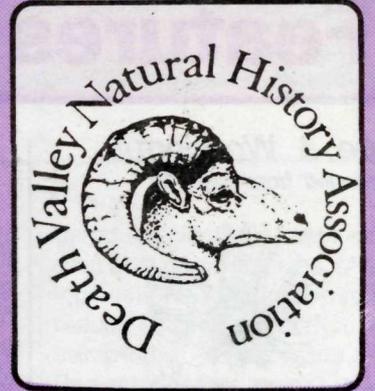




DEATH VALLEY VISITOR GUIDE



DEATH VALLEY NATIONAL MONUMENT

FREE

Spring & Summer 1988



Gold is where you find it

by Lex Palmer

The name Death Valley evokes images of lost treasure and mines with names such as Confidence, Eureka, and Gold Valley. This spring a multitude of modern-day prospectors travels to the valley of death to stake claims on the yellow-gold of the Panamint daisy and desert gold-poppy.

Death Valley witnesses a floral show every spring. The botanical rule of thumb for a luxurious wildflower display requires rainfall to exceed the annual norm of 1.75 inches by a factor of 100-150 percent. This season should prove to be exceptional due to the fact that current area precipitation is in excess of 4 inches.

Because of the different elevations included in Death Valley National Monument, the region is

host to a wide variety of floral residents. The annual wildflower production begins at the lower elevations, flowing upward as spring temperatures rise. The primary factors influencing wildflower distribution are altitude, moisture, temperature, and soil makeup.

An El Dorado of brilliant blossoms may take place merely once a decade. This rare resource of color is nurtured with a superabundance of winter moisture which rouses the dormant seed population and dissolves seed coatings. These seeds contain elements which prevent untimely germination from a passing cloudburst.

Springtime in Death Valley brings reports of eccentric behavior on the part of those in search of this organic art exhibit. The Lilliputian scale of plants such as

the purple mat has resulted in observations of prostrate botanical prospectors in search of the elusive "belly plants." A floral argonaut needs to be armed with a trusty camera, hand lens, and wildflower guidebook, rather than pick and shovel. Prospectors must be mindful that collecting is not allowed in the National Park System—wildflowers may be gathered only through cameras or art supplies.

The winter rains of 1987-88 with their Midas-like touch will awaken these slumbering nuggets of color. These botanical portraits will stream through Death Valley in shades of the goldeneye, desert gold, and desert globemallow. This spring, the gift of liquid gold will unveil an ephemeral treasure trove.

Rare and Wonderful to Behold

by Barbara Moritsch

Death Valley has long been recognized as one of the hottest and driest places in North America. Armed with this information, the first-time visitor may find it difficult to believe that any form of life, either plant or animal, can live in this harsh environment.

At first glance when driving through the monument one recognizes that plants do, indeed, live here, but they are few in number and there is not a great deal of variety. Or is there? In fact, more than 970 species of plants have been identified in Death Valley National Monument.

The monument encompasses over two million acres and ranges in elevation from 282 feet below sea level at Badwater to 11,049 feet above sea level at Telescope Peak. This large size and range of elevations provides a wide variety of environments in which plants can become established. Species have different requirements for growth with respect to sunlight, temperature, moisture, salinity and soil and many different combinations of these requirements can be found within the monument.

Most of Death Valley's plant species can also be found in other parts of the state, country or world. There are a few, though, for which Death Valley alone is home. Fifteen species are found exclusively within the boundaries of the monument. These plants are referred to as "endemic," which means they are restricted in their range to a certain locality. An additional 21 species are considered endemic to the Death Valley region, which includes areas outside the monument boundaries. Plants do not recognize the arbitrary boundaries designated by land-use managers. Therefore, it is more valuable to identify endemism in a specific environment or region rather than within park or monument boundaries.

Why do these plants exist only in this region of the Mojave Desert? Restricted ranges can

be the result of several different situations. Some endemics are recently evolved species that have not had sufficient time to spread and increase their range. These plants may have evolved in response to changing climatic conditions as Death Valley gradually became hotter and drier.

Other recently developed species may be very specific in their requirements for growth and simply cannot establish themselves in other places.

Some species may have previously been more widespread but a changing environment may have restricted them to specific areas where conditions are suitable for their survival.

If a plant species has a very restricted range, it automatically becomes subject to extinction. Any changes that occur in its habitat, either natural or human-caused, have the potential to completely eliminate the species. For this reason, many of the endemics are designated by the federal government as "endangered" (in danger of extinction throughout all or a significant portion of their range) or "threatened" (likely to become endangered in the foreseeable future throughout all or a significant portion of their range).

These sensitive plants, as well as all of the features within the monument, are protected. Please remember to leave them undisturbed for the continued enjoyment of all visitors.

Below are five species of plants endemic to the Death Valley region, their descriptions, and areas where they may be seen.

Desert Bearpoppy (Poppy family)

Arctomecon merriamii

This plant has large white flowers on stems with basal leaves. The leaves and buds are densely covered with long, silvery hairs, thus the name "bearpoppy." It is found in higher washes and canyons, growing on dolomitic limestone soils, and has been seen around Lost Burro Gap, Ubehebe Lead Mine (off Racetrack Road), and in cañyons to the east of the Panamint Mountains.

Continued on page 2

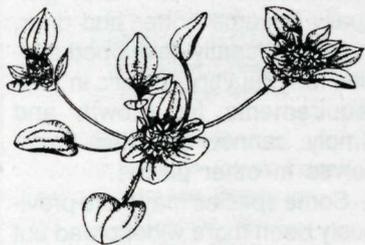
Features

Rare & Wonderful...
(Continued from page 1)



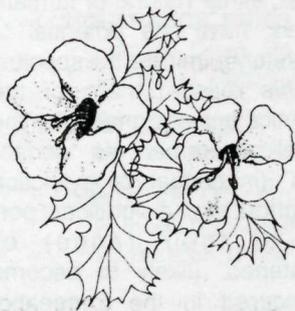
Panamint Daisy
(Sunflower family)
Enceliopsis covillei

Large, showy flowers on stems 12 inches or more in length characterize this plant. They are usually found on dry, rocky ledges and are most common on the western slope of the Panamint Mountains. They have been seen in Pleasant and Surprise canyons as well as on the approach to Wildrose from Panamint Valley.



Golden Carpet
(Buckwheat family)
Gilmania luteola

A small, prostrate annual plant with minute yellow flowers. Golden carpet is restricted to a few washes in the monument, including Gower Gulch and the Artist's Drive area. This species is only seen in wetter years.



Rocklady Maurandya
(Figwort family)
Holmgrenanthe petrophila

This small plant exhibits pale yellow flowers with deeper yellow throats, and leaves with toothed margins. It grows in very few locations, usually hanging in the crevices of limestone cliffs. It has been seen in the Titus Canyon area.

Death Valley sage
(Mint family)
Salvia funerea

A shrub 2-3 feet high with clusters of small purple-blue flowers. The flowers are partially surrounded at the base by a white woolly layer of hairs. It is found at lower elevations including Titus Canyon, Hole-In-The-Rock Spring, and canyons of the southern Funeral Mountains.

If you have any further questions about the flora of the area, please stop at the Furnace Creek Visitor Center. A handout is available with additional information about the endemic plants of the region. Reports or your sightings are always welcome.

by Mel Essington

Mining in Death Valley Yesterday, Today, Tomorrow

The first recognition of gold in this area by the early 1849ers resulted in a nearly continuous history of mineral exploration that persists in the Death Valley area today. Much of Death Valley's history is a direct result of its men, women and mines. Indeed, the establishment of the National Monument itself is directly attributable to them and mining continues to play a significant role in Death Valley.

Despite the establishment of the Mining in the Parks Act of September 26, 1976, active mining does exist in Death Valley as well as several other National Park units. The Act prohibited the

establishment of any *new* mineral interests within the National Park System, but provides for the reasonable rights of those claims established *prior* to the Act. Thus, Congress has permitted some mining to continue. There are over 200 valid claims in Death Valley, and one active mine at this time.

The flamboyant, speculative, and erratic history of mining found throughout the world was also common to Death Valley. All the riches-seekers, prospectors, financiers, conmen, honest workers, shrewd businessmen, and adventurous entrepreneurs that mining attracted trooped up and down the length and breadth of the Valley and its environs. Gold and silver were always the most sought and least found, as nature has intended. With few exceptions, however, less glamorous minerals such as boron and talc provided the greater financial gain to those who toiled after them.

As the people and mines came and went, they left behind not only a rich history, but interesting sites for us to visit and speculate about the conditions under which they labored and lived. Not all of the sites were abandoned, as some mines continue to this day. Others wait for a new or renewed

recognition of their economic potential, as the ever constant tides of fortune may turn in their favor. A significant number of others are being donated to the National Park Service for stabilization and interpretation as they become liabilities for their owners, who may also see the value in giving such a gift to the American public.

It is not unheard of for a once-promising claim to be forgotten and many years later revived by new mining interests. The Gold Bar claims (located in the Nevada Triangle portion of Death Valley National Monument) were originally recorded in 1905. They were mined until 1908 and then lay fallow for nearly 80 years when new interest was generated in them. In 1987, after lengthy negotiations with new owners, the Park Service approved a plan of operation for a new mine on those claims. The Gold Bar claims are once again in production and will remain so for several years if the expectations of the current owners are confirmed.

The erratic nature of mining is a direct reflection of national and world economics. Recent advances in mining technology and mineral value once again send men to seek the riches of a

previously unprofitable venture such as Gold Bar. The talc mines of Death Valley, long aloof from outside influences, provided constant profit for their owners for many uninterrupted years. Their long run, however, seems to have come to its inevitable end in Death Valley. Mine production from other states has been deemed more profitable by the current owners and the Death Valley mines, after about 75 years of continuous production, are being shut down. Two, in the Warm Springs Canyon area, ceased production in 1987 and completed the required reclamation work stipulated by the Park Service.

Borates, the earliest of the economically stable but less glamorous minerals in this region, have also succumbed to outside pressures. Cheaper production from mines in Boron, California, and western Turkey have forced the shutdown of once-prosperous Death Valley mines. Unlike other mine owners, however, the owners of the borate mines intend to maintain them with the reasonable knowledge that the tides of fortune will once again make them profitable. Some of the mines are being held in a state of readiness awaiting the word to resume mining at some distant date. Others are being given long-range consideration for the application of different mining technology to bring

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1988 Entrance Fees

Looking for a vacation bargain in 1988? Starting this year, a fee of \$5 per vehicle will entitle visitors to enter and enjoy Death Valley National Monument for seven days.

Initially, this may not sound like such a bargain - visits to Death Valley have been free since the monument's establishment in 1933. Consider, though, that your entrance fee grants you access to the second largest National Park Service area in the contiguous United States. At over 2 million acres, you can see all of Death Valley at a cost of only one cent per 4,135 acres. That's a great deal for backcountry enthusiasts, but even if your sightseeing plans limit you to paved monument roads, you can explore the entire valley for two pennies per mile. Interested in geology? Your entrance fee will challenge you to spot nearly 30 separate rock formations.

Why the new entrance fee program? Congress has authorized the National Park Service to use fees to supplement park budgets. Here in Death Valley, part of your entrance fee will help expand visitor services and step up resource protection projects.

The following entrance fees can be paid at the Furnace Creek Visitor Center and ranger stations at Stovepipe Wells and Grapevine:

Single visit per motor vehicle \$5. Valid for 7 days.

Single visit per bicyclist or pedestrian - \$2.00. Valid for 7 days.

Annual Area Pass - \$15.00. Valid Jan. 1 through Dec. 31 for entry into Death Valley National Monument.

Golden Eagle Passport-\$25.00. Valid Jan. 1 through Dec. 31 for entry into recreation fee areas across the country.

Death Valley Natural History Association

The Death Valley Natural History Association is a non-profit educational organization dedicated to the preservation and interpretation of the natural and human history of Death Valley National Monument. The cooperation of the Association with the National Park Service is authorized by Public Law.

Death Valley Natural History Association publishes and distributes descriptive park literature and furnishes personnel, equipment and supplies to support the interpretive work of the National Park Service. Proceeds from the Association's sales are used to produce new educational publications and to aid National Park Service programs.

Membership in the Association is available to any person who has a sincere interest and desire to advance the aims and purposes of the Association.

As a member you receive the following:

- 15% discount on all purchases.
- Official Association emblem patch. (Lifetime member patch)
- Bi-annual park newsletter (first publication Spring 1985).
- First offering on all new publications.

INDIVIDUAL MEMBERSHIP	FAMILY MEMBERSHIP	SPECIAL MEMBERSHIP
One year.....\$ 5.00	One year.....\$10.00	Corporate.....\$100.00 annual
Five year.....\$ 15.00	Five year.....\$30.00	Senior Citizen.....\$10.00
Lifetime.....\$100.00		(one time) (62 or over)

Please include payment with application either by check made payable to DEATH VALLEY NATURAL HISTORY ASSOCIATION or by credit card. \$10.00 minimum on credit cards.

Mastercard _____ Visa _____ Account No. _____
Expiration Date _____ Signature _____

MEMBERSHIP APPLICATION

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

All dues and contributions are tax deductible to the extent they exceed benefits.

General management plan

Improved campgrounds, visitor information services and roads are being considered in the general management plan for Death Valley National Monument. The plan is a framework for the management and development of the monument for the next 10 to 15 years.

The draft plan and two alternatives were devised by a planning team from the National Park Service Western Regional Office. The plan will be made available for public comment. Pending revisions, it could go into effect in the fall of 1988.

Draft General Management Plan

The draft plan would improve information / orientation / interpretation services and improve the reliability of roads to better allow visitors access to the monument's diverse features. Some additional facilities would be provided.

At major entry points to Death Valley, reception centers would be developed to provide information and orientation for visitors so that they would not have to travel to the Furnace Creek Visitor Center for these services. These centers would be designed to encourage visitors to stop, relax for a few minutes and give some thought to what they would like to see in the monument.

Interpretive waysides and brochures would emphasize a theme integrating the uniqueness of the Death Valley environment and the adaptations that all living things must make. A major renovation and expansion of the visitor center at Furnace Creek would improve facilities for exhibits, the library, museum collection and administrative offices. A modest visitor center is also proposed for Stovepipe Wells Village.

No major new roads are



planned. Many would remain gravel, but improvements in design and maintenance would provide more reliable access to remote areas. The Emigrant-Wildrose Road would be emphasized as an interpretive corridor. The road from Wildrose to the monument boundary would remain a gravel, standard-vehicle road. Realignment of Route 190 at Stovepipe Wells would improve visitor safety and accessibility.

Major campgrounds would be renovated to comply with safety codes and bring them up to NPS standards. Improvements would include better restrooms, site separation, more convenient water taps, showers where sufficient water is available, additional tables and grills, and some shade structures. Particular emphasis would be given to improving access to these facilities by the physically disabled.

Some existing campgrounds would be reduced in capacity to levels comparable to average peak-season demand. Overflow camping areas would be provided for the exceptional peak periods.

Two new campgrounds would be established in the southern area of the monument—one fully developed campground in the Jubilee Pass area and a primitive campground in the Ibox Hills area. Additional primitive campgrounds (such as the ones at Pinon Mesa and in the Racetrack area) would be permitted in selected remote areas. Additional group campgrounds, away from established campgrounds, would be provided when there is a demonstrated need.

Three existing facilities would be eliminated. The Stovepipe Wells airstrip and the landfill area at Furnace Creek would be converted to overflow camping. The small campground at Emigrant, which is subject to flash flood hazards, would be removed.

Other elements of the plan include major renovation of employee housing and management facilities, implementation of flash flood mitigation measures and transfer of the administration of Devil's Hole to the U.S. Fish and Wildlife Service.

The plan would reduce the areas where mining operations would be permitted when such operations conflict with the mandate to protect significant monument resources. A land protection plan, which is now being prepared, will determine methods to protect these areas from any adverse effects associated with

mineral development. Valid rights of the owners would be recognized until these rights could be acquired.

Subject to congressional authorization, a long-term lease would be developed with the Timbisha-Shoshone Tribe to assure them of continued rights to use the village adjacent to Furnace Creek Ranch.

No proposed actions would affect wilderness values. The lands proposed for wilderness designation would continue to be managed as if they were wilderness, and their value would be enhanced by reducing the size of areas where mining would be permitted.

The plan will also propose alternatives of maintaining basically the status quo with modest changes.

Environmental Consequences

Neither the draft plan nor the alternatives propose significant changes in the management of the monument. For the most part, they would emphasize the preservation of the unique natural and cultural resources, bring facilities and services up to current NPS standards, improve the quality of the visitor experience and retain current wilderness values. The lands where mining would be permitted would be significantly reduced under the proposal and Alternative B, ensuring that these lands would be managed to preserve significant natural and cultural resources and the visual quality of the monument. Alternative A would maintain the status quo on current patented mining claims.

Road system improvements would occur, for the most part, on existing road alignments. Improved access into remote areas under the draft plan and additional camping opportunities could increase localized damage to vegetation and soils. The areas identified for potential increased use have been carefully evaluated so as to avoid fragile and sensitive resources. Increased use in more remote areas also could adversely affect cultural resources because of vandalism and trampling of deteriorating ruins. Some access would be eliminated under the proposal with respect to not reopening the Beatty Cutoff after future flood damage and eliminating the airstrip at Stovepipe Wells.

There would be no effects on known rare, threatened or endan-

gered species as a result of the draft plan or alternatives. Mitigating actions are proposed to reduce existing effects (such as trampling of the shoreline at the Badwater Basin pools) and to avoid any new impacts.

The net change in developed areas within the monument would be minimal. Increases would result primarily from additional management facilities and campgrounds. Most development would occur in current or previously disturbed areas and some existing disturbed areas would be restored to natural conditions.

Water use would increase in expanded or newly developed areas. While the long-term effects of additional water use are unknown, current studies indicate that higher water use would not adversely affect natural systems, so long as a flow of water from the springs is maintained. Water conservation measures would be implemented. Continued water use studies would help determine the effects of water consumption and the measures required to counter them.

Safety hazards would be reduced or eliminated by replacement of obsolete facilities, rehabilitation of campgrounds and implementation of flood hazard mitigation projects. The draft plan recommends the relocation of some facilities out of floodplains. Where that is not feasible, measures would be implemented to provide flood warning and protection.

Alternatives to the draft plan would have a positive effect on the quality of the visitor experience. Proposed improvements such as the use of boardwalks or other traffic control methods in heavy-use areas, better information and interpretation and general improvements in the quality of visitor facilities would reduce, but not eliminate the impacts of new and continuing use.

Copies of the draft environmental impact statement will be available for review at monument headquarters during April. Public meetings will be held in the Death Valley Visitor Center at Furnace Creek on May 7; Lone Pine, Ca., May 9; Pasadena, Ca., May 10; and Las Vegas, Nev., May 11.

For additional information, copies of the draft statement or to comment on the plan/alternatives, write the Superintendent, Death Valley National Monument, Death Valley, Ca., 92328. (Phone: (619) 786-2331).

EMERGENCY

Dial 911 Inyo County Sheriff Department
786-2330 Park Headquarters 24 hours emergency line or
714-383-5651 Interagency Communication Center 24 hour number.

Pay phones located at Furnace Creek Visitor Center, Stovepipe Wells, Emigrant, Grapevine Ranger Station, Scottys and Ryan Junction.

SAFETY TIPS

See our park pamphlet on hot weather hints available at any ranger station, visitor center and main entrances to Death Valley.

PARK RANGERS ARE HERE TO ASSIST YOU. Ranger stations are located at Shoshone, Furnace Creek Headquarters, Stovepipe Wells, Wildrose and Grapevine.

Naturalist Notes

Gone Fishin' . . .

by Tim Coonan

Yes, there are fish in Death Valley, but don't bring your rod and reel and favorite lure in hopes of bringing home a few in your creel. Although the local native Americans once caught these fish in baskets, great blue herons and their like are the only successful fishermen these days.

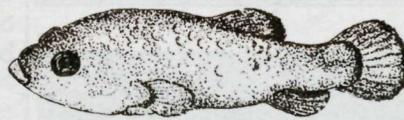
Death Valley's fish aren't exactly rainbow trout, or even perch or bluegill. In fact, if you slapped one of these fish on a Ritz cracker, there would probably be enough room left for a stuffed olive. These diminutive denizens of Death Valley's deeps — er, shallows — are the enigmatic desert pupfish, several species of killifish who spend their days defying the harsh environment in which they live.

Their environment may not have always been so harsh. Death Valley's pupfish may be considered "relict" species from

earlier times, when Death Valley's Lake Manly was part of an interconnected lake system. At that time fish and other aquatic organisms traveled freely among the various lakes. Later, a climatic warming trend caused the lake system to shrink. Today, Death Valley's pupfish populations are limited to isolated refuges — those few streams and springs which retain water year-round.

The fragmentation of their formerly extensive habitat caused the few ancestral pupfish species to evolve into the different species found today. Present-day pupfish in Death Valley include the Devil's Hole pupfish (*Cyprinodon diabolis*) which inhabits the warm water above a shallow rock ledge in Devil's Hole cavern in Nevada.

Two other species live in the valley proper, and each is represented by two subspecies. In the southern portion of the valley, the



Devil's Hole pupfish
Cyprinodon diabolis

Saratoga Springs pupfish (*Cyprinodon nevadensis*) reside in that spring's clear waters. Further along the Amargosa River dwells the Amargosa pupfish (*Cyprinodon nevadensis amargosae*). The midsection of the Monument is home to the other species: the Salt Creek pupfish (*Cyprinodon salinus*) and the Cottonball Marsh pupfish (*Cyprinodon salinus millen*).

The different pupfish species share some environmentally determined features. Each may be considered an "annual" species, in that the population dies back at inhospitable times of the year but responds to more favorable conditions with a population

explosion.

This fluctuating environment is another similarity. For example, summer evaporation may dry up all the deepest pools in a stream, while serving to increase the salinity and temperature in the remaining water. Never fear, the hardy little pupfish can withstand temperatures and salinities that would prove fatal to most other fish. In fact, the Cottonball Marsh pupfish can tolerate salinities 2.5 times that of seawater.

The Devil's Hole pupfish experiences environmental instability of another kind. Although the water temperature remains at 92 degrees F. year-round, both the water level in the pool and the amount of algae on the underwater rock shelf can fluctuate over time. The pupfish feed and breed exclusively on the algae-covered shelf. Were the shelf to go dry, as it almost did in the early 1970s due to nearby

well-pumping, the Devil's Hole pupfish would likely perish.

The critical yet tenuous relationship between the pupfish and their all-important rock-ledge habitat prompted the U.S. Fish and Wildlife Service to designate the fish as an endangered species. To protect the pupfish, the U.S. Supreme Court limited the amount of groundwater that could be pumped from nearby wells.

The case of the Devil's Hole pupfish illustrates the fact that pupfish lead a rather precarious existence, what with their harsh, unstable environments and wildly fluctuating populations. Evolution has proceeded fast and furiously in this story, and one has the feeling that the final chapter has not yet been written. We can only hope that human actions do not close the book before the pupfish have the opportunity to write their own ending.

CROSSWORD PUZZLE

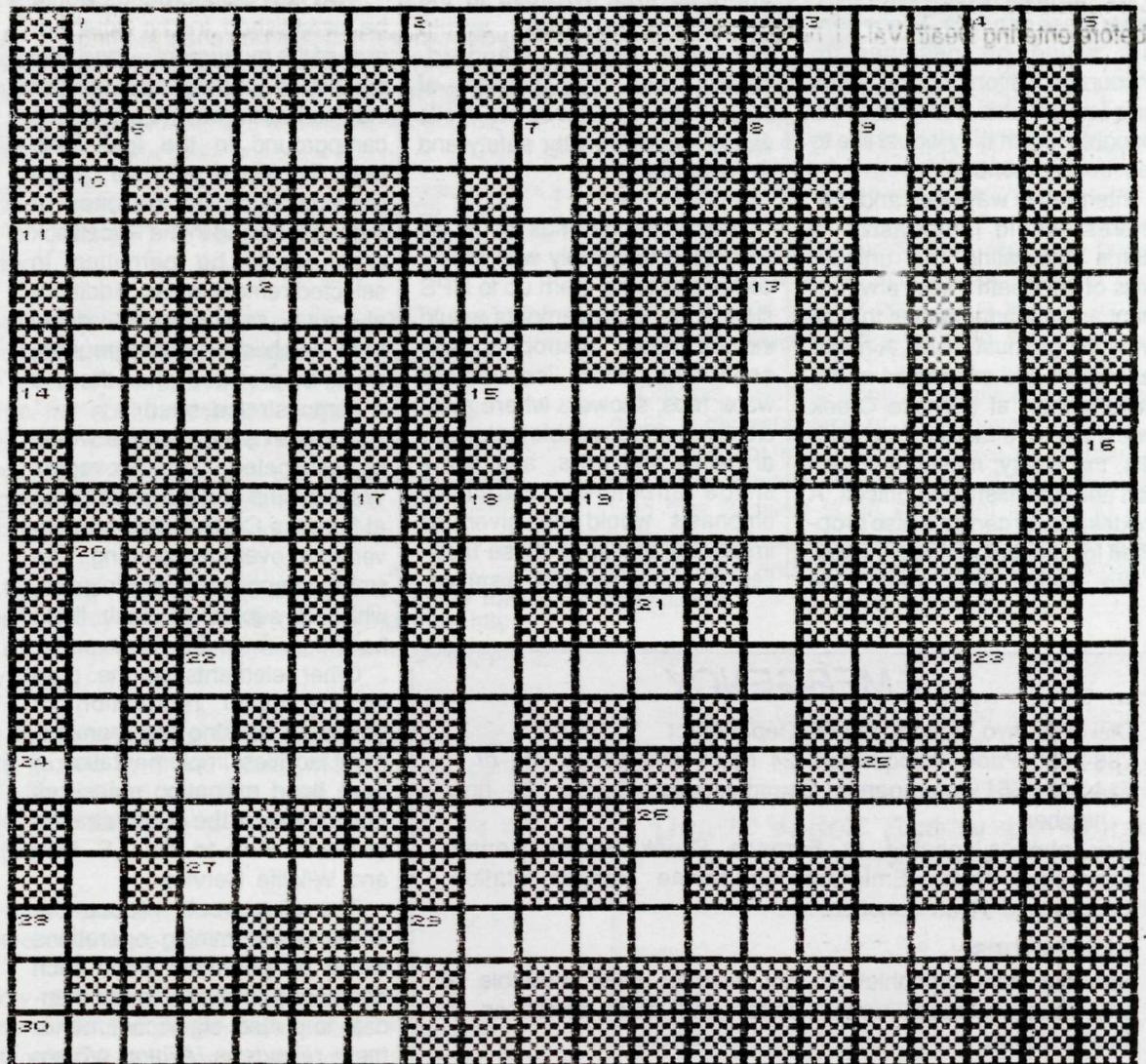
by Mike and Wendy Lawrence

ACROSS CLUES

1. Brown-eyed _____
3. Bunny
6. Use their fruit for bread
8. Humble or rock _____
11. Zane Grey's Riders of the Purple
12. Jumping or Teddybear
14. Parasitic orange spaghetti
15. Deciduous tree, honey _____
19. Find this sausage-shaped plant at Salt Creek, _____ weed
22. This buckwheat has a hollow swollen stem
24. This common desert plant has no leaves
26. Brew a laxative drink with this plant
27. Without this the flowers won't bloom
28. Another name for 26-down
29. Yellow gourd favored by Canis Latrans
30. Desert bighorn eat the Mojave _____

DOWN CLUES

2. Bell flower daisies, desert _____
4. Showy magenta flowers decorate this pricklypear
5. _____ back; gray-leaved plant shaped like a tortoise shell
7. Sticky-leaved plant with yellow, snapdragon-like flowers
9. Even the state flower of Texas grows here
10. Orange, poppy-like flower; globe or apricot _____
12. *Larrea tridentata*
13. This cactus bears a fruit that makes good jelly
16. Common purple or lavender flower
17. Bristlecone _____ grows at high elevations
18. This shade tree grows naturally in some canyons
20. A very rare plant, also known as Goldcarpet
21. Before it's a flower, it's a _____
22. Indians used this to induce visions
23. Death Valley's prettiest, desert five-_____
25. This saltbush has silvery leaves which may remind you of a Christmas plant
26. Purple-_____, another belly-plant
28. Forget-me-_____



Answer on page 7

Of Interest

Summer Survival in Death Valley

by Mary Beth White

When I left my home town along the shores of Lake Michigan my friends were convinced that I had lost my mind. Why would a sane person leave the cool summer breezes of the lake to work at a castle in the desert located in the *hottest, driest* place in North America? Four summers later I am still here and have gained some expertise in surviving the hot summers in Death Valley with the least amount of discomfort.

One of the important keys to survival is water. Fortunately, the Furnace Creek area has a good supply. Two nearby springs provide us with 1,200 gallons of water per minute. However, the water temperature in the summer averages 87 degrees F, which means there is no such thing as a cold shower.

While traveling through Death Valley it is a good idea to carry a gallon of water for each person in your vehicle. At 110 degrees F, even in the shade, a person can perspire about one quart of water per hour. It is also recommended that your vehicle be in tiptop condition before entering Death Valley. Carry a good spare tire, because service stations are few and far between. Staying on the main highways is advised

because backcountry roads are less traveled and ranger patrols are infrequent.

There is something you should know about Death Valley's summer; it does not get cold at night. It may cool down to 85 or 90 degrees F by midnight. As the winds blow across the oven-baked surface of the valley floor you will experience warm thermal breezes in the afternoon. There's nothing like hot, blowing air on a hot, sunny day!

As a year-round resident of Death Valley, I have devised an array of tricks to deal with the summer heat. The swimming pool (or fire reservoir) plays an integral part of our lives during the summer months. The paraphernalia you will need are as follows: a leak-proof air mattress, a spray bottle filled with cold water, a large supply of iced tea or Gatorade, and a pair of thick-soled thongs.

Next, you must *never* look at a thermometer during heat waves—it will only make you feel hotter if you know how hot it really is outside! Another item that is necessary to protect both you and your vehicle is a sun shade. This is an accordion-like piece of cardboard that fits behind your windshield. It prevents you from



burning your hands on the steering wheel after the car has been parked in the sun.

For those who inhabit the valley all summer long there are a few secrets of survival. One must invest in a *large* ice chest to bring home cold grocery items from the 2½-hour trip from Las Vegas. Bringing home ice cream from town is no problem if you buy it in

round containers. That way, there are no corners to leak out of. You will have to refrigerate peanut butter and candles to prevent them from melting in your cabinets.

An employee with foresight will plan a vacation to be taken in July or August to somewhere cool and wet. A summer employee will be ecstatic when it cools down to

112 degrees F for the Fourth of July, knowing that the average temperature is 115 degrees F.

Keeping cool in Death Valley in summer is more than a matter of comfort. Your safety—even your survival—depends on it. A copy of the "Hot Weather Hints" brochure is available throughout the monument. Please have a safe and pleasant summer visit.

The first step in planning your visit in Death Valley requires a stop at the Furnace Creek Visitor Center which is located near the geographic center of the monument. Maps, general information and a museum are available. If you find yourself with only one day to spend in Death Valley, there are a few areas that you will not want to miss. Below are some suggestions, the time required and round-trip mileages from the Furnace Creek Visitor Center. All of these areas can be reached with any automobile.

1-2 Hours

- Badwater, Devil's Golf Course and Artist's Drive, 44 miles OR
- Zabriskie Point and Twenty Mule Team Canyon, 17 miles OR
- Salt Creek and the Sand Dunes, 42 miles OR
- Golden Canyon (walk), 6 miles OR
- Harmony Borax Works (walk), 3 miles

2-4 Hours

- Any combination of the above OR
- Dante's View (steep road), 50 miles OR
- Keane Wonder Mine and Mill (walk), 40 miles OR
- Mosaic Canyon (walk), 55 miles OR
- Natural Bridge (walk), 32 miles

4 Or More Hours

- Any combination of the above OR
- Scotty's Castle and Ubehebe Crater, 115 miles OR
- Charcoal Kilns, 140 miles

Many other areas in and around Death Valley are accessible to trucks and 4-wheel-drive ve-

A Day in Death Valley

English & German

hicles. Additional information is available at the Furnace Creek Visitor Center. Please drive carefully and have a pleasant visit.

Einen Tag in Das Todestal (Death Valley)

Wenn Sie einen Besuch in Death Valley planen, ist der erste Stop in Furnace Creek Visitor Center u. Museum, es ist im Mittelpunkt des Nationalparks. Dort sind Karten und Informationen erhältlich. Wenn Sie nur 1 Tag bleiben wollen, sollten Sie verschiedene von unten aufgeführte Gegenden besuchen. Zeit und Kilometer/Meilen Angaben sind auch eingeschlossen. Alles ist mit dem Auto erreichbar.

Andere Gegenden sind erreichbar mit Trucks und Allradautos. Zusätzliche Informationen erhalten Sie im Furnace Creek Visitor Center. Fahren Sie vorsichtig und erfreuen Sie sich an der Landschaft.

1-2 Stunden (Rundreise)

- Schlechtes Wasser, Teufels Golfplatz u. Die Strasse von den Kuntzler. (*Badwater, Devil's Golf Course and Artist's Drive*) 69 km/44 Meilen ODER
- Zabriskie Spitze oder Aussicht u. Zwanzig-Maultier-Gespanssen Canyon (*Zabriskie Point and Twenty Mule Team Canyon*), 26 km/17 Meilen ODER
- Der Salz Bach u. Die Sanddunen. (*Salt Creek Trail and the Sand Dunes*), 62 km/42 Meilen mit dem Auto. zu Fuss: 2 km; zu Fuss: 1-4 km ODER

- Goldene Canyon (*Golden Canyon*) 10 km/6 Meilen mit dem Auto. zu Fuss: 1-5 km ODER

- Harmony Boraxwerke u. Ruinen (*Harmony Borax Works and Ruins Walk*) 6.4 km/3 Meilen mit dem Auto. zu Fuss: .5 km / ¼ Meilen

2-4 Stunden

- Die Verbindung von zwei von den obenerwähnte Auswahlen . . . ODER
- Dante's Aussicht (Die Strasse ist steil am Ende.) (*Dante's View*) 80 km/50 Meilen. Elevation: 1,669 meter / 5,475' ODER
- Keane Wonder Bergwerke, Muhle u. Ruinen (*Keane Wonder Mine, Mill and Ruins*) 64 km/40 Meilen. zu Fuss: 3.2 km / 2 Meilen ODER
- Mosaik Canyon (*Mosaic Canyon - near Stovepipe Wells*) 84 km/55 Meilen. zu Fuss: 1-4 km / .5-2 Meilen ODER
- Die Brücke von dem Natur Canyon (*Natural Bridge Canyon*). 52 km/32 Meilen. zu Fuss: 1-3 km / .5-1.5 Meilen

4 Oder Mehr Stunden

- Die Verbindung von zwei von den obenerwähnte Auswahlen . . . ODER
- Scotty's Schloss u. Der Ubehebe-Krater (*Scotty's Castle and Ubehebe Crater*) 180 km/115 Meilen. Elevation: 914 meter / 3,000'. Zu Dem Krater: 5 minuten herunter u. 20 minuten heraus ODER
- Die Wildrose Holzkohle Backofen von 1870 (*Wildrose Charcoal Kilns*) 200 km/140 Meilen. Elevation: 2,122 meter, 6,800'

Castle Corner

Book Review:

Death Valley Scotty by Mabel

by Barbara Ferrey

The cover of the book has the same subtle undertones as the woman who wrote it. It's elegant yet rugged and it's the key to the complex and often misunderstood world of a woman in Death Valley in the 1920s.

The book is called "Death Valley Scotty by Mabel" but Mabel is not the author's real name. Mabel was the nickname given to Bessie Johnson by Walter Scott, who was nicknamed Death Valley Scotty and the namesake of Scotty's Castle.

The manuscript was written in 1932 by Bessie, the wife of Scotty's longtime companion and mining partner Albert Johnson.

By the end of World War II, Bessie had died and Albert was suffering from ill health thus losing interest in publishing his wife's manuscript.



Bessie Johnson ("Mabel")

The legal-sized typed sheets remained in a file cabinet until 1986 when the Gospel Foundation donated several file drawers of papers to the N.P.S. Among those papers were two typewritten chapters of the manuscript.

Officials who coordinated the publishing of the manuscript for the Death Valley Natural History Association said that Bessie was the most misunderstood character from the Death Valley area.

The officials concur that while much has been written about her husband, Albert, and, of course, Scotty, no one ever really delved into Bessie's emotions. No one knew how she felt about Scotty

or about being one of the few women in the desert at that time, which is what the book tries to relay to the reader.

Bessie, who is often portrayed as a delicate, prissy, wealthy city woman, seemed to always come across in some stories as a woman who was forced to live in the desert and as a result resented Scotty. This book, however, shows that Bessie enjoyed the camping and adventure as much as the two "desert rats" she traveled with. In fact, Bessie dubbed herself the "desert mouse."

The book shows that Bessie indeed liked Scotty and thought he was a great character. Bessie relays the fact that she was appreciative toward the two men for showing her the desert life.

At the beginning of the book Bessie writes, "Somewhere in my ancestry there must have been a will to 'play the game' at any hazard. Anyway, everthing worthwhile in this world costs something and it has certainly been worthwhile to travel the sands of time with Death Valley Scotty and Al, down, down into Death Valley, where lizards run, the rattlesnakes crawl, the tarantulas jump and the scorpions and centipedes hide in the grey sage, down, down in Death Valley where the hot winds blow."

Bessie's journey began in 1896 in Oakland when she married Albert, a civil engineering student she had met during her studies at Cornell University in New York.

Albert purchased National Life Insurance Company of Chicago and he and Bessie moved to Chicago.

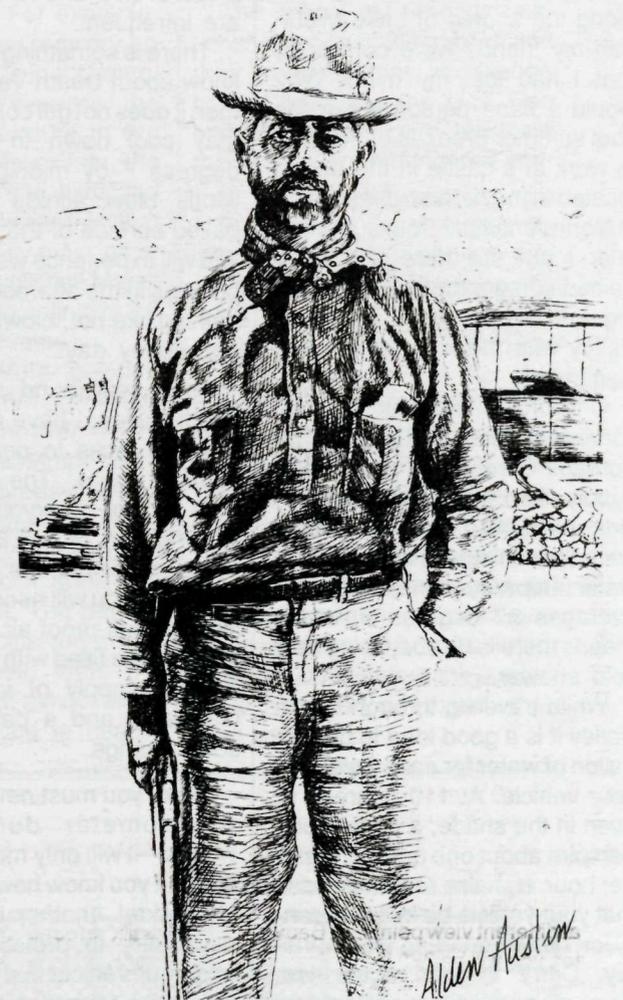
Both Johnsons were devout Christians but Bessie became more deeply involved in evangelism in 1915 when she met evangelist Paul Rader, who became her spiritual mentor. Bessie hosted a Rader radio program called "The Young Women's Council Hour" during which she answered letters and gave advice to her listeners. She also made public appearances with Rader at his revivals.

In the early 1900s Albert became a mining partner with Scotty and the two made long trips into Death Valley. After a few years, Bessie began to follow them on these trips.

On her first night in Death Valley, Bessie slept on the ground in a bed Albert made for her complete with hip and shoulder holes dug in the sand. Bessie got little sleep and ended up in the car by midnight.

Nevertheless, Bessie came to love the area by the time she wrote her manuscript.

"How differently I feel now, after years of experience in the desert," she wrote. "The peace of it is such a joy after the turmoil of life out side. The mountains are fortresses of protection. The canyons are full of interest. The long shadows, at night, are soothing. The singing winds waft me away in beautiful dreams of unknown



Albert Johnson

worlds, in the stars, that glitter and sparkle as I close my eyes and forget the restlessness of the world without."

The Death Valley Association feels the book is invaluable since many scholars of the 20th century West will view such a book as a way of looking at another angle of the westward movement.

Officials said the book is significant because it gives a different view of what Bessie thought. There are not many journal books by women living in the Mojave Desert in the 1920s, officials said that Bessie's is an important journal to examine because she was one of the first women in that area and she spent a significant amount of time there.

The Death Valley Natural History Association is selling the book throughout the monument. Inquiries about the book can be made to the Association, P.O. Box 188, Death Valley, Calif. 92328.

Death Valley Scotty by Mabel ORDER FORM

Copies \$4.95 ea. _____ Postage & Handling \$1.50

Name _____

Address _____

City/State/Zip _____ Total _____

Make checks payable to Death Valley Natural History Association
Mailing Address P.O. Box 188, Death Valley, CA 92328
VISA/MasterCard, \$10.00 minimum, include acct. number/expiration
date and signature. Calif. residents please include 6% sales tax.

Interpretive Activities

Ranger-conducted activities are offered through mid-April at Furnace Creek, Stovepipe Wells, Mesquite Springs Campground and Scotty's Castle. For current schedules, check at each location.

Furnace Creek

Orientation film presented on the hour, 9 a.m.-4 p.m. daily, and 10 a.m.-4 p.m. Sundays, at the visitor center.

Illustrated programs presented seven nights a week at 7:30 p.m. in the visitor center auditorium until late April.

Daytime walks and talks conducted at visitor center and at locations near visitor center until late April. Sample of programs at Furnace Creek:

Historical — See where borax was processed and where gold mining took place. Learn about the characters who lived in Death Valley.

Geological — Take a walk with a ranger to see faults, folds and other geological features in the valley.

Botanical — Learn how to identify wildflowers and other Mojave Desert plants. Discover native American plant foods and preparation techniques.

Stovepipe Wells

Daytime and evening programs presented on weekends as announced.

Scotty's Castle

Daily Castle tours conducted year-round, 9 a.m.-5 p.m.

Grounds tours conducted weekends as announced.

Mesquite Springs Campground

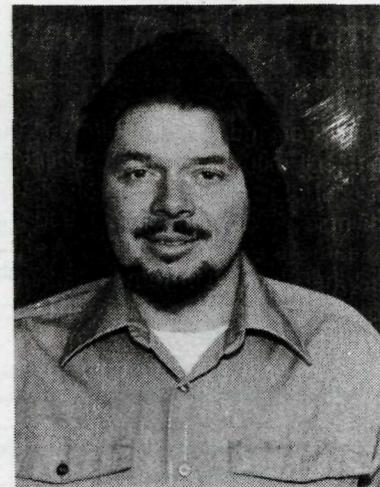
Campfire programs presented Fridays and Saturdays at 7:30 p.m. in the amphitheater until mid-April.

Meet the Staff

George Voyta Restoration Specialist

George is responsible for restoration projects at the Scottys Castle Unit. He also works cooperatively with other Castle staff when their activities may have an impact on the integrity of historical structures.

Born in the Chicago area, he has a background in carpentry and architectural drawing. George and his wife Angie have been at Scottys Castle in various positions since 1976. During a Castle absence, he recently completed a 3 year historic preservation training program based in Williamsport, MD.



Self-Guiding Tours

A variety of self-guiding facilities are available for you to enjoy and explore at your leisure. These tours lead to some of Death Valley's most beautiful and interesting locations. Guide booklets may be purchased on site as well as at the Furnace Creek Visitor Center and Scotty's Castle bookstore.

Badwater Auto Tour — length 38 miles round trip, driving time 2 hours - booklets available at junction of CA 190 and the Badwater Road as well as Badwater.

The valley's geology is explained at different view points. At Badwater, you will be 280 feet below sea level.

Salt Creek Nature Trail — length ½ mile, walking time 1 hour - booklets available at Salt Creek.

Salt Creek flows year-round through a shallow canyon and marsh. Tiny pupfish survive in the salty waters.

Sand Dunes Story — length ¼ mile, walking time 1 hour - booklets available at Sand Dunes Picnic Area and along CA 190, 2 miles east of Stovepipe Wells.

Miles of dunes can be explored. Plant and animal communities are explained. Desert dwellers leave their tracks in the sand.

Golden Canyon Trail — length 1½ mile round trip, walking time 1½ hour - booklets available at canyon entrance.

This trail leads into yellow and red

badlands. The origin of these colorful formations is described.

Harmony Borax Works — length ¼ mile, walking time ½ hour - interpretive signs.

One hundred years ago borax was refined here before being shipped out on the famous 20 mule team wagons. Wagons are on display.

Walking Tour of Scotty's Castle - Length ¼ mile, walking time 45 min. - booklets available beside Scotty's Castle Ticket Booth.

A walk around the grounds of Scotty's Castle to learn more about daily life at the ranch, its construction, and the outbuildings.

Windy Point Trail — length ¼ mile, walking time ½ hour - booklets available beside Scotty's Castle Ticket Booth. A climb of 160 verti-

cal feet takes you to the cross which marks Death Valley Scotty's grave. This walk will help you discover how plants, animals, and humans exist in the challenging Death Valley environment.

Tie Canyon Trail — length 4/10 mile walking time ½ hour - booklets available in the Scotty's Castle Picnic Area.

Workers and building materials occupied Tie Canyon during the construction period. Some vehicles, equipment, and building materials remain.

Wildrose Charcoal Kilns — length ½ mile, walking time ½ hour - booklets available at the Charcoal Kilns.

During the silver mining era, these peculiar stone "beehives" were built to produce charcoal for smelters in the Argus Range.

Mining . . .

Continued from page 2
them back, well after the turn of the century when other more competitive deposits are mined out.

The valid mines of Death Valley will probably continue to move through their cycles of boom and bust until the last ounce of profitable ore has been mined. Mines active now will reach points of unattractive productivity and be shut down. Inactive ones may

have renewed interest generated in them and again resume production. Some claims will assuredly never see production but their owners will continue to hold them with hope, for such is the nature of humankind.



Age has its advantages. Anyone 62 years or older is entitled to great respect...and a Golden Age Passport. This lifetime pass provides free entry to national parks for you and those traveling with you in your vehicle. It also entitles you to a 50 percent discount on camping and other user's fees. Golden Age Passports are available free at the Furnace Creek Visitor Center and other entrance fee collection points.

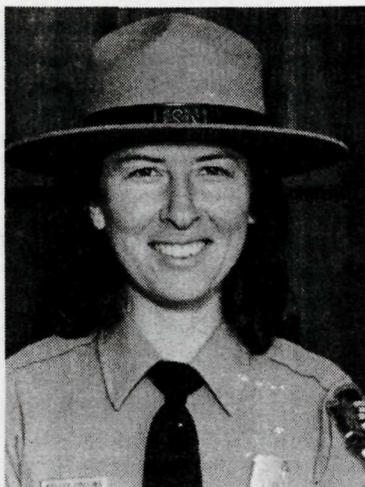
Note: A similar pass, the Golden Access Passport, is available free to those with a physical disability.

Kelley Collins Interpretive Specialist

Kelley arrived in Death Valley in October 1987. She is responsible for the management and supervision of interpretive operations at Scottys Castle.

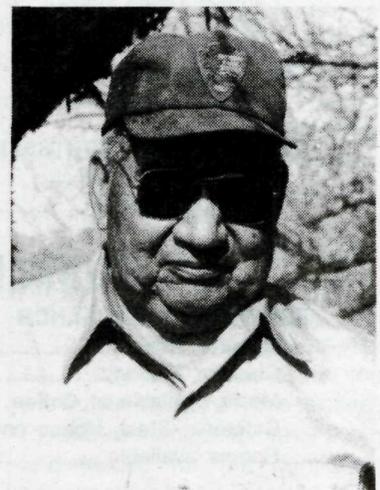
A native of the Midwest, Kelley attended Kansas State University, earning a degree in natural resource management. She began her Park Service career six years ago. She has worked at two other National Park Service sites, the Jefferson National Expansion Memorial in St. Louis, MO and Homestead National Monument in Nebraska.

In her spare time Kelley enjoys bicycling, dancing, baking, and being outdoors.



Phil Cottonwood Maintenance Worker

As people enter the Death Valley Visitor Center they might notice a man busily working on the grounds, grooming the cool green lawn around the building. That is just one of the duties of Phil Cottonwood who has worked as a seasonal maintenance worker for the National Park Service since 1979. He has lived in Death Valley since 1949 at the Tombisha Shoshone Village. He and his wife Ann have one daughter, Barbara and a grand daughter, Missy. On his free time he enjoys hunting and fishing.



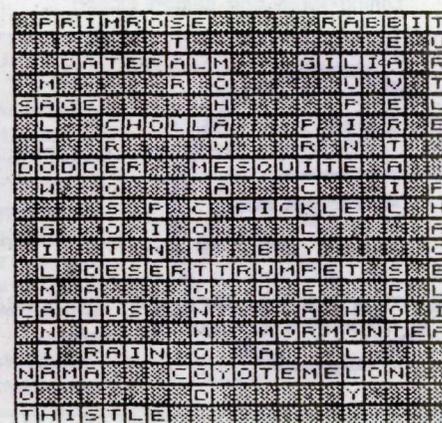
Death Valley Visitor Guide

The Death Valley Visitor Guide is a publication of the Death Valley Natural History Association in cooperation with the National Park Service, Death Valley National Monument. This publication is produced to inform and aid the park visitor.

Editors Esy Fields & Mara Meisel
NHA Staff Jenny Magli & Lisa Bahlinger
Contributing Writers Mel Essington, Lex Palmer,
Barbara Ferrey, Mary Beth White, Inge Theisen,
Barbara Moritsch, Tim Coonan, Roger Clevon
Illustrations Alden Austin, Barbara Moritsch,
Kayci Cook
Production Kaye Doughtie, Chalfant Press
Printing Keith Doughtie, Chalfant Press
Photo Credits National Park Service

Produced with the assistance of the National Park Service, Death Valley National Monument. Special thanks to the staff and management of Chalfant Press.

Continued from page 4



Visitors Services

Furnace Creek Inn and Ranch Resort - Fred Harvey, Inc.

Stovepipe Wells Village - Concessioner, Fred Harvey, Inc.

Scotty's Castle Services - Concessioner, TW Services, Inc.

A variety of services are available within Death Valley National Monument during the visitor season (October - May 12). Summer months offer a limited number of services. Summer services are listed at the bottom of this section.

LODGING

Furnace Creek Ranch..... 786-2345
 Furnace Creek Inn..... 786-2361
 Reservations, Inn & Ranch 786-2345
 Stovepipe Wells Village 786-2387

GASOLINE

Furnace Creek Chevron..... 7:00 a.m. - 7:00 p.m.
 Stovepipe Wells Chevron..... 7:00 a.m. - 8:00 p.m.
 Scotty's Castle Union 76..... 9:00 a.m. - 5:30 p.m.
 Diesel Fuel available at Beatty, Stateline, Lone Pine, Panamint Springs, Olancho and Trona.

PROPANE

Furnace Creek Chevron

AUTO REPAIR AND TOWING

Furnace Creek Garage (AAA)..... 786-2232
 8:00 a.m. - 4:00 p.m.

GENERAL STORES

Furnace Creek Ranch..... 7:00 a.m. - 9:00 p.m.
 Stovepipe Wells..... 7:00 a.m. - 8:00 p.m.

GIFT SHOPS

Furnace Creek Ranch..... 7:00 a.m. - 9:00 p.m.
 Furnace Creek Inn..... 8:00 p.m. - 9:00 p.m.
 Stovepipe Wells..... 8:00 a.m. - 8:00 p.m.
 Scotty's Castle..... 8:30 a.m. - 5:30 p.m.

ICE

Available at Furnace Creek Chevron

BIKE RENTALS

Furnace Creek Chevron

LAUNDROMAT

Furnace Creek Ranch - located on Roadrunner Ave.

HORSEBACK RIDES

Furnace Creek Ranch - 2 hour rides 8:00 a.m. and 10:30 a.m.
 Tickets at Registration Office

GOLF COURSE

Furnace Creek Ranch Pro Shop..... 786-2301

DEATH VALLEY SIGHTSEEING TOURS

Furnace Creek Ranch
 Registration Office 786-2345, Ext. 61

SUMMER SERVICES

FURNACE CREEK RANCH

General Store 7:00 a.m. - 9:00 p.m.
 Chevron Station..... 7:00 a.m. - 7:00 p.m.
 Meals available at Coffee Shop,
 Cafeteria, Steak House complex..... 5:30 a.m. - 9:30 p.m.
 Rooms available 24 hr. 786-2345

STOVEPIPE WELLS VILLAGE

General Store 8:00 a.m. - 6:00 p.m.
 Chevron Station..... 8:00 a.m. - 6:00 p.m.
 Limited number of rooms available
 Dining room and saloon closed

SCOTTY'S CASTLE

Snack Bar, Gift Shop..... 8:30 a.m. - 5:30 p.m.
 Gas Station..... 9:00 a.m. - 5:30 p.m.

FOOD AND DRINK

Furnace Creek Ranch

Coffee Shop..... 7:00 a.m. - 9:30 p.m.
 Cafeteria
 breakfast..... 5:30 a.m. - 9:00 a.m.
 lunch..... 11:00 a.m. - 1:30 p.m.
 dinner..... 5:00 p.m. - 8:30 p.m.
 Steak House 5:00 p.m. - 9:00 p.m.
 (except Sunday)
 Corkscrew Saloon..... 11:00 a.m. - 1:00 a.m.
 19th Hole Snackbar and Cocktails 10:00 a.m. - Dusk

Furnace Creek Inn

Dining Room
 breakfast..... 7:30 a.m. - 9:00 a.m.
 lunch..... Noon - 1:00 p.m.
 dinner (res. req.) 6:00 p.m. - 8:00 p.m.
 Sunday Brunch 11:00 a.m. - 2:00 p.m.
 Oasis Supper Club (res. req.)..... 6:00 p.m. - 9:30 p.m.

Stovepipe Wells

Dining Room
 breakfast..... 7:00 a.m. - 10:00 a.m.
 lunch..... 11:30 a.m. - 2:00 p.m.
 dinner..... 5:30 - 8:30 p.m.
 Saloon 4:00 p.m. - 10:00 p.m.
 Scotty's Castle Snack Bar 8:30 a.m. - 5:30 p.m.

SWIMMING POOLS

Furnace Creek Ranch..... 9:00 a.m. - 10:00 p.m.
 \$2.00 charge to non-guests, availability limited
 Stovepipe Wells..... 9:00 a.m. - 9:00 p.m.
 \$1.00 charge to non-guests, availability limited

BARBER SHOP

Located across from Furnace Creek Inn
 Every Thursday..... 9:00 a.m. - 4:00 p.m.

BEAUTY SHOP

Furnace Creek Inn 9:00 a.m. - 4:00 p.m.
 Tuesday through Saturday

POST OFFICE

Furnace Creek Ranch
 Monday through Friday 7:00 a.m. - 7:00 p.m.
 May 15 - Oct. 15..... 7:00 a.m. - 2:00 p.m.
 Closed Saturdays

SHOWERS

Furnace Creek Ranch - check at registration desk
 Stovepipe Wells - check at registration desk

RELIGIOUS SERVICES

INTER-DENOMINATIONAL (Sponsored by A. Christian Ministry in the National Parks)

Furnace Creek Visitor Center..... Sunday 9:00 a.m. & 6:00 p.m.
 Stovepipe Wells Auditorium (through April 24)..... Saturday 6 p.m.
 Sunday 9:00 a.m.

Check bulletin boards for time changes during holiday periods.



Numerous towns and cities across the nation have instituted a program called "Neighborhood Watch." The idea behind this program is to encourage residents to keep an eye on their neighbor's property and to report any suspicious activity to the local police or sheriff. Everyone makes a commitment to look out for each other's welfare.

Death Valley National Monument has implemented a similar program

called PARK WATCH. The objective of PARK WATCH is to encourage park visitors and neighbors to take a more active role in protecting and preserving their park. You are being asked to report safety problems, vandalism and crime. Vandalism is a special problem here at Death Valley. Remnants of past mining activity contain numerous old buildings, many of which are classified as historical structures. Vandals are destroying YOUR heritage. Help

us to protect these valuable resources. Report any act of vandalism. Together we can keep Death Valley National Monument a safe and enjoyable experience for all.

Report any crime or safety problems to a Park Ranger or call (619) 786-2330. **IMPORTANT:** If you observe someone violating park regulations or committing a crime, DO NOT attempt to take action yourself. This is a job for Park Rangers. The

best thing you can do is to note the location, description of the people involved, license numbers of any vehicles, and report the incident as soon as possible.

TO REPORT AN INCIDENT
 CALL (619) 786-2330
 OR 911 OR
 CONTACT A PARK RANGER