vehicles passing event participants in no-passing zones
- Insufficient and inadequate event signage and placement
- Lack of traffic control
- Hindering and blocking traffic on roadways
- Participants on roads, running or cycling, two to four abreast
- Event vehicles driving on the wrong side of the road
- Participants and teams impeding the flow of traffic
- Event staff, participants, and teams not wearing high visibility clothing
- Blocking of visitor use areas
- Failure to report injuries, illnesses, and medical treatment provided to participants
- Depositing of human waste along the side of the road
- Event aid stations located too close to road or in less than desirable locations

In past years, the park has not consistently monitored events or verified that permit holders or event participants were complying with all provisions of event permits. The following weaknesses of the park permit program were noted:

- Limited communication with permit applicants and event coordinators prior to and after some events.
- Insufficient number of monitors and failure to monitor past events, especially night events.
- Limited follow-up with event coordinators on permit violations.
- Limited documentation and lack of citations to permit holders and participants when violations of permits were witnessed.

### 2.1 SAFETY ANALYSIS PROCESS

The ESAT used an Operational Risk Management (ORM) process to assess the hazards and risks of permitted sporting events. The military and other governmental and private sector entities use ORM processes to plan and safely execute operational missions and activities.

The NPS uses the ORM process Operational Leadership, which is based on the U.S. Coast Guard's Operational Risk Management program. Although the NPS does not conduct sporting events

directly, the NPS authorizes sporting events through a special park use permit with terms and conditions to protect park resources and values, ensure employee and visitor safety and minimize conflict between user groups. Using the ORM process, the ESAT assessed different standards and procedures that could be required to make sporting events safer. The ESAT also evaluated park management activities related to employee safety, protection (law enforcement) staff operations, and other visitor activities that have a direct relationship on the safety of employees and visitors in the park.

### **2.1.1 Operational Risk Management**

Risk Management is a structured approach to planning missions and activities that provides a consistent framework for assessing, mitigating, or ultimately accepting risk when the benefits of an activity clearly outweigh the risks.

Risk management involves identification, assessment, and prioritization of risks or hazards. It also addresses the kinds of actions that may be taken to minimize the impact of those risks, such as risk avoidance, risk reduction and risk transfer. The goal is to reduce risks to as low as reasonably practical.

The four core principles of ORM are:

1. Accept no unnecessary risk.
2. Make risk decisions at the appropriate level.
3. Anticipate and manage risk through planning and controls.
4. Accept risk only when the benefits outweigh the cost.

After identifying the risks and hazards involved in permitted sporting events, the ESAT undertook risk evaluations using accepted ORM risk analysis models. The two methods used to conduct this analysis were the Severity, Probability and Exposure (SPE) and Green, Amber, Red (GAR) risk assessment tools. Both methods are used by the U.S. Coast Guard, the NPS, and other organizations and industries.

### **2.1.2 Severity Probability Exposure (SPE) Assessment Model**

The Severity Probability Exposure (SPE) assessment method is used to address a hazard and potential outcome of a specific hazard or task. Each topic is scored with the higher number being the highest risk or hazard:

1. Severity (S) describes the potential loss or consequences of an accident (how bad is it going to be?). Scored 1 – 5.
2. Probability (P) describes the likelihood that given exposure to the hazard, the projected consequences will occur (what is the chance?). Scored 1 – 5.
3. Exposure (E) describes (scored 1 – 4):
  - The amount of time exposed
  - The number of people at risk
  - The amount of equipment involved
  - The number of times the task is done

The scores (S, P & E) are multiplied together and the ranking system results are rated as:

- 1-19 = Slight risk
- 20-39 = Possible risk
- 40-59 = Substantial risk
- 60-79 = High risk
- 80-100 = Very High risk

Values	Risk Level	Action
80-100	Very High	Discontinue, Stop
60-79	High	Immediate Correction
40-59	Substantial	Correction Required
20-39	Possible	Attention Needed
1-19	Slight	Possibly Acceptable

The ESAT evaluated event conditions on all roads within the park and used the SPE model to assess risks and hazards associated with visitors, other users driving on the roads, and event staff.

### 2.1.3 Green Amber Red (GAR) Assessment Model

The Green – Amber – Red (GAR) risk assessment tool evaluates eight components: supervision, planning, team selection, team fitness, communications, contingency resources, incident complexity and environment. Each topic is scored for risks from 1 - 10 with 10 being the highest risk. The eight components are added together for a final score.

Ranking system results are:

- 8-35 = Green: the hazard is low
- 36-60 = Amber: there is a moderate risk and mitigating actions are required
- 61-80 = Red: the hazard is high, corrective measures need to be implemented before proceeding

8-35	Low
36-60	Moderate
61-80	Implement Measures

If any of the eight individual components has a score of 5 or greater, further evaluation is required.

Each of the GAR assessments was completed twice by the ESAT: once to assess the practice as it happened for past events, and a second time with proposed mitigations for future events to reduce risks or hazards.

### 2.1.4 Death Valley National Park Sporting Event Injury Data

Death Valley permit conditions require permit holders and event coordinators to report all injuries, illnesses, and medical treatment provided to their participants, and all accidents as a result of event activities that occur inside the park. In the past, permit holders have not complied with this permit condition and the NPS did not follow-up to obtain the reports. Since accidents represent an undesirable event that could produce an injury, all non-injury accidents must be reported to the park. This information, if it were provided as required, would be assessed to develop improved safety plans and conditions for future events.

Of the 49 permitted events between 2006 and 2012 there were no injury reports submitted from any of the permit holders as required as a condition of issued permits. NPS staff responded to multiple medical incidents related to running and cycling during events and at other times as noted in the table below. The following data (2008 to present) is from the park’s medical response logs (data includes park emergency response only):

<b>Cycling and Running Medical Incidents (2008 – Present)</b>		
	Cyclists	Runners
During permitted events	13	6
Not associated with events	8	0
Vehicle vs Bicycle	3	0

Two additional incidents occurred: one incident involved an event participant’s team member falling asleep at the wheel of their support vehicle and driving off the road, and one incident involved a cyclist who suffered a heart attack while riding on the event course.

The ESAT requested medical records from permit holders from their 2013 events. Enviro-Sports and Juvenile Diabetes Research Foundation (JDRF) reported no injuries and AdventureCorps provided the following data from the Badwater ultra-marathon. AdventureCorps reported that the event started with 96 runners and 81 of those finished the event. AdventureCorps reported the following medical care was provided in the 2013 event:

“Medical staff evaluated 26 runners and 4 crew members for general complaints of nausea/vomiting, dizzy/overheated or muscle cramps. All of these patients were given guidance on oral rehydration. There were no injuries associated with these runners and no medical treatment. Of these 26 runners, 5 withdrew themselves from the race and the rest continued. Of the 4 crew members seen, all continued with the race. We also evaluated one runner for low back pain (a pre-existing problem and therefore not an “injury”). He was allowed to rest, given massage and he withdrew himself from the race. Actual care was provided for three people associated with the race while in DVNP: 1 runner was given oral and intravenous fluids for dehydration and vomiting, the runner withdrew from the event. 1 crew member was given oral and intravenous fluids for dehydration and vomiting, the crew member withdrew from the event. 1 crew member was treated for an eye injury, chemical irritant (glow stick). The eye was irrigated and the crew member returned to the course.”

Records from local hospitals were requested by the park’s medical director from Las Vegas (University Medical Center), but no responses were received. Injuries or medical treatment administered by event participant teams were not documented or reported to the park by the permit holders. During the safety assessment, a search for additional information on the internet found multiple videos and photographs, posted by event coordinators and participants, showing participants receiving medical aid and committing other permit violations during events held within the park. Both the internet postings and park medical response logs illustrate that there have been injuries during past events. But without any injury data provided by permittees, trends and safety issues could not be adequately evaluated by the ESAT.

## **2.2 EVALUATION**

This section describes the findings for three of the stated tasks of the event safety assessment team:

- Evaluation of sporting events with regard to National Park Service employee safety and staffing capacity, visitor safety, and safety of event staff and participants;
- Identification of risks and hazards associated with sporting events; and

- Identification of other circumstances that could be considered in determining if sporting events can be conducted in a manner that maintains public health and safety and is protective of staff and park visitor safety.

### 2.2.1 NPS Employees

For this analysis, employees are defined as National Park Service (NPS) employees. A GAR risk analysis was conducted to evaluate how employees monitored past events, and how they would monitor future events with suggested mitigations added to lower the risks. NPS staffing requirements for events include permit administration, monitoring the events for compliance with permit conditions, providing resource protection, providing emergency response staff, and protection rangers who may be exposed to unsafe situations due to the location of events on high speed, two lane highways, at night, and occurring during extreme weather conditions.

Hazards to employees include but are not limited to:

- Limited staffing, especially in summer months
- Staff working more than 40 hours per week to cover special use events
- Staff involved in other park functions or emergency response
- Events occurring on high speed (45-65 mph) two lane roads
- Road sections with areas of limited visibility, limited shoulder space, and sudden drop offs
- Working along a road at night
- Park employees, events staff, and emergency responders, working in temperatures exceeding 120 degrees
- Working in areas with communication limitation

Due to daily operational needs, staffing capacity and limitations and increasing visitation, the park is limited by the number of staff it can dedicate for special events during high visitation months. Additional staff may be required for events that cover more than 50 miles and shifts are required for events that exceed 10 hours.

The GAR analysis for NPS staff working on past events was in the amber risk range (38 - 41). Mitigations are required before managers can continue to allow NPS employees to monitor events. If recommended mitigations are used the score for employees can be reduced to green (27 - 30). Mitigation recommendations are addressed in Section 3.

GAR Assessment Scores		
	Current Conditions	With Recommended Changes
NPS Employees (Nov – Apr)	38	27
NPS Employees (May – Oct)	41	30

### 2.2.2 Park Visitors and Other Users

A GAR risk analysis was conducted to evaluate the risks placed on park visitors and other users by sporting events and again with suggested mitigations proposed to lower the risks for future events. Other park users include employees at the Furnace Creek Resort and Panamint Springs Resorts (private inholdings), Stovepipe Wells, Timbisha Tribal members, families living in Death Valley, commercial vehicles, CalTrans, and other permitted users.

Hazards to visitors and other users when they are in the area of ongoing sporting events include but are not limited to:

- Driving on unfamiliar roads
- Failure to follow speed limits
- Pulling in and out of traffic without regard to oncoming traffic
- Passing over double yellow lines
- Unaware of sporting events taking place
- Distracted by event taking place
- Distracted by scenery
- Fatigue from traveling
- Unfamiliar and not acclimated to the climate
- Driving in high winds or in areas with limited visibility caused by blowing sand or dirt
- Language barriers and understanding of local regulations and signs
- Buses and motorcycle tour groups

Most visitors are new to the area and unfamiliar with park roads, directions and environment. They can be easily distracted by the scenery and unfamiliar areas. Brochures and general information about the park are provided at the visitor centers, but because the park has no formal entry stations, visitors may have already encountered a sporting event before they get to one of the visitor welcome centers.

High visitation within the park occurs during significant events and holidays, such as: the November Death Valley ‘49ers encampment, Spring break, Thanksgiving, Christmas to New Year’s, and Presidents’ Day. Traffic increases during the months of April to October when between 200 and 500 buses a month add to road use and present additional hazards to event staff and participants. Visitation trends are based on monthly public use reports, road use data and commercial bus tour logs (appendix B).

The GAR analysis for park visitors had many individual component scores of 5 or higher and the total score was at the high end of the amber score (57). Mitigations are required to be able to continue to allow events. Although the park has limited control of what visitors do, if recommended mitigations are required, the GAR score can be lowered to the mid amber range (40).

GAR Assessment Scores		
	Current Conditions	With Recommended Changes
Park Visitors	57	40

### 2.2.3 Weather Conditions

There are multiple weather conditions within the park that can pose hazards to employees and workers who are outdoors. They include:

- High winds that can alter the path of a vehicle and winds that can produce limited visibility by blowing sand and dirt
- Rains that produce flash flooding that can cause running water and mud to have enough force to push vehicles and people off the road, block roads with rushing water and debris, and cause damage to road surfaces

## SECTION 2 – SAFETY ASSESSMENT

- Extremely high summer temperatures that can cause severe heat illness and death for those who are un-acclimated.

Air temperatures in Death Valley, recorded in the shade, commonly reach over 120 °F (48 °C) during the months of June through September with summer low temperatures being recorded as high as 110 °F (43 °C). Because there is little to no shade during the day, staff and participants on event courses are exposed to higher temperatures due to additional factors of direct sun exposure, radiant heat from the pavement, and warm winds that can hinder the body's ability to effectively cool. During summer months temperatures in direct sunlight are generally 15 °F (8 °C) hotter than the recorded temperature. When the recorded temperature is 120 °F (48 °C) in the shade, this can equate to temperatures near 135 °F (57 °C) in the direct sun over pavement. The highest ground temperature recorded in Death Valley was 201° F at Furnace Creek on July 15, 1972. The maximum air temperature for that day was 128° F.

To assess exposure limits, the ESAT used National Oceanic and Atmospheric Administration (NOAA), National Institute for Occupational Safety and Health (NIOSH), Occupational Safety and Health Administration (OSHA), and the American Academy of Orthopedic Surgeons work / competition heat index standard (appendix C). Historical data from the National Weather Service "Death Valley Climate Book" was used to determine average normal high and low temperatures between June and September. Since the heat index is based on temperature and humidity, ambient temperature is considered a more accurate temperature guide in Death Valley where humidity is relatively low throughout the year.

The NOAA, NIOSH and OSHA heat index charts consider temperatures between 105 - 129 °F (40 - 53 °C) to be of a level that may cause severe heat disorders with continued exposure or physical activity. Temperatures in excess of 130 °F (54 °C) are considered extreme. Extreme heat during summer events can affect the health of park staff, emergency responders, event staff, and participant team members.

Individuals who are not acclimated to Death Valley's temperatures and very dry environment can suffer from heat related illnesses before they realize it. They can be overcome quickly and suffer adverse prolonged health effects and/or death. This includes event staff and team members who have not trained or conditioned themselves to this environment. The park recommends to all summer visitors that they should participate in outdoor activities either during early morning hours or at higher elevations to avoid excessive heat.

One of the past permitted running events, the Badwater Ultra-marathon, takes place in July. Visitors have questioned why the park allows running events to take place during the hottest time of the summer, when they are advised not to engage in outdoor physical activity. By permitting events to take place during summer months, the park has provided a mixed message to park visitors and other users.

Many locations around the world restrict sporting events when weather or temperatures exceed certain conditions as noted in the chart below. Many of the listed conditions are not as extreme as those of Death Valley. NIOSH and OSHA define work rest schedules for different type of labor in hot environments.

<b>Organization</b>	<b>Recommends stopping events when:</b>																				
American College of Sports Medicine	Temperatures 82°F - 86°F WBGT 70°F - 80°F (Wet Bulb Globe Temperature)																				
National Athletic Trainers Association	WBGT > 82°F																				
National Collegiate Athletic Association	WBGT > 82°F																				
Sports Medicine Australia	Ambient > 97°F + humidity > 30% or WBGT > 86 °F																				
United States Marine Corps	WBGT > 88°F for non-acclimated WBGT > 90°F for all personnel																				
Australian Open	95°F and WBGT > 82°F																				
	<b>Event stopped when weather conditions reached:</b>																				
2007 Chicago Marathon	88°F and high humidity																				
2012 Green Bay Marathon	90°F temperature with > 60% humidity																				
<b>NIOSH/OSHA</b>	<b>Recommends:</b>																				
NIOSH/OSHA	<table border="1"> <thead> <tr> <th>Work/rest regimen</th> <th>Light</th> <th>Moderate</th> <th>Heavy</th> </tr> </thead> <tbody> <tr> <td>Continuous work</td> <td>86°F</td> <td>80°F</td> <td>77°F</td> </tr> <tr> <td>75% Work, 25% rest, each hour</td> <td>87°F</td> <td>82°F</td> <td>78°F</td> </tr> <tr> <td>50% Work, 50% rest, each hour</td> <td>89°F</td> <td>85°F</td> <td>82°F</td> </tr> <tr> <td>25% Work, 75% rest, each hour</td> <td>90°F</td> <td>88°F</td> <td>86°F</td> </tr> </tbody> </table> <p>These TLVs (Threshold Limit Value) apply to physically fit and acclimatized individuals wearing light summer clothing.</p>	Work/rest regimen	Light	Moderate	Heavy	Continuous work	86°F	80°F	77°F	75% Work, 25% rest, each hour	87°F	82°F	78°F	50% Work, 50% rest, each hour	89°F	85°F	82°F	25% Work, 75% rest, each hour	90°F	88°F	86°F
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### 2.2.4 Night Events

Some permitted events take place after sunset and/or only pass through the park at night.

Death Valley has the honor of being designated as an “International Dark Sky Park” due to the darkness of skies and excellent star viewing. There are no streetlights and few areas of development, contributing to reduced visibility for nighttime drivers and event participants. Most road users in Death Valley are unfamiliar with the area and the road conditions.

Limited visibility at night presents potential vision problems for drivers, event participants, and event monitors. Road hazards such as wildlife, rocks, and other debris are much more difficult to see

at night. When special events are added to this nighttime scenario, there is the potential for increased chances of collisions between cars and participants and event monitors. Night events require that NPS monitors work during their normal sleep period. Changes in sleep patterns can potentially cause higher risk to employee safety due to longer work periods and increased fatigue.

In Death Valley, clear, full moon nights are very bright and nighttime visibility is increased. Drivers, event participants and event monitors can see objects at greater distances than non-full moon nights.

Hazards of night events include but are not limited to:

- Reduced visibility for road users and participants
- Drowsy drivers
- NPS staff working hours they are not accustomed to

### **2.2.5 Roads**

Past event operations have placed employees, visitors, and event participants at risk of vehicle collision due to events taking place on high speed two lane roads with areas of blind curves and sudden drop-offs. Some sections of roads have very little shoulder. The potential is high for collisions between vehicles due to one or both vehicles moving into the oncoming traffic lane to avoid participants. There is also high risk of collisions between vehicles and participants as a result of one lane being used entirely by event participants.

Backcountry (unpaved) roads are not permitted for sporting events according to the Wilderness and Backcountry Stewardship Plan (2013) with the exception of Titus Canyon (limited to one event not more than every 90 days) and West Side Road (limited to one event not more than every 60 days).

Hazards associated with sporting events, and evaluated as part of the risk assessment include:

- Vehicles passing participants and crews in no-passing zones and towards oncoming traffic in violation of state laws
- Multiple vehicles passing participants and support vehicles over the double yellow line
- Event signs not in compliance with the California Manual for Uniform Traffic Control Devices (CAMUTCD)
- Signs not posted at road junctions to alert vehicles about the event on the roadway
- Visitor vehicles approaching event participants on blind curves with no warning
- Aid stations set up too close to road in violation of CalTrans permit
- Less than desirable locations of aid stations forcing drivers into oncoming traffic lane in order to pass stopped participants
- Participants blocking traffic on roadways prior to and at start of events
- Participants on roads two to four abreast and in the center of the road
- Participants traveling on both sides of the road increasing congestion
- Event participants and vehicles blocking visitor use areas
- Multiple support vehicles hindering traffic by continuously pulling on and off the road
- Event caused delays in the normal flow of traffic due to support vehicles and event teams on the road
- Support vehicles not travelling at the speed of the flow of traffic
- Spectators at finish line on road causing traffic to move into oncoming traffic lane

### **2.2.6 Traffic Control**

Traffic control devices notify road users of regulations and provide warning and guidance needed for the uniform and efficient operation of all elements of the traffic stream in a manner intended to minimize the occurrences of crashes. Traffic control devices shall be defined as all signs, signals, markings, and other devices used to regulate, warn, or guide traffic, placed on, or adjacent to any road open to public travel.

The park has noted inadequate and improper use of traffic control devices during past events. These included:

- Insufficient number of signs
- Improper locations of signs
- Using event staff to temporarily implement traffic control (halting traffic)
- No signs at roads intersecting with the road the event is taking place on
- Event signs attached to existing road signs
- Signs not in compliance with CAMUTCD standards
- Signs (left uncovered) placed the day prior to the event
- Signs obstructed by vegetation

### **2.2.7 Aid Stations**

Aid stations are critical for participant well-being and physical condition. Aid stations are locations with or without shade structures, have food and water, may have first aid assistance, or where restroom facilities may be located.

The park has noted the following hazards involving placement of aid stations:

- No notice for road users
- Located too close to the roadway
- Located in no passing sections of roadway
- Less than desirable locations in relation to road markings and driver visibility
- Participants causing other road users to make unsafe maneuvers
- Hindered access for visitor

As a part of this risk assessment, past event coordinators were solicited for their expertise on recommended distances between aid stations. The recommended distance between aid stations for cycling events was between 10 and 25 miles, and between 2 and 4 miles for running events.

Disturbance to park resources is of concern if aid stations are placed too far into the surrounding landscape. The rocky environment and the berm along the shoulder of most roads create trip and fall hazards for the event staff and event participants. Generally aid stations should be placed in wide areas and pullouts; however this is not feasible along the majority of the roads within the park.

Aid stations located on some sections of State Route 190, Badwater Road to the Badwater visitor area (mile marker 17), Scotty's Castle Road to Scotty's Castle, and Daylight Pass, present the greatest hazard to road users, aid station staff, and event participants, due to road speed limits (45 to 65 MPH), and the amount of vehicle traffic on these roads. The remainder of the permitted roads present less of a hazard for aid stations due to less vehicle traffic.

High winds causes dirt and sand to cause eye irritation and injury, can blow trash around the park, could blow shade tents into roads, and could pose a hazard to aid station workers who put themselves at risk by trying to collect blowing trash.

### **2.2.8 Event Staff and Participant Support Teams**

The SPE analysis for event staff and support teams addressed locations of aid stations, staff working at roadside aid stations, staff working along the road setting up and cleaning up after an event, the number of team members, the number of times team members crossed the road to assist participants, long hours worked by staff and teams, visibility of staff and teams, and potential for vehicle-on-staff/team member collisions.

The park has noted the following hazards involving event staff and support teams:

- Forcing other road users to make unsafe maneuvers
- Working in less than desirable locations in relation to vehicle traffic
- Standing in the road
- Not acclimated to weather conditions including heat and high winds
- Not wearing high visibility clothing
- Frequently crossing the road
- Not following or enforcing permit requirements
- Hindering access for visitors

### **2.2.9 Event Support Vehicles**

Event support vehicles and participant support vehicles create additional traffic on park roads. During some events over 100 team support vehicles leapfrog or trail event participants. At times these vehicles cause other road users to cross over and into the opposing lane, often in areas where passing is not permitted, and creating hazardous driving conditions. Team vehicles also cause congestion behind them because they fail to pull over as required by state law (CA VC 21656 and CA VC 22400 (a)).

The park has noted multiple permit violations and hazards involving support vehicles:

- Causing other road users to make unsafe maneuvers
- Stopping in less than desirable locations in relation to vehicle traffic
- Stopping multiple times
- Stopping in no passing sections
- Not pulling far enough off the road
- Team members standing on and crossing the roadway

### **2.2.10 Emergency and Medical Response**

Due to the remote geographic location of the park there is limited out-of-park support from emergency response agencies in the surrounding area. California Highway Patrol (CHP) and Inyo County's emergency and law enforcement response capacity is limited.

Park staff is responsible for providing medical aid and emergency response within the park's 3.4 million acres and to private in-holders (Panamint Springs Resort and Xanterra Parks & Resorts, Inc.), the Timbisha Tribal Village, and the Death Valley Conservancy (Ryan Camp) through a mutual aid agreement with Inyo County.

As a permit condition for sporting events, permit holders are required to provide ambulances for event staff and participants. If event medical staff is overwhelmed or needs to transport a participant out of the park, Death Valley medical staff may be called upon to respond. Due to staffing limitations park staff may not be able to provide medical response to permitted sporting events.

### **2.2.11 Cycling Events**

The ESAT reviewed and assessed risks and hazards associated with cycling event operations, representative of those that have previously taken place in the park, and how they were traditionally managed to form a baseline risk analysis. Based on past experience and observation, the assessment identified a moderate level of risk in the way daytime cycling events have been conducted.

Determining factors that elevate the risks to the moderate level primarily include staffing, challenges with other park users, oversight of events, communication and contingency resources. Some of the factors discussed included:

- Little communication, planning, or coordination between NPS staff, event coordinators, and other permitting and enforcement agencies
- Permit holders failing to meet permit requirements resulting in less than favorable conditions
- Public not effectively notified of events on the roads
- Visitor vehicle traffic intermixing with the event creating hazardous situations
- NPS oversight has been sparse with staffing levels not adequate to effectively monitor permit compliance
- Field communication methods can be unavailable and unreliable. Cell phone coverage is very limited and unavailable in the majority of the park
- Emergency medical response is not readily accessible at the event

Past cycling events have placed visitors and cyclists at risk of causing, or being involved in, collisions due to events taking place on two lane roads with areas of limited visibility and drop offs. The potential for collisions between vehicles moving into oncoming traffic to avoid cyclists or, one lane being used entirely by event participants is considered high. The potential for collisions between vehicles and cyclists is considered moderate.

Cyclists can be more susceptible to serious accidents than runners due to road hazards and higher speeds. Because of thin tires on bicycles and unexpected or abrupt changes in the road surface, even the most careful or experienced cyclist could fall or lose control and veer into the path of a motor vehicle. Most roads in the park have little paved shoulder and driving off the road to avoid traffic involves riding on rocky surfaces with little traction, which increases the probability of a crash.

Hazards associated with sporting events, and evaluated as part of the risk assessment include:

- Limited road shoulder
- Vehicles passing cyclists in no-passing zones
- Visitor vehicles approaching event participants on blind curves with no warning

- Aid stations in less than desirable locations causing vehicles to pass in violation of state laws
- Aid stations set up too close to road in violation of CalTrans permits
- Blocking vehicle traffic at start of events
- Participants on roads two to four abreast and in the center of the road
- Participants traveling in groups on both sides of the road increasing congestion
- Riding at night and in times of potentially high winds and sand storms (limited visibility)
- Participants not moving off the roadway at aid stations
- Event blocking visitor use areas
- Support vehicles not travelling at the speed of the flow of traffic
- Participants exceeding the speed limit on downhill sections

The ESAT evaluated actions that could be taken to mitigate the risks identified during the assessment. A number of actions and controls were identified and a second assessment was conducted to evaluate risk levels of cycling events with the implementation of those controls. Some of the risk factors are easily addressed including planning and coordination, NPS oversight, visitor communication and warning vehicle traffic. While the risk level decreased, the GAR still remained in the moderate risk category. Other risks remain such as NPS staffing levels, vehicle traffic intermixing with participants, communications, and the availability of emergency medical response.

### **2.2.12 Running Events**

The ESAT reviewed and assessed risks and hazards associated with overall non-summer running event operations representative of those that have previously taken place in the park, and how they were traditionally managed to form a baseline risk analysis. Based on past experience and observation, the assessment has identified a moderate level of risk in the way running events have been conducted. Determining factors that elevate the risks to the moderate level primarily include staffing, and oversight of events, along with challenges with other park users, communication and contingency resources. Some of the factors discussed included:

- Little communication, planning, or coordination between NPS staff, event coordinators, and other permitting and enforcement agencies
- Permit holders failing to meet permit requirements resulting in less than favorable conditions
- Visitor vehicle traffic intermixing with the event creating hazardous situations
- Public not effectively notified of events on the roads
- NPS oversight has been sparse with staffing levels not adequate to effectively monitor permit compliance
- Field communication methods can be unavailable and unreliable. Cell phone coverage is very limited and unavailable in the majority of the park
- Emergency medical response is not readily accessible at the event

Previous events placed visitors and runners at risk of causing or being involved in collisions due to events taking place on two lane roads with areas of limited visibility and drop offs. The potential for collisions between vehicles moving into oncoming traffic to avoid runners can be high in some locations. Runners can be less susceptible to accidents than cyclists due to the ability to move onto the road shoulder quickly with less consequence than cyclists.

## SECTION 2--SAFETY ASSESSMENT

Hazards associated with sporting events, and evaluated as part of the risk assessment include:

- Vehicles passing in no-pass zones into oncoming traffic
- Visitor vehicles approaching event participants on blind curves with no warning
- Aid stations in less than desirable locations causing vehicles to pass in violation of state laws
- Aid stations set up too close to road in violation of CalTrans permits
- Participants blocking traffic on roadways prior to and at start of events
- Participants running in both directions on same side of road
- Running at night and in times of potentially high winds and sand storms (limited visibility)
- Event participants and vehicles blocking visitor use areas
- Participants on roads two to four abreast and in the center of the road
- Support vehicles not travelling at the speed of the flow of traffic

Additional hazards and permit condition violations noted specific to the summertime ultra-marathon include:

- Event staff and participant teams not acclimated to extreme heat
- Availability of medical staff
- Travel distance/time to medical center
- Event staff and participants blocking the road at start of event
- Team members crossing roads multiple times
- Events cause delays in the normal flow of traffic due to support and team vehicles on the road
- Support vehicles not travelling at the speed of the flow of traffic

The ESAT evaluated actions that could be taken to mitigate the risks identified during the assessment. A number of actions and controls were identified and a second assessment was conducted to evaluate risk levels of running events with the implementation of those controls. Some of the risk factors are easily addressed including planning and coordination, NPS oversight, visitor communication and warning vehicle traffic. While the risk level decreased, the GAR still remained in the moderate risk category. Other risks remain such as NPS staffing levels, vehicle traffic intermixing with participants, extreme weather conditions, communications, and the availability of emergency medical response.

### 3 FINDINGS & RECOMMENDATIONS

This section provides recommendations from the ESAT for mitigation of risks based on the safety assessment findings on the following:

- Identification of other circumstances that could be considered in determining if sporting events can be conducted in a manner that maintains public health and safety and is protective of staff and park visitor safety;
- Evaluation of sporting events with regard to National Park Service employee safety and staffing capacity, visitor safety, and safety of event staff and participants;
- Assessment of park roads for use by sporting events along with other public uses;
- Development of recommendations to mitigate the identified risks and hazards; and
- Recommendations for permitting process and permit conditions for future events.

#### 3.1 EVENT MONITORS - NPS EMPLOYEES

The following recommendations are based on the mitigations proposed as a result of the safety assessment to lower the risk for NPS employees working on events:

- A minimum of two NPS monitors, with at least one being a protection ranger, should be assigned to all sporting events within the park. Larger events and long distance events may require additional monitors and may be evaluated for number of monitors required based on length, duration, time and dates, operating plan, and other specific event details.

##### Monitors:

- All events = minimum of 2 monitors
  - Greater than 50 miles of road permitted = minimum of one additional monitor if participants are using more than 50 miles of road at one time
  - Greater than 60 miles of road permitted = additional monitors may be required if participants can be on the entire 60 miles at one time
  - Event course is permitted for over 50 miles of park road but all participants remain within that 50 miles at all times = no additional monitor(s) may be needed
  - Additional NPS monitors may be required to observe contracted traffic control if traffic control is used
  - Additional monitors will be required for shift work if event is longer than 10 hours
  - NPS can assign more event monitors at its discretion
- In the event of an emergency or natural disaster, monitors may be pulled from an event and/or the event may be stopped until the issue is resolved.
  - Park event monitors should not work more than 10 hours per day (work day includes commute to and from the event site from the employee's duty station). Park employees may not work more than 12 consecutive days which can include regular duty combined with event monitoring.
  - NPS employees on a regularly scheduled shift may not be an event monitor due to the daily operational needs of the park. Some exceptions may apply and should be evaluated on a case by case basis.
  - Protection rangers who are assigned as event monitors may be required to leave monitoring if they are needed to respond to non-event emergency situations, when no other ranger is

### SECTION 3--FINDINGS AND RECOMMENDATIONS

available, or if the monitoring ranger is the closest responder. If the protection ranger is no longer needed for the emergency he/she could return to monitoring as long as they have not exceeded their allowed work hours (10 hours).

- Events will be limited to one event in any seven day period dependent upon NPS staffing availability.
- Although the park will make every effort to support special events, due to daily operational needs, staffing capacity and limitations, increase in visitation, and an increase in requests for permitted events, the park is limited on the number of staff it can dedicate for special events. In the event that the park does not have sufficient staff to monitor events, the Superintendent may request NPS employees from other parks to be assigned to the event. Availability of staff from other parks is very limited. If staffing is not likely to be available, as assessed at the time of the permit processing, the event will not be permitted.
- The park's permit office shall conduct a face-to-face meeting with required attendance by all event monitors, at least a week prior to the event. This meeting will be held to discuss the event, permit conditions, safety requirements the assignments and responsibilities of the monitors (appendix D).
- During the week prior to an event, the permit office should send an email to all park employees informing them of the date, time and location, and general description of the event taking place.
- In order for all park monitors to communicate with each other and dispatch, all monitoring vehicles shall have an installed park radio and at least one monitor shall also carry a park provided satellite phone. Employees not monitoring from a vehicle shall have a hand-held park radio and satellite phone.
- Park monitors shall report in and out of duty with dispatch. Employee tracking systems within the park will be used.
- Park monitors may stop an event if permit conditions are not met or followed. The event may resume if the event coordinator corrects the violations, only after the park monitor approves the resumption of the event.
- Park monitors may discuss permit condition violations with participants and teams. If the violation is corrected the monitor shall document the violation and participant's event number (if applicable). If the violation is not corrected, the monitor will document and report the participant's number to the event coordinator.
- Monitors that witness violations of law will document the incident and report to the monitoring protection ranger as soon as possible.
- Monitors will document all infractions of permit conditions and violations of park, federal or state policies and regulations that occur during an event. They will also document any issues seen between event participants and visitors (appendix E).
- Park employees who are monitoring events shall wear ANSI 107-2010, Class 2, high visibility clothing, and other personal protective equipment (PPE) as appropriate.
- Monitors working outdoors are required to follow the park's heat stress policy and to mitigate work activities as necessary to maintain their personal health and safety.
- All events should be announced in the park's morning report to all employees the two days prior to and the day of the event. The permit office can provide Interpretation staff this information prior to all events.

### 3.2 PARK VISITORS AND OTHER PARK USERS

The following recommendations are based on the mitigations proposed as a result of the safety assessment to lower the risk for visitors and other road users:

- Events will not be permitted during high visitation periods or peak holiday seasons.
- Information about events will be displayed at the visitor centers (Furnace Creek, Stovepipe, Scotty's Castle, and if event applicable - Lone Pine Interagency) to notify visitors what is happening on park roads when sporting events are taking place.
- Announcements on the park web site and social media sites should be posted prior to events taking place.
- Additional signs will be placed, in accordance with CAMUTCD, by the event coordinator to inform visitors that events are taking place.
- An article for the park's visitor newspaper could be included to inform visitors of state laws when encountering cyclists and runners. The park will also explore the feasibility of "Share the Road" or similar signs for park roads.

### 3.3 EVENT STAFF

Event staff are the responsibility of the permit holder if those employees are paid by, reimbursed by, or volunteer for the permit holder, event coordinator or an event participant. Permit holders and event coordinators are required to follow all applicable Occupational Safety and Health Administration (OSHA) laws and regulations. Employees or volunteers working for event participants must also comply with all applicable laws and regulations. Other applicable agency regulations include, but are not limited to: Death Valley Superintendent's Compendium, California and Nevada Departments of Transportation, and California or Nevada State regulations.

The recommended changes for event staff associated with sporting events include:

- All staff must carry proper personal identification.
- Permit holder will ensure all event staff (paid, compensated or volunteer) are in compliance with applicable OSHA laws.
- Sporting Event Plan (section 3.13) will include specific requirements for event staff, emergencies, and contingency plans (appendix F).
- Disposal of human waste in unsanitary manners is a public health and safety concern. All staff, participants, and teams must use personal portable toilet products on the course wherever toilets are not available. Such products must be used discreetly and must be disposed of properly after use. Disposal of such products in park toilets is prohibited.
- All event staff and team members on or along the roadway during an event, those who assist any participant, or those who are involved in event set-up or clean-up, must wear high visibility clothing in accordance with ANSI/ISEA 107-2010. Class 2 clothing must be worn during daylight hours and Class 3 clothing must be worn at night.
- Other permit conditions may be included as NPS deems necessary.

### 3.4 WEATHER, DATES AND TIMES

The ESAT considered possible mitigations for permitting summer events while keeping NPS monitors and event staff in compliance with NIOSH/OSHA heat stress limitations. The National Weather Service initiates alert procedures when the heat index is expected to exceed 110 °F (43 °C) for at least 2 consecutive days. Most heat index charts define heat index temperatures starting at 105 °F (40 °C) as very hot or severe, recommend canceling events when temperatures reach 113 °F (45 °C), and consider temperatures greater than 130 °F (54 °C) to be extremely hot and an extreme danger with continuous exposure.

Based on the heat index charts, average summer high and low temperatures, consideration of temperature differences for shade versus exposure to direct sunlight and radiant heat, the ESAT recommends that an ambient air temperature of 110 °F, recorded in the shade, to be the temperature limit for permitting sporting events. This requirement will limit summer events to nighttime only, which is when the ambient air temperature is at or below 110°F, direct sun factors are eliminated, and radiant heat is reduced (June to September).

The recommended changes on dates and times of sporting events include:

- Night/evening events will only be permitted on paved roads and for calendar dates during a full moon phase. A sample calendar is included in appendix G.
- Events will not be permitted for locations in the park below 2000 feet during the day between June 14 and September 9, between 10 AM and sunset, when temperatures historically reach 110 °F (43 °C). Ambient air temperature decreases 3-4 degrees for every 1000 feet of elevation gained. If the ambient temperature, recorded in the shade, is 117 °F (47 °C) at the Furnace Creek weather station, then temperatures in Panamint Valley (2000 feet) would be approximately 110 °F (43 °C), and the sporting event would be allowed to take place at that elevation within the park. Park temperature data was obtained from the *“The Death Valley Climate Book”* (April 2013) a publication produced by the National Weather Service Office in Las Vegas, Nevada.
- If an event has been permitted, but on the day of the event extreme weather conditions (wind, rain, thunder showers, flash floods or potential flash floods, snow, or heat) exist or are expected, the NPS may cancel the event.
- Permitted events may be suspended or cancelled if the National Weather Service issues weather warnings, watches, or advisories.
- If safety risks due to event dates and times cannot be mitigated to an acceptable level, the event will not be permitted.

### 3.5 NIGHT EVENTS

Summer temperatures at or above 125 °F (51 °C) in the shade are not uncommon in Death Valley. Summer events could be permitted at nighttime as temperatures do not exceed the proposed 110 °F (43 °C) limit. Although radiant heat from the pavement would still exist, direct exposure to the sun would be eliminated and the ambient temperature would be closer to the actual recorded temperature.

Night events may only be conducted during a full moon cycle because of the additional visibility provided by the moon’s illumination of the landscape. Holding events under a full moon sky

provides the additional light for drivers' visibility of participants and for participant visibility of the road. The actual luminescence of objects viewed under moonlight will vary not only on the aspect of the moon in the sky, but also by the angle of illumination and the reflectivity of the objects.

The timeline for a full moon event is considered to be the three nights prior to a full moon, the night of the full moon and the night following a full moon, for five night's total duration. The reasoning behind the days selected is that in the days prior to a full moon (waxing moon phase) the moon rises around the time the sun sets, allowing for more light from the moon throughout the night. After a full moon (waning moon phase) the moon begins to rise later every night so there is less moonlight in the early evening hours.

### 3.6 ROADS

The SPE (Severity, Probability, Exposure) analysis for sporting events on roads addressed sections of road known to have had multiple vehicle crashes, or known locations where visitors often exceed the posted speed limits. The SPE looked at how sporting events affect other road users: considering driver visibility, amount of road shoulder, existing road signs and markings, potential for vehicle-on-vehicle collisions, vehicle-on-participant collisions (cyclists, runners and event staff), and vehicle or participant being forced off the road.

Mitigations for park roads were developed to address concerns with visibility, amount of shoulder, road markings, speed, and potential for conflicts between road users and event staff or participants.

Sporting events may be permitted on the following paved roads (appendix H):

- State Route 178
- State Route 190
- Badwater Road
- Scotty's Castle Road
- Bonnie Clare Road
- Beatty Cutoff Road
- Daylight Pass Road

Sporting events will not be permitted on the following roads:

- Airport road – must remain clear for emergency vehicles
- Artists Drive – high visitor use, single lane road with limited room for passing
- Emigrant Canyon Road – narrow, limited shoulder, limited visibility
- Furnace Creek Wash Road (Dantes View road) – high visitor use, narrow road with no shoulder
- Wildrose Canyon Road – narrow, sections of unpaved road
- Zabriskie Point parking lot to Zabriskie Point viewing area – high visitor use
- All roads within established campgrounds – roads restricted for campground use
- Road to Mesquite Spring campground – road restricted for campground use
- Service roads – restricted for official National Park Service use only
- All other roads signed or gated closed

### SECTION 3 – FINDINGS AND RECOMMENDATIONS

Backcountry (unpaved) roads are not permitted for sporting events per the Wilderness and Backcountry Stewardship Plan (2013) with the exception of Titus Canyon (limited to one event not more than every 90 days) and West Side Road (limited to one event not more than every 60 days).

The following locations may be permitted for event starts and finishes:

- Badwater parking lot – only for event starts, limited parking, applicant must submit traffic and parking plans. Badwater parking lot will not be allowed for event finishes due to congestion.
- Furnace Creek Day Use Area – starts must be located off SR 190 to the west of the park’s information sign.
- Furnace Creek Ranch - off SR 190 on resort property, pre-arranged with and approved by resort management. Approval from owner must be included in application. Use of the dirt lot by Old Dinah and the grass area at the entrance to the ranch are NPS property and use of this area must be requested by the applicant and may be permitted by the park.
- Mesquite Sand Dunes parking lot – limited parking, applicant must submit traffic and parking plans.
- Panamint Springs Resort – off of SR 190 on resort property, pre-arranged and approved with resort management. Approval from owner must be included in application.
- Stovepipe Wells – parking lot west of general store. Concurrence from park concessionaire must be included in application.
- Scotty’s Castle parking lot - limited parking, applicant must submit traffic and parking plans.
- For Titus Canyon events only – Titus Canyon road off NV 374, Titus Canyon road off Scotty’s Castle road. Limited parking, applicant must submit traffic and parking plans.
- For West Side events only – North or South end junction with Badwater Road, applicant must submit traffic and parking plans.

Event coordinators will be required to place additional signage on the following road sections when events are permitted on them:

- Bonnie Clare Road and NV 267 - Grapevine station to east park entry, mile markers 34 to 40.8
- Daylight Pass road, Daylight Pass mile markers 13 to 14
- Mud Canyon, mile marker 0.0 (Scotty’s Castle Road) to mile marker 3
- Badwater Road – mile markers 36.5 to 36.7
- Badwater Road – mile markers 50 to 51 (Jubilee Pass)
- Badwater Road (Inyo SR 178, Salisbury Pass) – mile markers 31.5 to 33
- SR 190 – mile markers 70 to 71 (Towne’s Pass – Pearl’s Dip)

Event coordinators will place additional signage and implement traffic control on the following road sections when events are permitted on them:

- SR 190 – mile markers 41 – 55
- SR 190 – mile markers 108 – 109 (Harmony Curves)
- SR 190 - mile markers 112 to 113.5 (Furnace Creek Wash turns)

Other recommended changes include:

- Event will not interfere with non-event traffic (vehicle or foot) or block traffic lanes without required traffic control. When traffic control is used it will not interfere with any one direction of traffic for more than 10 minutes at a time. All applicants will submit a road use plan with their application.
- Event staff, participants and teams will not be allowed to stop in the following locations except for emergency purposes:
  - Areas of Bonnie Clare Road and NV 267 – East of Scotty’s Castle, mile markers 36.5 to 39
  - Daylight Pass road, Daylight Pass mile markers 13 to 14
  - Mud Canyon, mile marker 0.0 (Scotty’s Castle Road) to mile marker 3
  - Badwater Road – mile markers 36.5 to 36.7
  - Badwater Road – mile markers 50 to 51 (Jubilee Pass)
  - Badwater Road (Inyo SR 178, Salisbury Pass) – mile markers 31.5 to 33
  - SR 190 – mile markers 41 – 55
  - SR 190 – mile markers 70 to 71 (Town’s Pass – Pearl’s Dip)
  - SR 190 – mile markers 108 – 109 (Harmony Curves)
  - SR 190 - mile markers 112 to 113.5 (Furnace Creek Wash turns)
- California State Routes are managed by CalTrans. Events along SR 178 or SR 190 require a CalTrans permit.
- Where traffic control is required along a state highway, the permit holder will have a permit from Caltrans and a service agreement with CHP.
- All events along Nevada State Highway 267 or 374 require a NDOT (Nevada Department of Transportation) permit.
- Roads that are closed or restricted for construction, maintenance, road damage, and park or government closure may not be used for an event until the road or roads are re-opened to all visitor traffic. Alternate routes may be used if preapproved on the permit. Proposed alternate routes must be provided by the permit applicant in their operating plan application.

### **3.7 TRAFFIC CONTROL AND SIGNS**

The purpose of traffic control devices, as well as the principles for their use, is to promote highway safety and efficiency by providing for the orderly movement of all road users on roads open to public travel. The national park service follows the Federal Manual for Uniform Traffic Control Devices (MUTCD) standards and the State of California has their own traffic control standards that meet or exceed federal standards. For ease of use for permit holders and event coordinators, only the California MUTCD (CAMUTCD) standards for temporary signs will be required for sporting events held on both park and state roads.

The recommended changes include:

- Placement of a traffic control device will be within the road user’s view so that adequate visibility is provided. To aid in conveying the proper meaning, the traffic control device will be appropriately positioned with respect to the location, object, or situation to which it applies. The location and legibility of the traffic control device will be such that a road user has adequate time to make the proper response in both day and night conditions.
- Traffic control devices will be placed and operated in a uniform and consistent manner.

### SECTION 3--FINDINGS AND RECOMMENDATIONS

- Signs shall be posted at a maximum of no more than 20 miles from the last posted sign. Signs located for or at aid stations or road intersections may be considered as one of the every 20 mile signs.
- Traffic control devices which are used on a part-time basis will be in operation only during the time periods that they are required.
- No markings of any kind, including chalk, will be placed on park road surfaces or other park property. Signs or cones may be placed on the side of the road to identify event mile markers or turn around locations.
- Wherever aid stations are located, warning signs (Special Event or Congestion), will be posted at least 645 feet (.12 miles) in both directions of vehicle traffic from the aid station location.
- If a permit holder uses temporary traffic control, it will be provided by a licensed traffic control provider and in accordance with CAMUTCD, or by uniformed, on duty, law enforcement personnel (CHP or Inyo County Sheriff). Traffic control on park roads must be approved by the National Park Service and traffic control on SR 190 must be approved by CalTrans and the National Park Service.
- Traffic control within the park may not impede traffic for more than 10 minutes at one time.
- Events with greater than 20 participants starting in the Furnace Creek area and heading west are required to have traffic control in the Harmony Curves, mile markers 108 to 109 and in the Furnace Creek area. Events that use the section from mile markers 108 to 109 continuously throughout the event are required to have traffic control for their entire event.
- Events with more than 20 participants starting in the Furnace Creek area and heading east to Badwater Road junction are required to use traffic control.
- Events with more than 20 participants starting in the Furnace Creek area and heading east are required to have traffic control in the Furnace Creek Wash area, mile markers 112 to 113.5 and in the Furnace Creek area. Events that use the section from mile markers 112 to 113.5 continuously throughout the event are required to have traffic control for their entire event.
- Night events between mile markers 41 and 55 are required to have traffic control.
- Permit applicant must provide information in their event plan to address how traffic congestion would be minimized and hazardous road sections addressed. One option for timed events would be to limit starts to small groups of participants every few minutes. If this option were selected traffic control may not be required and would be evaluated by the National Park Service prior to approval. Size of groups and time interval between group starts would be specified by the permit holder, submitted in their event plan, and would require approval from the National Park Service.
- Permit applicant will provide a sign and traffic control plan as part of their event plan.

Effective 1 January 2014, California passed regulation AB 1371 which established the "Three Foot for Safety Act" which requires drivers to allow at least a 3 foot distance between their vehicle and a cyclist when passing. When 3 feet cannot be provided because of traffic or roadway conditions, drivers must slow and pass only when they will not endanger the safety of the cyclist. It is recommended that the park consider placing "share the road" or "three foot requirement" signs on park roads and work with CalTrans and Inyo County on placing these signs on SR 178 and SR 190.

### 3.8 AID STATIONS

Roads within the park were assessed for possible locations for aid stations and the detailed recommendations are listed in appendix I. Considerations for locations were driver line of sight, location in accordance within passing zones or areas safe to pass, and existing pullouts. Event coordinators provided feedback on recommended distances between aid stations. The list of recommended locations is in accordance with the event coordinators' recommended distances. All recommended locations along National Park Service roads will require assessment by the park Resources Branch for cultural and natural resource impacts, significance, and compliance.

Disturbance to park resources is of concern if aid stations are placed too far into the surrounding landscape. The rocky environment and the berm along the shoulder of most roads create trip and fall hazards for the event staff, aid station staff and event participants. Aid stations should be located on the graded surface between the fog line and the berm on the edge of the road shoulder between 6 and 20 feet from the fog line. Where aid stations are located less than 10 feet from the fog line the road shoulder shall be closed with signs and cones per CAMUTCD.

Wherever aid stations are located, warning signs ("Special Event" or "Congestion"), shall be posted at least 645 feet (.12 miles) in both directions of vehicle traffic from the aid station location. To prevent shade structures from blowing onto roads, the use of shade structures is not recommended when winds are predicted to exceed 10 MPH.

Request for placement of aid stations must be submitted as part of the event plan. See section 3.13 and appendix F.

### 3.9 EVENT SUPPORT VEHICLES

The purpose of restrictions on support vehicles, as well as the principles for their use, is to promote highway safety for all road users on roads open to public travel. Event support vehicles and participant support vehicles create additional traffic and visitor distractions on park roads. At times these vehicles cause other road users to cross over and into the opposing lane as they frequently pull off and onto the road. The need to identify event vehicles is important for event monitoring.

The recommended changes for event vehicles include:

- No person will drive upon a highway at such a slow speed as to impede or block the normal and reasonable movement of traffic, unless the reduced speed is necessary for safe operation, because of a grade, or in compliance with law (CA VC 22400 (a)).
- Using event vehicles to block traffic lanes is prohibited without traffic control. If traffic control is used, the event will not interfere with traffic for more than 10 minutes at a time.
- No event activities can block visitor access to an area. The permitted event will not interfere with use of any area by park visitors and may not deny public access to NPS lands.
- Parking of event vehicles will not block wayside exhibits and will provide sufficient space for visitor vehicles.
- Each participant may only be accompanied on the course by one support team comprised of one motor vehicle and no more than four team members. The number of event staff and team support vehicles must be included in the permit holder's event plan.
- No vehicles over 20 feet in length are permitted on the course as team or support vehicles.

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- Trailers are not permitted on the course during an event.
- Support / team vehicles will not travel alongside any participant. Vehicle-to-participant or participant-to-vehicle handoffs are prohibited while the vehicle is moving.
- Verbal communication and passing of objects between participants and support vehicle occupants while the vehicle is moving is prohibited.
- Support vehicles and teams must stop in designated or safe locations, completely off the roadway, to pass supplies or communicate with the participant.
- All event or support vehicles, when stopping along the roadside, must have all four tires off the roadway and will only stop in designated parking areas, designated pull-outs, at aid stations or sections of the roadway with a sufficient shoulder. An exception for stopping in the road would be to protect an injured participant from oncoming traffic. A support vehicle may be used for this purpose so long as four way flashers are used and only until directed otherwise by on-scene Law Enforcement, NPS, CalTrans or emergency response personnel.

All vehicles related to an event, with the exception of spectators, must be identified in the following manner:

- Medical vehicles, except for contracted ambulances, must be identified with either Red Cross on a white background, minimum size of 12"x12", "Medical" or "Medic", minimum size of 8" red letters on a white background.
- Event support vehicles must display "Support Vehicle" in a minimum of 8" letters, black letters on a white background.
- Team vehicles must display the number of the participant, minimum of 8" black letters on a white background. The name of the participant may be displayed at the discretion of the event coordinator or team. Participant name will be a minimum of 6" black letters on a white background.
- Vehicle Signs must be clearly visible on the front of vehicle, the left and right front doors, and on the left rear of the vehicle.
- NPS monitor vehicles will display the NPS Arrowhead. Magnetic arrowheads will be provided by the permit office for placement on all monitor vehicles.

### **3.10 MEDICAL / EMERGENCY RESPONSE AND INJURY REPORTING**

Event coordinator will be required to provide medical assistance and emergency response for event staff, participants, event support teams and others associated with the event. The applicant's event plan must provide detail on the medical plan for the event (appendix J).

The recommended changes include:

- All Basic Life Support (BLS) and Advanced Life Support (ALS) care providers working in an event as staff or a team member must hold current certification. If BLS or ALS providers are from outside of California or Nevada, they must obtain reciprocity certification for the state(s) where the event will take place. Copies of certifications, with the exception of ambulance services, must be part of the medical plan presented to the park.
- The event coordinator must carry a satellite phone so the coordinator and event monitors can contact each other for emergencies or urgent matters.

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- The applicants operating plan must include contingency planning for emergencies and incidents. Air ambulance (helicopter) use is limited during summer months due to extreme temperatures and air density restrictions that prohibit aircraft from taking off at the lower elevations within Death Valley. High winds at any elevation can also limit service.
- Applicants plans will include contingencies in the event of multiple injuries, or if the contracted ambulance service leaves the park to perform a patient transport.
- The permit holder must report all injuries, illnesses or accidents that occur during the event on the Death Valley National Park incident report form. This form must be returned to the park within 14 days after the event (appendix K).

Cyclists are more susceptible to accidents than runners due to road hazards and the higher speeds that they travel, which can lead to more severe injuries. For these reasons, cycling events will be required to have more medical staff as part of their permit requirements.

The following are the minimum requirements for sporting events:

Running or Walking events:

- 20 to 199 participants: One ALS staffed ambulance
- 200 to 300 participants: One ALS staffed ambulance and one ALS or higher staffed medical aid station

Cycling events:

- 20 to 99 participants: One ALS staffed ambulance
- 100 to 199 participants: One ALS staffed ambulance and one ALS or higher staffed medical aid station
- 200 to 300 participants: Minimum of two ALS staffed ambulances. The addition of aid stations staffed by ALS or higher is also encouraged

**3.11 CYCLING EVENTS**

The following recommendations are based on the mitigations proposed as a result of the safety assessment to lower the hazards for park visitors, cycling support teams and cycling participants. Past cycling events have placed visitors and cyclists at high risk of being involved in collisions.

The maximum number of vehicles permitted on course during an event will be limited to: (Ambulances do not count toward number of allowable event vehicles.)

Cycling Events	
Events without participant team vehicles	15 SAG (support and gear), event, or staff vehicles
Events with participant follow or team vehicles	15 event/staff vehicles 1 team vehicle per rider with no more than 4 team members per support vehicle.

### SECTION 3--FINDINGS AND RECOMMENDATIONS

For cycling events, the recommended changes include:

- Permits for cycling events will be limited to 300 participants. Support coaches, guides, pacers, or other riders working for the permit holder or event coordinator are counted as event participants. Support cyclists shall be distinguishable from participants and be easily identifiable.
- Event will not interfere with non-event traffic (vehicle or foot) or block traffic lanes without required traffic control.
- All riders must carry proper personal identification and personal emergency contact information at all times while cycling.
- Cycling side by side is prohibited except when passing a slower cyclist.
- Cyclists may not be more than two abreast when passing.
- Participants will not operate a bicycle, nor ride upon a bicycle, unless that person is wearing a properly fitted and fastened bicycle helmet that meets the standards of either the American Society for Testing and Materials (ASTM) or the United States Consumer Product Safety Commission (CPSC), or standards subsequently established by those entities.
- Pacers must wear the same safety gear as participants and will wear a number bib with the same number of the participant they are supporting. The bib worn by the pacer shall be of standard size and color, but of a different color than participants. Bibs will be worn whenever the pacer is riding with their team member. Identification of bibs will be included in the applicant's event plan.
- Pacer bicycles will meet the same requirements as participant bicycles.
- Each cyclist may only be accompanied on the course by one support team comprised of one motor vehicle and no more than four team members (see motor vehicle requirements in section 3.9).
- During night hours all event participants shall wear retro reflective material. The amount of reflective material shall be equal to that required by ANSI/ISEA 107-2010 for Class 2 clothing.
- Cyclists riding at night will have lighting in accordance with CA VC 21201. For additional visibility and safety, for events in Death Valley National Park cyclists will have a primary rear facing red flashing light mounted to the bicycle and a second flashing red light mounted to either the bicycle or the cyclist (the mounting location of the secondary light will be the choice of the cyclist or by direction of the event coordinator). Both lights must be visible at a distance of no less than 500 feet when directly to the rear of the cyclist.
- Support and or team vehicles will not travel continuously alongside any rider.
- Verbal communication and passing of objects between participants and support vehicle occupants while the vehicle is moving is prohibited.
- Support vehicles or team must stop in designated or safe locations, completely off the roadway, to pass supplies to riders.
- Support vehicles will not obstruct traffic. Support vehicles must not block roadways or restrict normal vehicle traffic in support of a cyclist except in the case of a medical emergency.
- All event or support vehicles, when stopping along the roadside, must have all four tires off the roadway when stopped and shall stop only in designated parking areas, designated pull-outs, at aid stations, or sections of the roadway with sufficient shoulder.

### SECTION 3--FINDINGS AND RECOMMENDATIONS

- When driving up mountain passes (see list below) support vehicles must leapfrog the cyclist they are supporting. Support vehicles may stop along the roadway where there are paved pull-outs or sufficient graded shoulder where the vehicle and cyclist can park completely off the road. This applies to the following mountain pass locations:
  - SR 190 – mile markers 60 – 85
  - Daylight Pass road – mile markers 7 – 17
  - Bonnie Claire Road – mile markers 33 to 40.8
- Team vehicles are prohibited from stopping on the side of SR 190 between the park's west boundary (Lee Flat road, mile 41) and Panamint Springs Resort (mile 55). Team vehicles are permitted to stop and wait for their cyclist at Father Crowley lookout parking area (mile marker 47.5), or to provide emergency medical assistance to any cyclist.
- Only the number of vehicles that can safely fit into a pull-out are allowed. Waiting on the side of the road for space to clear in a pull-out is prohibited.
- All event staff and team members on or along the roadway during an event, those who assist any participant, or those who are involved in event set-up or clean-up, must wear high visibility clothing in accordance with ANSI/ISEA 107-2010. Class 2 clothing must be worn during daylight hours and Class 3 clothing must be worn at night.
- All participants and teams must use personal portable toilet products for use on the course wherever toilets are not available. Such products must be used discreetly and must be disposed of properly after use. Public and/or unsanitary practices by participants or team members may result in citations and fines. Personal sanitation devices shall not be disposed of in vault toilets.
- Cycling event permit holder, event coordinator, event staff, participants, and support teams shall be in compliance with all California Vehicle Code (CA VC) sections including but not limited to:
  - CA VC 21200.5: It is unlawful for any person to ride a bicycle upon a highway while under the influence of an alcoholic beverage or any drug, or under the combined influence of an alcoholic beverage and any drug.
  - CA VC 21201: Equipment requirements
  - CA VC 21202 (a): Any person operating a bicycle upon a roadway at a speed less than the normal speed of traffic moving in the same direction at that time shall ride as close as practicable to the right-hand curb or edge of the roadway except when overtaking and passing another bicycle or vehicle proceeding in the same direction.
  - CA VC 21212 (a): A person under 18 years of age shall not operate a bicycle, nor ride upon a bicycle, unless that person is wearing a properly fitted and fastened bicycle helmet that meets the standards of either the American Society for Testing and Materials (ASTM) or the United States Consumer Product Safety Commission (CPSC), or standards subsequently established by those entities. This requirement also applies to a person who rides upon a bicycle while in a restraining seat that is attached to the bicycle or in a trailer towed by the bicycle.
  - CA VC 21656: On a two-lane highway where passing is unsafe because of traffic in the opposite direction or other conditions, a slow-moving vehicle, behind which five or more vehicles are formed in line, shall turn off the roadway at the nearest place designated as a turnout by signs erected by the authority having jurisdiction over the highway, or wherever sufficient area for a safe turnout exists, in order to permit the vehicles following it to proceed. As used in this section a slow-moving vehicle is one

- which is proceeding at a rate of speed less than the normal flow of traffic at the particular time and place.
- CA VC 22400 (a): No person shall drive upon a highway at such a slow speed as to impede or block the normal and reasonable movement of traffic, unless the reduced speed is necessary for safe operation, because of a grade, or in compliance with law.
  - CA VC 27400: No person operating any vehicle, including a bicycle, shall wear any headset covering, or any earplugs in both ears. This prohibition does not apply to a person using a prosthetic device that aids the hard of hearing.

### 3.12 RUNNING AND WALKING EVENTS

The following recommendations for running and walking events are based on the mitigations proposed as a result of the safety assessment to lower the hazards for park visitors, support teams and participants.

Events are divided into two categories:

Walking and Running events < 26.3 miles

Ultra-marathon: Running event > 26.3 miles (additional conditions apply)

Allowable numbers of participants are as follows:

Walking and Running event on paved road = 300

Walking and Running event on unpaved road = 250 (limit set by the approved Wilderness Backcountry Stewardship Plan (2013)).

Ultra marathon = 100 (not to exceed 500 total; 100 participants, 1 support vehicle per participant - staffed by 4 team members, including 1 active pacer).

\*Note: There may be more than one pacer per team, but only one pacer at a time may run with the participant. Teams may have more than one vehicle in the park, but only one may be used as a runner support vehicle at any given time. Additional vehicles may not be marked as a team vehicle, may not follow runners on the course, and may only be allowed on the course when transporting additional team members or equipment into or out of the park.

The maximum number of vehicles permitted on course during an event will be limited to: (Ambulances do not count toward number of allowable event vehicles.)

<b>Running/Walking Events</b>	
Events < 26.3	15 event/staff vehicles Includes buses if buses are used to transport participants to/from event.
Events > 26.3 (Ultra marathon)	15 event/staff vehicles 1 team vehicle per rider with no more than 4 team members per support vehicle.

The recommended changes for all running and walking events include:

- Event will not interfere with non-event traffic (vehicle or foot) or block traffic lanes without required traffic control.
- All participants on course must carry proper personal identification and personal emergency contact information at all times.
- Participants must run single file except when passing a slower runner.
- Runners may not be more than two abreast when passing.
- Pacer runners are not permitted in events fewer than 26.3 miles in length.
- During night hours all runners on or along the road shall wear retro reflective material. The amount of reflective material shall be equal to that required by ANSI/ISEA 107-2010 for Class 2 clothing.
- Running event permit holder, event coordinator, event staff, participants, and support teams will be in compliance with all California Vehicle Code (CA VC) sections including but not limited to:
  - Operation on Roadway (21202)
  - Minimum speed law CA VC 22400 (a): No person shall drive upon a highway at such a slow speed as to impede or block the normal and reasonable movement of traffic, unless the reduced speed is necessary for safe operation, because of a grade, or in compliance with law.
- All event staff and team members on or along the roadway during an event, those who assist any participant, or those who are involved in event set-up or clean-up, must wear high visibility clothing in accordance with ANSI/ISEA 107-2010. Class 2 clothing must be worn during daylight hours and Class 3 clothing must be worn at night.
- All participants and teams must use personal portable toilet products for use on the course wherever toilets are not available. Such products must be used discreetly and must be disposed of properly after use. Public and/or unsanitary practices by participants or team members may result in citations and fines. Personal sanitation devices shall not be disposed of in vault toilets.
- Runners will not wear any headset covering or any earplugs in both ears. This prohibition does not apply to a person using a prosthetic device that aids the hard of hearing.

### **3.12.1 Ultra Marathon - Additional Conditions**

The following recommendations are based on the mitigations proposed as a result of the safety assessment to lower the hazards for park visitors, support teams and participants. Because each participant has their own support team and vehicle, the ultra-marathon presents additional and different hazards for visitors and support teams.

The recommended changes include:

- Each runner may only be accompanied on the course by one support team comprised of one motor vehicle and no more than four team members (pacer is considered a team member).
- No more than two team members, including a pacer if one is present, may be on the runner's side of the roadway at any given time.
- Team members that are handing off supplies, or otherwise providing aid to the participant must be off the roadway at all times and may not run along with the runner.

## SECTION 3--FINDINGS AND RECOMMENDATIONS

- Event participants may not be accompanied by more than one pacer at any given time on the course.
- Pacer runners must either lead or follow. Pacers may not run alongside the participant.
- Pacers shall wear number bibs with the same number as the participant they are supporting. The bib worn by the pacer shall be of standard size and color, but of a different color than participants. Bibs will be worn whenever the pacer is running with their team member. Identification of bibs will be included in the applicant's event plan.
- Bicycles/cyclists are not permitted to pace runners.
- No vehicles over 20 feet in length are permitted as team or support vehicles on the course.
- Trailers are not permitted on the course during an event.
- Support vehicles must not obstruct traffic, block roadways or restrict normal vehicle traffic in support of a runner unless in the case of a medical emergency.
- Support vehicles must leapfrog the runner they are supporting. Support vehicles may stop along the roadway where there is sufficient shoulder and the vehicle can park completely off the road.
- All event or support vehicles, when stopping along the roadside, must have all four tires off the roadway when stopped and shall stop only in designated parking areas, designated pull-outs, at aid stations or sections of the roadway with sufficient shoulder.
- Verbal communication and passing of objects between participants and support vehicle occupants while the vehicle is moving is prohibited. Support vehicles or teams must stop in designated or safe locations, completely off the roadway to pass supplies to runners.
- Team vehicles are prohibited from stopping on the side of SR 190 between the park's west boundary (Lee Flat road, mile 41) and Panamint Springs Resort (mile 55). Team vehicles are permitted to stop and wait for their runner at the dirt pullout at mile 46.6, or to provide emergency medical assistance to any runner. Team vehicles shall not wait for runners at the Father Crowley lookout parking area.
- The permit holder or event coordinator will provide aid stations between Lee Flat road and Panamint Springs Resort. Locations of aid stations shall be listed in the permit holder's event plan and will require prior approval from CalTrans.

### 3.13 OTHER RECOMMENDATIONS

During the safety assessment process, the ESAT developed recommendations for the permitting process and timelines.

The following are recommendations for the permit program:

- All permit applications will be considered on a first submitted basis and will be limited to only one sporting event in a seven day period due to staffing capacity issues. Permit applications will be considered dependent upon availability of park staffing for monitors and emergency response. If the park does not have adequate staffing, additional assistance from other parks may be requested at the expense of the permit applicant. Permit applicants will be advised of this prior to the permit being approved and will have the option to request alternate dates when staffing capacity may be available.

### SECTION 3--FINDINGS AND RECOMMENDATIONS

- Having previously held the same or similar events in the park does not guarantee the same event will be permitted every year, nor will it give preference to the event if another application is submitted for the same time period.
- Requests for sporting event permits may not be submitted more than 14 months in advance of and not fewer than 120 days prior to the event date. Permits submitted prior to or after these dates will be returned to the applicant. All applicants will be required to submit an event plan (as defined below) with their application. An event plan (appendix F) will include:
  - Number of staff and staff support vehicles
  - Number of team vehicles and/or support and gear (SAG) vehicles
  - Start and Finish location and times
  - Course route including approximate times when first participants could arrive and last participant could leave key locations such as timing stations, aid stations, or turnarounds.
  - Contingency plan containing an alternate route shall be provided by the permit holder as part of the event application
  - Medical plan which will include: number and types of all medical personnel on event staff, including name of ambulance provider and a copy of the contract if applicable, and a medical contingency plan
  - Safety plan for participants and event staff, including volunteers
  - Copy of pre-event safety briefing that will be given to event participants and staff by the event coordinator
  - Communications plan including contact phone numbers for key on site event staff members and emergency contact numbers (cell and satellite phones)
  - Locations of aid stations (if applicable)
  - Locations of portable toilets (if applicable)
  - Traffic Management plan (locations of traffic control, including name of provider, if applicable)
  - Location of all signs including verbiage for signs (e.g., “special event”, “runners on road”, “runners next 12 miles”, “bicycles on road”)
  - Parking plan (if applicable)
  - Number of coaches and support staff on-course (if applicable)
  - Incident Management (Emergency Response Plan)
  - Brief outline of education information that will be provided to your participants and event staff
  - Safety and applicable sanitation procedures for event
  - Resource protection measures including Leave No Trace
  - Description of why it is important that these activities take place within Death Valley National Park and not on public lands elsewhere
  - All signed contracts with service providers
- The applicant’s event plan will be routed to and reviewed by park subject matter experts (appendix L). The park’s permit office will contact the permit applicant to discuss any questions or concerns with the event plan.
- The permit office staff will conduct a phone or face-to-face meeting with the permit holder, no less than 30 days prior to the event date, to confirm verbally all aspects of the permit and to verify service provider contracts.
- A permit applicant handbook and sample permit conditions for sporting events should be created and posted on the park’s web site.
- Proposed permit changes can be found in appendix M.

- **This page intentionally left blank.**

## 4 CONCLUSIONS

Special events may be permitted by the park when there is a meaningful association between the park and the event and the event will contribute to visitor understanding and significance of the park. Permit conditions are intended to provide for the safety of the public and employees and mitigate potential damage to park resources and the values and purposes for which the park is established.

The purpose of this safety assessment of special park use sporting events was to review past sporting events to identify safety hazards; to evaluate the risks to NPS employees, park visitors, event staff and participants; to assess the use of park roads for events; and to recommend ways to mitigate the hazards and risks for NPS staff and visitors at future events.

The interdisciplinary event safety assessment team (ESAT) used operational risk management tools to identify hazards and risks, evaluate what actions could be taken to reduce the level of risk, and recommend changes to the permitting process for sporting events. Some of the risks and hazards identified include:

- Lack of enforcement of permit conditions by permit holder and NPS staff
- NPS staff working over capacity, staff working more than 40 hours per week to cover special use events, or shifts exceeding 10 hours
- Events taking place on high speed two lane roads with areas of limited visibility, limited to no shoulder space, and drop-offs
- Events scheduled at night in low visibility, in areas with limited communication, and in temperatures exceeding 120 degrees
- Visitors driving unfamiliar park roads, unaware of sporting events taking place, not following speed limits or other traffic laws, and distracted
- Lack of event staff safety protocols
- Traffic during peak park visitation periods
- Insufficient and inadequate event signage and placement
- Inappropriate or insufficient traffic control
- Limited emergency medical staffing and response capacity for size of sporting events
- Event staff, participants, and teams not following conditions of permits
- Participants on roads, running or cycling, two or more abreast
- Blocking of visitor use areas
- Event participants and support crews driving on the wrong side of the road, impeding the flow of traffic, and causing vehicles to pass in no-passing zones or into oncoming traffic
- Event aid stations located in less than desirable locations.

The ESAT evaluated actions that could be taken to mitigate the risks identified during the assessment and found that some risks could be reduced by applying specific mitigations to current practices and permit conditions while other risks could not be reduced. Some of the risk factors are easily addressed such as: planning and coordination, NPS oversight, and visitor communication.

## SECTION 4 - CONCLUSIONS

Some of the recommended mitigations include:

- Increase visitor awareness of events taking place in the park using various communication techniques.
- Require adequate licensed traffic control.
- Require adequate signage and placement on event routes.
- Place aid stations in locations where driver line of sight and passing zones are available.
- Limit participants to running, walking, or cycling single file except when passing slower participants. Prohibit passing with more than two participants abreast.
- Require specific conditions and limitations on event support teams and pacers to promote highway safety.
- Require event coordinators to provide and enforce safety plans for staff and participants.
- Require event coordinators to have multiple types of communication devices.
- Establish required levels of emergency response capacity provided by event coordinators and require event contingency plans for emergencies.
- Limit NPS monitors to specified work schedules, provide monitors training for safety and permit management, and provide monitors with appropriate personal protective equipment.
- Consistently monitor and enforce permit conditions for all events.
- Develop updated permit application requirements, event planning conditions and safety information for event planners.

Hazards and risks that could not be reduced were visitor and environmental factors. To mitigate these risks, restrictions for dates and times of events were recommended. Some of the recommendations for restrictions are:

- Events should not be permitted during high visitation periods.
- Limit events to no more than one event in any seven day period.
- Events scheduled at night should only be considered during a full moon cycle.
- Between June 14 and September 9, in areas below 2000 feet, prohibit events between 10 am and sunset and only on paved road areas.
- Cancel events in the case of extreme weather conditions including flash flood warnings, excessive heat alerts (above 110 degrees), winter storm watch, etc.
- Specific areas of roads in the park should not be authorized for stopping by event support teams or participants and specific roads should not be permitted.
- Establish limitations on number of participants and support event staff for each type of event.
- In some cases, the park may not be able to accommodate sporting events with in-park staff and should not permit events if staffing is not available on the proposed event dates.

The ESAT recommends that permit conditions that reduce the risk of a sporting event to an acceptable level be required based on the findings of this report. If the risks cannot be reduced to an acceptable level, the event should not be permitted. Permitted sporting events must be consistently monitored and permit conditions enforced. The ESAT recommends that park management incorporate the permit conditions and mitigations outlined in this report into the special use park policies and procedures for sporting events within Death Valley National Park.

## APPENDIX A – SAFETY ASSESSMENT TEAM

### **Peter Treuherz (Team Lead)**

Safety Manager  
Death Valley National Park &  
Manzanar National Historic Site  
National Park Service

### **Cheryl Chipman**

Management Assistant &  
Public Information Officer  
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### **Jacob Tung**

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### **Merle Dickinson**

Special Park Uses Program Manager  
Washington, DC  
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### **CAPT Sara Newman, DrPH, MCP, USPHS**

Deputy Chief, Office of Risk Management  
Washington, DC  
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### **California Department of Transportation (District 9)**

Bishop, CA

### **Robert Sealy**

Regional Safety Specialist  
Pacific West Regional Office  
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### **Rene Buehl**

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Pacific West Regional Office  
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### **David Schifsky**

Acting Chief Ranger  
Point Reyes National Seashore  
Pacific West Regional Office

## APPENDIX B - ROAD USE & COMMERCIAL BUS DATA

### Road Use – May 2014

Traffic Data One week average in May 2014	
Road	Average Number of Vehicles Per Day
SR 190 West Entry	841
SR 190 East Entry	1219
Daylight Pass	328
Scotty's Castle	71
Badwater Road	846

### Commercial Bus Tour Log – 2011

	# of Passengers	# of Tours
January	1,497	56
February	1,963	107
March	2,894	146
April	6,583	253
May	12,333	430
June	7,993	300
July	4,869	210
August	8,203	329
September	14,475	524
October	12,110	450
November	2,549	135
December	871	57
<b>Totals:</b>	<b>76,340</b>	<b>2,997</b>



## APPENDIX D - EVENT MONITOR CHECKLIST

**Event Monitor Checklist**

**Permit No.** \_\_\_\_\_

**Event** \_\_\_\_\_ **SAMPLE** \_\_\_\_\_ **Date** \_\_\_\_\_

	ITEM
	Attend Pre-Event Meeting – Date _____
	Receive copy of permit
	Event Plan
	Park Radio (Fully charged)
	Satellite Phone (Charged, instructions on use)
	Event two-way radio (for listening only)
	Vehicle (full tank of gas, keys, NPS Arrowhead)
	Safety Vest
	Event Monitoring Form
	Food & Water, Sunscreen
	Monitoring form returned
	Time sheet turned in

# APPENDIX E – EVENT MONITORING FORM

## DEVA Event Monitoring Form

Event Name: \_\_\_\_\_ **SAMPLE** \_\_\_\_\_ Date: \_\_\_\_\_

Type of event: \_\_\_\_\_ Permit Number: \_\_\_\_\_

Duty and Location of Assignment: \_\_\_\_\_

Monitor (s): \_\_\_\_\_  
\_\_\_\_\_

Start Time: \_\_\_\_\_ Vehicle Miles Start: \_\_\_\_\_

End Time: \_\_\_\_\_ Vehicle Miles End: \_\_\_\_\_ Total Miles: \_\_\_\_\_

Billing information: \_\_\_\_\_

- 1) Document all infractions of permit conditions and violations of park, federal or state policies & regulations that occurred during this event (speeding, blocking traffic, collecting artifacts, etc). Also document any issues seen between event participants and visitors (example: cars had to cross over double yellow line to pass) and please document any positive comments you feel are appropriate. Please keep comments to factual observations.

Time	Comment
_____	_____
_____	_____
_____	_____
_____	_____

- 2) Additional comments you would like to make (example: signage, traffic control, event route, sanitation issues):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 3) Please return this form to the Permit Coordinator with your time sheet.

## APPENDIX F – SPORTING EVENT PLAN

### SAMPLE Sporting Event Plan

This planning tool may be used to complete your permit application. Should you choose to submit an event plan in a different format it must include the information requested below.

Your special use event plan will be reviewed by the National Park Service for compatibility with guidelines for event safety, interpretation, and resource protection in Death Valley National Park. Special Use Authorizations will not be issued and event **must not** begin until your plan has been approved and your permit has been issued. Please provide us with the following information on additional sheets of paper – you may submit company brochures and materials, but not in lieu of addressing these specific questions separately:

1. Type of service – please choose from the following options:

- |  |   |
|--|---|
| <input type="checkbox"/> Running (Marathon)  | <input type="checkbox"/> Running (Ultra marathon) |
| <input type="checkbox"/> Backcountry Running | <input type="checkbox"/> Bicycling                |

2. Names of staff and \_\_\_\_\_ their duties: \_\_\_\_\_

\_\_\_\_\_

- See attached for additional list

3. Number of event or SAG vehicles (do not include team support vehicles): \_\_\_\_\_  
(optional if known) Vehicle type and color License plate number

\_\_\_\_\_

- See attached for additional list

4. Course route including approximate times when first participants could arrive at and last participant could leave key locations such as timing stations, aid stations, or turnarounds.

- Route map attached:

5. Contingency plan (alternate route should the permitted event be canceled)

6. Medical plan

- Additional document attached:

7. Safety plan for participants and event staff, including volunteers

- Additional document attached:

8. Pre-event safety briefing location and time

- Safety briefing attached:

9. Communications plan including contact phone numbers for key on site event staff members and emergency contact numbers (cell and satellite phones)  
 Phone list attached:
10. Locations of aid stations (if applicable)  
 List or map of locations attached:
11. Locations of portable toilets (if applicable)  
 List or map of locations attached:
12. Traffic Management plan (locations of traffic control, including name of provider, if applicable)  
 Additional document attached:
13. Location of all signs  
 List or map of locations attached:
14. Parking plan (if applicable)  
 List or map of locations attached:
15. Number of on course coaches \_\_\_\_\_  
 List of coaches names attached (optional):
16. Emergency Response Plan  
 Additional document attached:
17. Brief outline of education information that will be provided to your clients  
 Additional documents attached:
18. Safety and applicable sanitation procedures that your organization will implement  
 Additional document attached:
19. Resource protection measures that your group will adhere to including Leave No Trace  
 Additional document attached:
20. Description of hazards that you anticipate encountering in your visit(s) to Death Valley National Park  
 Additional document attached:
21. Description of why it is important that these activities take place within Death Valley National Park and not on public lands elsewhere  
 Additional document attached:

Your event plan will be routed and reviewed by park subject matter experts. Discrepancies will be noted and the permit office will contact you to discuss any concerns with your plan.

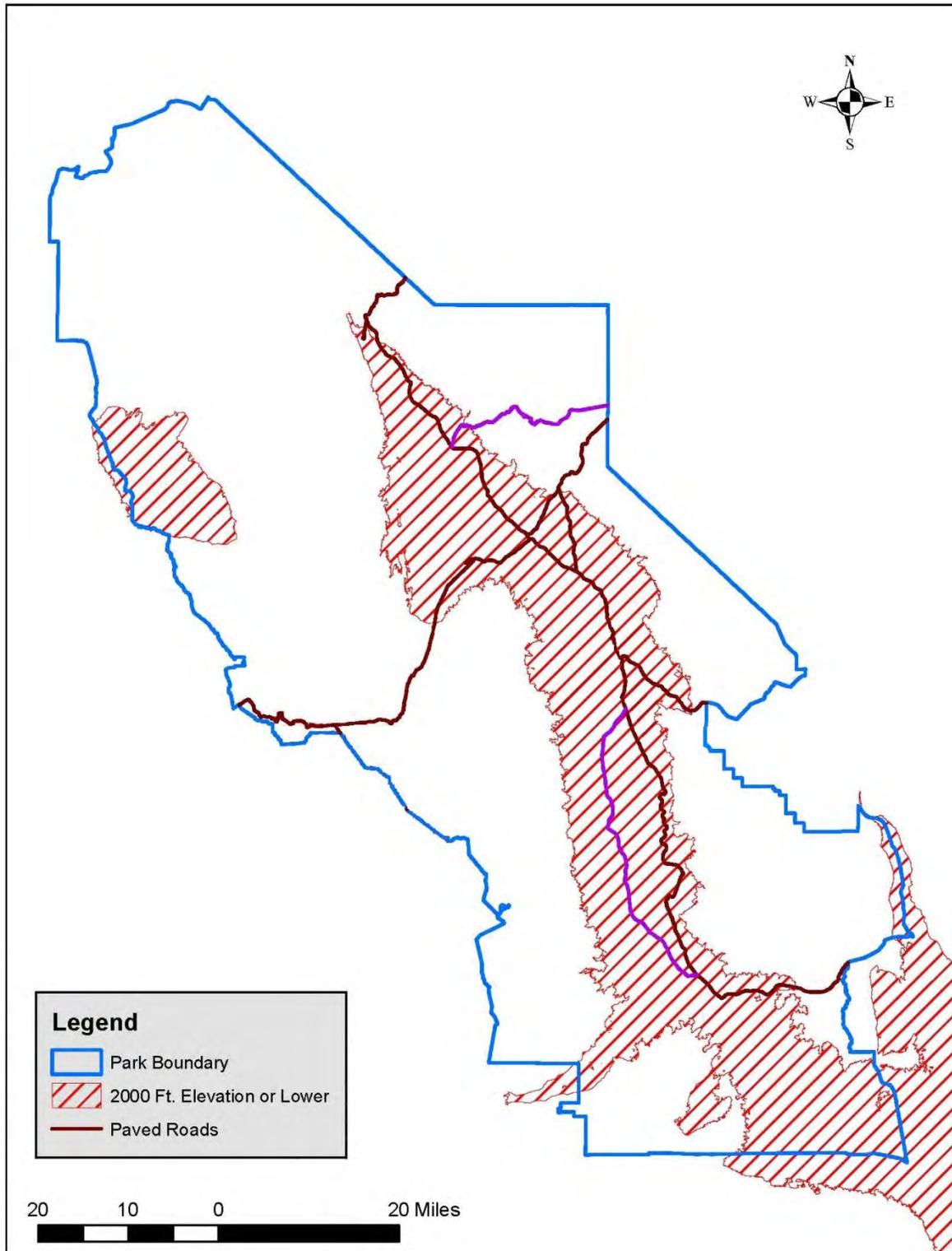
# APPENDIX G – 2015 CALENDAR

**SAMPLE**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
January	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	
February	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	
March	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	
April	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	
May	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	
June	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	
July	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	
August	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu
September	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr
October	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su
November	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We
December	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

Black = High use days, no events permitted  
 Red = 110 deg. and greater daytime average dates, Valley Proper = no events / use (< 2k ft) after 10AM  
 Yellow = Night time full moon events allowed  
 o = full moon night

# APPENDIX H – ROADS



## APPENDIX I – RECOMMENDED AID STATIONS

### **Authorized AID station locations for park roads:**

Aid stations include: tents, tables, food, water, first aid, and restrooms. Use of established facilities does not apply to these locations.

### **Badwater road:** Furnace Creek to East park boundary (Badwater road / HWY 178)

Mile 3.0 – Golden Canyon parking lot, first (West most) RV parking spot. Aid station must not block vehicle traffic into and out of parking area.

Mile 3.1 ~ 3.1 – Both sides of road. Aid station shall not block or hinder viewing of speed limit sign.

Mile 7.1 ~ 7.3 – Both sides of road.

Mile 8.4 – West side of road, South of sign. Aid station shall not block or hinder viewing of sign.

Mile 10 – West side of road.

Mile 10.9 ~ 11.1 – West side of road. Aid station shall not block or hinder view of Devil's Golf Course road sign. Aid station must be located off pavement entering Devil's Golf Course road and shall not hinder traffic to Devil's Golf Course road.

Mile 12 – East side of road.

Mile 13.7 – West side of road.

Badwater parking lot – Southernmost Bus/RV parking stall.

Mile 20.3 – Both sides of road

Mile 21.4 ~ 21.5 – West side of road

Mile 22.8 ~ 23 – Both sides of road

Mile 26.7 – West side of road

Mile 30.2 – West side of road (small pullout)

Mile 34.1 – West side of road

Mile 37 ~ 37.2 – Both sides of road

Mile 41.4 – West side of road

Mile 43.8 – Ashford Mill parking area by restroom – Aid station shall not block visitor traffic.

Mile 47.4 ~ 47.6 – South side of road

Mile 48 – Both sides of road

Mile 49.7 – Both sides of road

Mile 52.1 ~ 52.3 – Both sides of road

Mile 52.4 ~ 53.7 – Both sides of road

Mile 56 – North side of road

INYO 178 (Badwater road) Mile 28.6 ~ 28.9 – Both sides of road

INYO 178 (Badwater road) Mile 31.4 – North side of road

INYO 178 (Badwater road) Mile 36 – Both sides of road. Do not block access to Furnace Creek Road.

### **Scotty's Castle road:** Intersection of HWY 190 and Scotty's Castle Road to Grapevine ranger station

#### Northbound:

Mile .07 – Pullout – Northern end of pullout

Mile 4.2 – E side wide area

Mile 8 – E side

Mile 11.9 – E pullout – no not block sign

Mile 13.4 – E side

Mile 13.9 – E side

Mile 15.6 – E side wide area  
Mile 16.8 – E side wide area  
Mile 18.0 – E side  
Mile 19.4 – E side  
Mile 19.8 – E side wide area  
Mile 20.3 – E side wide area  
Mile 20.7 – E side wide area  
Mile 22.3 – E side  
Mile 24.75 – E side wide area  
Mile 28 – E side wide area  
Mile 28.8 – E side wide area  
Mile 31.01 – E side wide area  
Grapevine Ranger Station parking lot, S end – Do not block traffic

Southbound:

Grapevine Ranger Station parking lot, S end – Do not block traffic  
Mile 31.01 – W side wide area  
Mile 28.8 – W side wide area  
Mile 24.01 – W side wide area  
Mile 22.8 – W side wide area  
Mile 20.7 – W side wide area  
Mile 20.3 – W side wide area  
Mile 19.1 – W side  
Mile 18 – W side  
Mile 16.8 – W side wide area  
Mile 15.6 – W side wide area  
Mile 13.9 – W side  
Mile 12.3 – W side  
Mile 4.2 – W side wide area  
Mile.07 - Pullout – Northern end of pullout

**Ubehebe Crater road:**

Mile 3.3 – N & S side of road  
Mile 5.9 – Parking lot at crater, 4 most N parking stalls

**Bonnie Claire road:** Grapevine ranger station to East park entry / NV HWY 267

Mile 36.3 – Scotty's Castle parking area  
Mile 39.2 – S side of road

**Daylight Pass road:** From Mud Canyon (Scotty's Castle Road to Hells Gate), Hells Gate to East park entrance / NV HWY 374, and Beatty Cutoff (HWY 190 to Hells Gate).

Scotty's Castle Road – Mud Canyon Kisok. South end of pullout, do not block roadway.

Mile 3.4 – Both sides of road  
Mile 6.6 – Hells Gate Kisok – East turnout section, do not block roadway or access to pullout.  
Mile 9.5 ~ 9.6 – South side of road  
Mile 13 – Daylight pass pullout – North side of road  
Mile 17.1 – East park entry sign pullout, East most parking stall, do not block roadway or access to pullout.

**Beatty Cutoff from HWY 190 to Hells Gate Kiosk:**

HWY 190 and Beatty Cutoff intersection - East side of Beatty road.

Mile 3.4 ~ 3.5 – Both sides of road

Mile 7.1 – Both sides of road

Hells Gate Kiosk – East turnout section, do not block roadway or access to pullout.

**State Route 178 and State Route 190**

Aid stations located along California State roads need be approved and permitted by CalTrans and the park.

## APPENDIX J – EVENT MEDICAL PLAN

### Event Medical Plan

SAMPLE

Event:	Date From:	Time From:
Permit Number:	Date To:	Time To:

Event Coordinator Name & Phone Number:
--

Medical Aid Stations	Level of Care:				Provider Name:	Contact Number:
	BLS	ALS	MD	Other		
Location: (mile marker or Lat/Long)						

Transportation:	Type:		Level of Service		Contact Number:
	Ground	Air	ALS	BLS	
Ambulance Service:					

Hospitals	Travel Time		Helipad		Trauma Center	
	Ground	Air	Yes	No	Yes	No
Hospital Name:						
Address:						
Hospital Name:						
Address:						

Plan for additional care if ambulance transports a patient out of the park:
---

<b>Death Valley Airports:</b> Furnace Creek: FAA L06 Lat/Long: 36-27-37.8000N / 116-52-47.3000W Elevation: -210 Stovepipe Wells: FAA L09 Lat/Long: 36-36-13.8000N / 117-09-33.2000W Elevation: 25
---

Ambulance and medical staff will remain on site through the conclusion of post event activities in order to provide medical care. These events include, but are not limited to, award ceremonies and dinners.

# APPENDIX K – PERMIT HOLDER INJURY, ILLNESS, OR ACCIDENT REPORT

## SAMPLE

### Permit Holder - Injury, Illness or Accident Report

Event:		Date:							
Permit Number:		Event Coordinator:							
Permit Holder:									

Time:	Location:	Treatment by:				Transported from park:		Accident or Crash:	
		BLS	ALS	MD	Other	Yes	No	Participants	Vehicles
Injury or Illness:									
Treatment Provided:									
Injury or Illness:									
Treatment Provided:									
Injury or Illness:									
Treatment Provided:									
Injury or Illness:									
Treatment Provided:									
Injury or Illness:									
Treatment Provided:									
Injury or Illness:									
Treatment Provided:									
Injury or Illness:									
Treatment Provided:									

\* Must be submitted to Death Valley Permit Office within 14 days following the event.

## APPENDIX L – SPECIAL EVENT OPERATING PLAN REVIEW

SAMPLE Special Event Operating Plan Review					
Event:		Date:			
Permit Number:					
<b>Attach this routing form to permit for Superintendent's review.</b>					
Reviewer / Items to Review	Date Received	Date Due By	Date Forwarded	Approved	Disapproved
Date Available					
Permit Manager					
Name:					
Comments:					
All other required permits					
Permit Manager					
Name:					
Comments:					
Phone lists					
Permit Manager					
Name:					
Comments:					
Morning Report / Web info					
Name:					
Comments:					
Visitor Center Information					
Name:					
Comments:					
Interpretation Chief					
Comments:					
Road Use					
Name:					
Comments:					
Maintenance Chief					
Comments:					
Resource Concerns					
Name:					
Comments:					
Resources Chief					
Comments:					
Medical Plan					
Name:					
Comments:					
Available Protection Staff					
Name:					
Comments:					
Protection Chief					
Comments:					
Traffic Control					
Safety Mgr / Safety Committee					
Name:					
Comments:					
Aid Stations					
Safety Mgr / Safety Committee					
Name:					
Comments:					
Superintendent					
Comments:					

## **APPENDIX M – PROPOSED PERMIT CHANGES**

### **PROPOSED PERMIT CHANGES**

The following recommendations for changes and additions are based on the safety assessment and the need to clarify and standardize process changes, permit conditions, and other requirements for special events.

### **PROCESS CHANGES**

Event staff or teams who ride or run with participants are considered participants and count in making up the maximum number of entry participants allowed.

Participants and event staff violating any permit condition or law will be reported to the permit holder. Failure on the part of the permit holder to take corrective action could result in the suspension of the permit, denial of future permits, or legal actions.

All Basic Life Support (BLS) and Advanced Life Support (ALS) care providers working in an event as staff or a team member must hold current certification. If BLS or ALS providers are from outside of California or Nevada, they must obtain reciprocity certification for the state(s) where the event will take place. Copies of certifications, with the exception of ambulance services, must be part of the medical plan presented to the park.

Requests for sporting event permits may not be submitted more than 14 months in advance of and not fewer than 120 days prior to the event date. Permits submitted prior to or after these dates will be returned to the applicant.

The event plan will include:

- Number of staff and staff support vehicles
- Number of team vehicles and/or support and gear (SAG) vehicles
- Start and Finish locations times
- Course route including approximate times when first participants could arrive and last participant could leave
- Key locations such as timing stations, aid stations, or turnarounds
- Contingency plan which will include an alternate. Alternate routes shall be provided by the permit holder in advance of the event
- Medical plan which will include: number and types of all medical personnel on event staff, including name of ambulance provider and a copy of the contract if applicable, and a medical contingency plan
- Safety plan for participants and event staff, including volunteers
- Copy of pre-event safety briefing that will be given to event participants and staff by the event coordinator
- Communications plan which will include contact phone numbers for key on site event staff members and emergency contact numbers (cell and satellite phones)
- Locations of aid stations (if applicable)
- Locations of portable toilets (if applicable)

- Traffic Management plan which will include the locations of traffic control, including name of provider (if applicable)
- Location of all signs including verbiage for signs for example: “special event”, ”runners on road”, “runners next 12 miles”, “cycles on road”
- Parking plan (if applicable)
- Number of on course coaches (if applicable)
- Incident Management Plan (Emergency Response Plan)
- Brief outline of education information that will be provided to participants and event staff by the event coordinator
- Safety and applicable sanitation procedures
- Resource protection measures including Leave No Trace
- Description of anticipated hazards in Death Valley National Park
- Description of why it is important that these activities take place within Death Valley National Park
- All signed contracts with service providers

The permit office staff will conduct a phone or face-to-face meeting with the permit holder no fewer than 30 days prior to the event date to confirm verbally all aspects of the permit.

Any event along SR 178 or SR 190, requires a CalTrans permit (California Department of Transportation). For events along these routes, permit applicants must submit proof of a CalTrans permit application no fewer than 120 days prior to the proposed event.

Any event along Nevada State Highway 267 or 374 requires a NDOT (Nevada Department of Transportation) permit. For events along these routes, permit applicants must submit proof of a NDOT application no fewer than 120 days prior to the proposed event.

Traffic control along SR 178 or SR 190 shall be approved in advance with CHP (California Highway Patrol) and CalTrans.

### **PERMIT CONDITIONS**

Compliance with all permit conditions is a requirement of the permit. Failure to adhere to any permit condition may result in the suspension or revocation of the permit and/or denial of future permits. Permitting an event does not guarantee or give preference to the permit holder for future permitting of the same or similar events in the park. Special use permits remain a privilege, not a right.

#### **Sporting Event General Permit Conditions:**

THESE CONDITIONS ARE APPLICABLE TO ALL AUTHORIZED ACTIVITIES OR AREAS LISTED ON THE PERMIT.

All pages of this permit must be carried by the permit holder, or the person named in the permit as in charge of permitted activity, and must remain on-site at all times during the event. Failure to be able to present all pages (paper or electronically) when requested, is a violation of the terms and conditions of the permit.

The permit holder is responsible for the actions of the event coordinator, event staff, event volunteers, participants, and participant teams. The permit holder is responsible for ensuring those listed above are informed of and follow the conditions of this permit and all park rules and regulations.

The park reserves the right to cancel an event if park staff or permitted locations become unavailable due to unforeseen emergencies which include but are not limited to: road damage, search and rescue, fire, flash flood, park closure or other applicable unforeseen conditions.

If an event has been permitted, but on the day of the event extreme weather conditions (wind, rain, thunder showers, flash floods or potential flash floods, snow or heat) exist or are expected, the NPS may cancel the event.

Permitted events may be suspended or cancelled if the National Weather Service issues weather warnings, watches, or advisories.

Event must follow event plan submitted by the permit applicant as approved by the National Park Service.

Any event along SR 178 or SR 190 requires a CalTrans permit (California Department of Transportation). For events along these routes, permit holder must carry an approved CalTrans permit for the event at all times during the event.

Any event along Nevada State Highway 267 or 374 requires a NDOT (Nevada Department of Transportation) permit. For events along these routes, permit holder must carry an approved NDOT permit for the event at all times during the event.

The permit holder, event coordinator, and all event staff (paid, compensated or volunteer) must comply with all applicable OSHA (Occupational Safety and Health Administration) laws listed within 29 CFR (Code of Federal Regulations), and all NIOSH (National Institute for Occupational Safety and Health) recommendations for employee safety.

All event staff, participants and teams shall carry personal identification at all times while engaged in the event.

Commercial notices or advertisements shall not be displayed, posted, or distributed within the park. All sales are prohibited.

If private in-holding grounds are to be used during an event, an approval letter signed by property managers allowing the use of such grounds must be submitted with event plan. Use of NPS property in front of and around in-holdings must be included in the event plan and use of property must be specifically approved by the park on the permit.

No event activities shall block visitor access to an area. The permitted event will not interfere with use of any area by park visitors and may not deny public access to NPS lands. Parking of event vehicles will not block wayside exhibits and will provide sufficient space for visitor vehicles.

All event staff and team members on or along the roadway during an event, those who assist any participant, or those who are involved in event set-up or clean-up, must wear high visibility clothing in

accordance with ANSI/ISEA (American National Standards Institute / International Safety Equipment Association) 107-2010. Class 2 clothing must be worn during daylight hours and Class 3 clothing must be worn at night.

Support/team vehicles will not travel alongside any participant. Vehicle-to-participant or participant-to-vehicle handoffs are prohibited while the vehicle is moving. Verbal communication between participants and support vehicle occupants while the vehicle is moving is prohibited. Support vehicles and teams must stop in designated or safe locations completely off the roadway to pass supplies or communicate with participants.

Disposal of human waste in an unsanitary manner is a public health and safety concern. All staff, participants, and teams must use personal portable toilet products on the course wherever toilets are not available. Such products must be used discreetly and must be disposed of properly after use. Personal sanitation devices shall not be disposed of in park vault toilets.

All trash will be removed from the park at the conclusion of the permitted activity. Food, food wrappers, cups, and cigarette butts are considered trash and shall be picked up.

Aid stations will not be set up on roadway. Locations and number of aid stations shall be listed in the permit holder's event plan and shall be approved by the park and CalTrans (for SR 178 and SR 190 only) or NDOT (for Nevada State Highway 267 or 374) prior to the event.

In the event of a medical emergency the permit holder will be responsible to provide for initial care and transport. The permit holder, event coordinator or staff shall call 911 and will then contact an event monitor to report the incident and/or request any additional emergency resources if needed.

The permit holder must report all injuries, illnesses or accidents that occur during the event on the Death Valley National Park incident report form. This form must be returned to the park within 14 days of the end of the event.

Professional medical personnel will remain on-site for a minimum of two (2) hours following the completion of the event in the park, or once the last participant leaves the park, to treat any emergency situations that arise from participation in the event.

All event organizers, medical crews, and support teams will have some form of radio and/or phone communication between them.

Permit holder shall provide National Park Service (NPS) event monitors with at least one event radio and applicable contact information (satellite phone numbers) of event coordinator and event staff.

Participants' number must be visible at all times during the event.

Participants' support vehicles must display the participants' number.

Pacers (cyclist or runner) shall wear number bibs with the same number of the participant they are supporting. The bib worn by the pacer shall be of standard size and color, but of a different color than participants. Bibs will be worn whenever the pacer is running with their team member. Identification of bibs will be included in the applicant's event plan.

Number of participants' support staff shall not exceed number indicated on permit for each event.

No person operating any vehicle (including a bicycle) or running on the roadway, shall wear any headset covering or any earplugs in both ears. This prohibition does not apply to a person using a prosthetic device that aids the hard of hearing.

Event will not interfere with non-event traffic (vehicle or foot) or block traffic without required traffic control. When traffic control is used it will not interfere with any one direction of traffic for more than 10 minutes at a time.

Event staff, participants and teams will not stop in the following locations except for emergency purposes:

- Areas of Bonnie Clare Road and NV 267 – East of Scotty's Castle, mile markers 36.5 to 39
- Daylight Pass road, Daylight Pass mile markers 13 to 14
- Mud Canyon, mile marker 0.0 (Scotty's Castle Road) to mile marker 3
- Badwater Road – mile markers 36.5 to 36.7
- Badwater Road – mile markers 50 to 51 (Jubilee Pass)
- Badwater Road (Inyo SR 178, Salisbury Pass) – mile markers 31.5 to 33
- SR 190 – mile markers 41 – 55
- SR 190 – mile markers 70 to 71 (Town's Pass – Pearl's Dip)
- SR 190 – mile markers 108 – 109 (Harmony Curves)
- SR 190 - mile markers 112 to 113.5 (Furnace Creek Wash turns)

No person will drive upon a highway at such a slow speed as to impede or block the normal and reasonable movement of traffic, unless the reduced speed is necessary for safe operation, because of a grade, or in compliance with law.

All event or support vehicles, when stopping along the roadside, must have all four tires off the roadway and will only stop in designated parking areas, designated pull-outs, at aid stations, or sections of the roadway with a sufficient shoulder. An exception for stopping in the road would be to protect an injured participant from oncoming traffic. A support vehicle may be used for this purpose so long as four way flashers are used and only until directed otherwise by on-scene Law Enforcement, NPS employees, CalTrans employees or other emergency response personnel.

No vehicles over 20 feet in length are permitted as team or support vehicles on the course.

Trailers are not permitted on the course during an event.

No markings of any kind, including chalk, will be placed on park road surfaces or other park property.

Medical vehicles, except for contracted ambulances, must be identified with either Red Cross on a white background, minimum size of 12"x12", "Medical" or "Medic", minimum size of 8" red letters on a white background.

Event support vehicles must display "Support Vehicle" in a minimum of 8" letters, black letters on a white background.

Team vehicles must display the number of the participant, minimum of 8” black letters on a white background. The name of the participant may be displayed at the discretion of the event coordinator or team. Participant name will be a minimum of 6” black letters on a white background.

Vehicle Signs must be clearly visible on the front of vehicle, the left and right front doors, and on the left rear of the vehicle.

Signs on roads shall be in compliance with California Manual for Uniform Traffic Control Devices (CAMUTCD) and shall adequately advise other road users of a special event, aid station, or that cyclists or runners are on the roadway.

Signs should be located on the right-hand side of the roadway where they are easily recognized and understood by road users. Signs shall not obscure each other, shall not obscure the sight distance to approaching vehicles and shall not be hidden from view. Signs for the event shall be posted before motorists encounter the event, and when they will no longer encounter the event, according to the event plan.

All event signs must be free standing and may not be attached to existing road signs or posts. Signs may not be secured using rocks or other artifacts from the park. Coordinators must provide their own way to secure signs (weights, sandbags, bricks) and must remove from the park all weight devices when the sign is taken down.

Special event, Bicycle event/Running event signs shall be posted at a maximum of 20 miles from the last posted sign. Signs located for or at aid stations or road intersections may be considered as one of the every 20 mile signs.

Traffic control devices, which are used on a part-time basis, should be in operation only during the time periods that they are required. Event signs may not be visible on course until the day of the event. Signs may be placed the day prior to the event but shall be covered until the day of the event. Signs shall be removed within two hours after the event finishes or leaves the park.

If a permit holder uses temporary traffic control, it will be provided by a licensed traffic control provider and in accordance with CAMUTCD, or by uniformed, on duty, law enforcement personnel (CHP or Inyo County Sheriff). Traffic control on park roads must be approved by the National Park Service and traffic control on SR 190 must be approved by CalTrans and the National Park Service.

Where traffic control along SR 178 or SR 190 is required, the permit holder must provide the park with a copy of the service agreement with the traffic control provider

Aid stations should be located on the graded surface between the fog line and the berm on the edge of the road shoulder between 6 and 20 feet from the fog line. Where aid stations are located less than 10 feet from the fog line the road shoulder shall be closed with signs and cones per CAMUTCD.

### **Cycling Event Specific Permit Conditions:**

Cycling side by side is prohibited except when passing a slower cyclist. Cyclists may not be more than two abreast when passing.

Participants will not operate a bicycle, nor ride upon a bicycle, unless that person is wearing a properly fitted and fastened bicycle helmet that meets the standards of either the American Society for Testing and Materials (ASTM) or the United States Consumer Product Safety Commission (CPSC), or standards subsequently established by those entities.

Cyclists riding at night shall have lighting in accordance with CA VC 21201. For additional visibility and safety, for events in Death Valley National Park cyclists will have a primary rear facing red flashing light mounted to the bicycle and a second flashing red light mounted to either the bicycle or the cyclist (the mounting location of the secondary light will be at the choice of the cyclist or by direction of the permit holder). Both lights shall be visible at a distance of no less than 500 feet when directly to the rear of the cyclist.

During night hours all cyclists shall wear retro reflective material. The amount of reflective material shall be equal to that required by ANSI/ISEA 107-2010 for Class 2 clothing.

Each cyclist may only be accompanied on the course by one support team comprised of one motor vehicle and no more than four team members.

Support or team vehicles shall not travel continuously alongside any rider.

When driving up mountain passes support vehicles must leapfrog the cyclist they are supporting. Support vehicles may only stop along the roadway where there are paved pull-outs or sufficient graded shoulder where the vehicle and cyclist can park completely off the road.

Team vehicles are prohibited from stopping on the side of SR 190 between the park's west boundary (Lee Flat road, mile 41) and Panamint Springs Resort (mile 55). Team vehicles are permitted to stop and wait for their cyclist at Father Crowley lookout parking area (mile marker 47.5), or to provide emergency medical assistance to any cyclist.

### **Walking and Running Event Specific Permit Conditions:**

All participants must run single file except when passing a slower runner. Runners must not be more than two abreast when passing. Pacer runners must either lead or follow. Pacers may not run alongside the participant

During night hours all runners on or along the road shall wear retro reflective material. The amount of reflective material shall be equal to that required by ANSI/ISEA 107-2010 for Class 2 clothing.

Pacer runners are not permitted in events fewer than 26.3 miles in length.

### **Ultra Marathon Specific Permit Conditions:**

Each runner may only be accompanied on the course by one support team comprised one motor vehicle and no more than four team members.

The permit holder will provide aid stations between Lee Flat road and Panamint Springs Resort. Locations of aid stations shall be listed in the permit holder's event plan and will require prior approval from CalTrans.

Team vehicles are prohibited from stopping on the side of SR 190 between the park's west boundary (Lee Flat road, mile 41) and Panamint Springs Resort (mile 55). Team vehicles are permitted to stop and wait for their runner at the dirt pullout at mile 46.6, or to provide emergency medical assistance to any runner. Team vehicles shall not wait for runners at the Father Crowley lookout parking area.

No more than two crew members, including a pacer if one is present, may be on the runner's side of the roadway at any given time. Team members that are handing off supplies, or otherwise providing aid to the participant, must be off the roadway at all times and may not run along with the runner.

Event participants may not be accompanied by more than one pacer at any given time on the course.

Bicycles/cyclists are not permitted to pace runners.