

ZION NATIONAL PARK

Superintendent's Annual Report

January 24, 1975

Administration and Management

Zion National Park had a decrease in travel in 1974 from the previous year. There were 941,313 visits during the year which represents a decrease of 146,087 visits or 13.5 per cent from the 1973 all-time high. Campground use was also down from the previous year's use with 158,573 visitors using the campgrounds during the year, a decrease of 12.7 per cent compared to 1973.

It is difficult to assess this change in visitor use. The economic situation along with shortages in vehicle fuel were, no doubt, the major causative factors. If this is a start of a long or short term trend, it could have some effects on the management of this park. The park is not now adequately staffed and fewer visitors will present no problems; but if visitation increases after the present economic and fuel shortage situations are corrected, we shall need additional staffing for the day-to-day management of the park.

The development of facilities at Taylor Creek, the entrance to the Kolob section of the park, continues to be of high priority. This portion of the park has direct access from Interstate 15. The Taylor Creek Road was completed in 1967 and yet the area is still operated on a seasonal basis.

The Wilderness Proposal occupied considerable time in putting the hearing record and final proposal together. Assistant Chief Park Naturalist Herr coordinated this important work, as well as revising the Environmental Impact Statement for its final draft form and publication. This proposal was submitted to Congress for final action and as yet no legislative action has been taken.

The Park Master Plan was completed and sent to the printers during the year, but problems continue to hamper the completion of the Environmental Impact Statement for this document. Park Biologist McCutchen is presently working on revising this Statement. Our problem stems from the fact that we have a conceptual Master Plan which is a broad document but not in detail. The Environmental Impact Statement as now developed calls for considerable quantification. It is proving to be most difficult to bring both documents into concert. We would recommend from our experience that serious consideration be given to redoing the entire Master Plan, if this problem with the Environmental Impact Statement continues. It is our opinion that this process is too time-consuming and that conceptual Master Plans are the root of our problem.

Zion National Park in the next few years will be assaulted in a very indirect way if the Warner Valley Power Plant is constructed. Its operation could have some serious effects on the park ecosystem. For this reason, we would recommend that consideration be given to developing a strong research program in Zion to develop a data bank, which would enable the Service to take a factual approach concerning possible adverse effects to the park.

Personnel

At year end, three permanent positions remain vacant. They are the Canyon District Ranger, Mail & File Clerk, and Maintenance Worker. There has been no time during the year that all permanent positions were occupied.

Over two thousand applications for seasonal employment were processed during the first two weeks of January.

During the reorganization of the Midwest Region and the establishment of the Rocky Mountain Region, the Western Tree Crew was again assigned to Zion National Park organizationally, with technical supervision received from the Regional Landscape Architect, Mr. Lewis Morris was assigned to the crew vice James Scott Ashman. Mr. Ashman was discharged for misuse of Government equipment--operating a Government vehicle while not on duty and being involved with said vehicle. Mr. James Clark accepted a transfer to Glen Canyon National Recreation Area and his successor is Mr. Joseph W. Crowe who was reassigned from the National Capital Parks.

Additionally, a Resource Management Specialist was assigned to a duty station in Salt Lake City, as was the State Lands Office. All these positions are organizationally assigned to Zion National Park.

In June Property Management Specialist Bailey accepted a transfer and promotion to Mesa Verde National Park. Mr. James W. Haycock of Grand Canyon National Park was promoted to Purchasing Agent here at Zion in August.

Assistant Chief Park Naturalist William M. Herr was transferred and promoted to Chief Park Naturalist, Theodore Roosevelt National Memorial Park in August. District Park Ranger Jasper L. Crawford was reassigned to the Assistant Chief Park Naturalist position vice Herr. At this time the Canyon District Park Ranger position is still vacant.

Mr. Henry E. McCutchen transferred from the U. S. Forest Service in August to Zion National Park filling for the first time a Park Biologist position in this park.

Mrs. Peggy J. Brown, Mail and File Clerk, resigned from her position in September. We are presently actively working to fill this position.

Assistant Chief Park Ranger Larry E. Brown was transferred and promoted to the Area Manager position at Fort Jefferson National Monument. Sub-district Park Ranger Larry Florea, Great Smoky Mountains National Park was promoted in December vice Brown to fill the Assistant Chief Park Ranger position.

Administrative Officer John W. Harper passed away on September 29. The entire park staff was saddened by this tragic event.

Assistant Administrative Officer Levi A. Crocker, Lake Mead National Recreation Area transferred to Zion National Park in November vice Harper as Administrative Officer.

Maintenance Worker William R. Smith retired at the end of the year, leaving a vacancy in that position.

The Irrigator position authorized during F.Y.'75 remains occupied on a subject-to-furlough basis pending removal of ceiling restrictions imposed earlier.

Superintendent Heyder worked one month in the Washington Office, Branch of Employee Evaluation.

Training

EEO Counselors spent two days in Salt Lake City for Basic EEO Counseling training, and the Federal Women's Program Coordinator attended a seminar in Denver, Colorado.

In April, Zion hosted a Supervision-Group Performance Course given by Civil Service Commission. Participants included 27 people, about half of them from other nearby park areas and Dixie National Forest. Seven individuals from Zion National Park received training at this course.

The Personnel Management Specialist spent two weeks in Rocky Mountain Regional Office on a work detail and training for new personnel responsibilities delegated to the area.

Park Technician Seth Phelan attended the Consolidated Basic Law Enforcement Training course in Washington, D. C. in April through July.

Park Ranger William Foreman attended a course in Emergency Medical Aid and received certification in September. He also attended a Search and Rescue Seminar at Grand Canyon in the spring.

Assistant Chief Park Ranger Brown and Maintenance Foreman R&T Graves attended a course in the use of explosives held at Grand Canyon in March.

Training was given to all seasonals, both orientation and on-the-job.

Assistant Chief Park Ranger Brown attended a Fire Training Course held at the BIFC facilities in Boise, Idaho in March and an Air Attack Boss course in April.

Purchasing Agent Haycock attended a GSA-sponsored training workshop in Advanced Procurement Purchasing in Denver in November.

Budget and Finance

Approved copies of the Financial Plan-Operating Program, Annual Operating Program and Project Management Plans have been received for Cedar Breaks and Pipe Spring National Monuments and Zion National Park.

Increases in budget were not sufficient to cover inflated costs of supplies and materials and salary increases. Consequently some programs had to be postponed or cut and travel and training opportunities were especially restrictive.

Despite significant energy and fuel conservation accomplishments, no savings in funds was realized, since fuel prices increased severely.

Procurement and Property Management

As the year ended, the last of the cabins and buildings were removed from the Inn area donated by Utah Parks Company, except the Inn Building which is being retained. As the Paiute Tribe removed those donated to them, 14 buildings were sold and removed. Successful bidders for these buildings were mostly local ranchers. Utility system at this area is being surveyed, and will be removed early next year.

Cleanup of the Utah Parks Inn and cabin site at Cedar Breaks was completed.

Intensive records disposal efforts resulted in the transfer of 16 cubic feet of records to the Federal Records Center and several cartons of files have been recommended for disposal following review by responsible officials. File cabinets were thus made available for use in other offices.

The Natural History Association purchased a Gestefax scanner for use in the area, thus streamlining mimeograph reproduction services and resulting in manhour savings, eliminating the need for stencil typing besides improving appearance of interpretive program schedules, handouts, and correspondence.

Other

The Christian Ministry in the Parks program at Zion had a very successful year. The two student ministers conducted four services weekly at amphitheatres in the campgrounds and lodge during the period beginning in June and extending through August.

Public Health Inspector Edward Michalewicz was headquartered at Zion National Park while providing service and assistance to southern Utah park areas. Administrative services, housing, and other assistance was provided during his stay from June until mid-August. We have found this program very helpful to park management, as it provides assistance in an area of expertise which is normally not found at the operating level of most park areas. This program allows the Service to maintain a strong public health posture and provides the help needed to prevent serious public health problems from developing within the park.

Mr. Vincent Arcilese of New York City spent August in Zion National Park painting under an agreement with Secretary Morton's office. The painting will be part of a Bicentennial exhibit being put together by Mr. John DeWitt of the Department of the Interior.

The motion picture, THE EIGER SANCTION, starring Clint Eastwood was partially filmed in Zion National Park. The company was on location here for approximately three weeks. The film is being produced by Universal City Studios and should be released in 1975.

In May a group of foreign editors visited Zion National Park in a tour sponsored by TWA Services, Incorporated. These editors represented Austria, Belgium, Great Britain, Northern Ireland, Italy, Spain, West Germany and France.

The Superintendent continues to work closely with the Five County Association of Governments. He is a member of the Subcommittee on Land Use Planning and the Technical Advisory Committee. We hope, by working with these two committees, we may keep abreast of developments in the surrounding counties, thereby being able to adjust programs where possible to cooperate and, also being in a position to explain our concern with development which could have an adverse effect on the resources of this park.

Chief Park Naturalist Jackson is presently representing the Superintendent on a committee charged by the Kane County Commission for developing a Master Plan for the western portion of the County.

Concessions

The horse concessioner, Jack H. Church, had what appeared to be a good year. There seemed to be enough business to make it worthwhile for the operator. Mr. Church is presently actively trying to sell his business.

The guide service provided by Thomas Brereton, Adventure Expeditions, had again very little business, but some increase over 1973. The major problem continues to be a lack of advertising reaching individuals who wish such a service. Mr. Brereton has expressed an interest in enlarging the area covered by his concession permit and this request is presently under consideration.

This past year was the second year that TWA Services, Incorporated, was in operation. It is also the second of the three-year phaseout period of overnight accommodations. Service provided by this concessioner was not up to the standards they maintained in the 1973 season. It seems to be the company policy to economize to the point where their standard of service to the public is reduced. Their major change in operation was the change to a buffet style food service. Most of the food items were of the frozen variety. Complaints were many considering past years. We received ten written complaints and many verbal complaints of which no record was kept.

A meeting was held in December with officials of TWA Services, Incorporated in their offices in Cedar City with Messrs. Wolfe, Owens, Sink and Heyder representing the National Park Service, in which ways to improve their past record were reviewed. As the 1975 season will be the last for overnight accommodations in Zion National Park, we hope that their service will show some improvement.

A meeting was held at Zion National Park headquarters in July with officials of TWA Services, Incorporated to discuss the day-use operation called for in their contract with the National Park Service for the remaining seven years of the contract after the phaseout of overnight facilities. Additional meetings will be held in 1975 to formalize the day-use operation.

Interpretation and Resource Management

Funding and staffing limitations continue to curtail Interpretive and Resource Management programs at Zion National Park. Eight years after having been opened, the Taylor Creek Road access into the Kolob section of the park is still operated on a seasonal basis. This area of the park should have a full time protection, interpretive and maintenance position established for its proper operation.

There is a need for an additional position in resource management to coordinate the park fire management, backcountry management and other resource management plans. This position should be established and funded and be filled by a Resource Management Specialist.

The Interpretive Division continues to search for new and innovative ways of providing interpretive services to the park visitor. During the fall, winter and spring months there have been a number of individuals who have given time as VIP's in keeping the Visitor Center information desk open. This aid has helped the overall park Interpretive program by allowing permanent personnel to accomplish other work assignments. If the present rate of inflation continues, the assistance provided by the VIP program may spell the difference between a reduced program or one continuing at the present level of operation.

This year we again had a Student Conservation Association program during the summer season. These young people have provided a great deal of assistance in continuing our interpretive program at its high level of quality. They provided information desk services, led conducted trips and worked on special assignments as necessary. This freed seasonal uniformed personnel to conduct additional walks.

The Zion Natural History Association also provided two seasonal information desk clerks during the summer season. It is difficult to put a true price tag on the aid and assistance which this organization has provided to the operation here through its program. Without an association providing aid to the Superintendent, to Interpretation, to the Park Library, through its publication program and its aid to the many interpretive programs of the National Park Service, our operation here would be much poorer.

The U. S. Geological Survey is presently carrying out field work for a new edition of the topographic map of Zion National Park. This map should be published in 1976.

Resumé of Interpretive Operations

The major portion of the visitors visit Zion National Park between Easter and Thanksgiving and it is during this period that the greatest emphasis is given to the park's interpretive program with talks, interpretive walks and other services. The Visitor Center is operated on a daily basis the year around, with extended hours during the heavy visitation season.

The naturalist-conducted bike rides from the Zion Lodge which were initiated in the 1973 season, have been dropped from the schedule of interpretive events after this past season. There was just a lack of interest.

The wading trips up the Virgin River Narrows to Orderville Gulch has proven to be very popular. This trip is scheduled throughout the summer season and canceled for reasons of safety if weather conditions are at all threatening.

The guided hikes into the slickrock area along the Mount Carmel-Zion road continue. Use is sporadic but as more individuals take this guided hike, we feel it will increase in popularity.

We continue to look for ways to expand the present interpretive program so it reaches a broader cross-section of the park visitors.

Evening programs are given at both campgrounds and at Zion Lodge. The programs are rotated so that one has a number of programs to select from during the course of a week.

The wayside exhibit plan called for installation of these new exhibits in 1974. They did not arrive in 1974, so we are in hopes of receiving them in time for their installation in 1975.

Environmental Education Program

Three new environmental awareness films were purchased by the Zion Natural History Association for use in the daily afternoon showing at the Visitor Center of an environment film. The new films were "Take Time to See," "Wildflowers of the West," and "By Nature's Rules." The film is given a live introduction by the naturalist on duty in the Visitor Center.

This summer we had a morning showing of the National Park Service film on the proposed Alaskan Parks each day in the Visitor Center. The film was given a live introduction and generated much favorable comment by the visitors.

Miss Alice Gallup, a Student Conservation Association participant, worked under the guidance of Chief Park Naturalist Jackson in developing a film strip for free use of public schools. This film strip has been developed for the use of fourth through sixth grades students and is entitled: "A Trip Through Zion National Park."

A new program in cooperation with the Zion Natural History Association, Southern Utah State College and the National Park Service was instituted with the Zion Nature School. This school was patterned after one started at Bryce Canyon National Park in 1970. Three student teachers from the college, working for school credit, operated the school under the close supervision of Chief Park Naturalist Jackson. The Association provided financial assistance in purchasing supplies for the school and the National Park Service provided a building (the old Zion Inn building). The students were given VIP status to help them financially. The program was a real success and we look forward to its continuation. A questionnaire was sent to the parents of the students (1st through 6th grade) and the response was excellent. The questionnaire had the approval of the Office of Budget and Management.

Cooperating Association Activities

Less travel and the elimination of items for sale which could possibly conflict with the concessioner's operation had a decreasing effect on the gross sales for 1974 F.Y. which totaled \$85,082, a reduction of 25.7 per cent.

The Association developed five new slide sets of historical interest for sale at its outlet at Pipe Spring National Monument. These slides fill a very important interpretive need for the visitors to the monument who wish such items.

Dr. Wayne Hamilton, a seasonal Park Naturalist, was contracted to develop a comprehensive geology book on this important aspect of the park. The geology is one field in which there is an important need for such a book. Dr. Hamilton should complete this book in mid-1975 and we are hopeful that it will be published and available for the 1976 season.

Mrs. Ruth Nelson's book on "The Plants of Zion" is at the printers and should become available in 1975. This will be a definitive volume of this most important aspect of Zion National Park's natural history. The artwork in this book has been accomplished by Mr. Tom Blaue and together with Mrs. Nelson's text, this should be an outstanding example of a fine book.

The Association contributed \$798 for the purchase of historical books to augment the monument library at Pipe Spring. These additions should enable the staff to interpret the western migration and settlement of Pipe Spring in a more professional manner.

Aid to the National Park Service totaled \$17,659 for the year.

Law Enforcement

A total of 145 case/incidents were reported and investigated in 1974. Eleven traffic accidents were reported; seven were motorcycles. Property damage due to traffic accidents totaled \$3,612. One traffic fatality occurred and six nonfatal personal injuries were reported.

The one fatality occurred when a group of three motorcyclists traveling west together through the large tunnel on the Mount Carmel-Zion Highway, became involved in an accident amongst themselves. One cyclist, Mr. Harvey Frank, Hoff died as a result of injuries while enroute to the hospital in St. George, Utah.

The single largest larceny case involved the loss of \$7,830.00 worth of camera equipment--the camera equipment was reported to have been removed from a camper's car in Watchman Campground during the night of October 23, 1974.

Two major law enforcement problems developed during the year in which the potential was there for the situation getting out of hand. Over two hundred "Rainbow Children of Light" camped in the Watchman Campground off and on for a period of over two weeks. The group was looking for a large site to accommodate 5,000 of their followers. They finally selected a site in the Pine Valley Mountains to the west of the park which is under the supervision of the U. S. Forest Service. Several thefts and other violations were lodged against the group during their brief stay in the park. We do feel that by requiring these individuals to pay the entrance and user fees as any other citizen has to, they chose to look elsewhere for the site of their gathering.

Over Labor Day, a trained force of rangers and technicians from parks within the Region and Yosemite National Park were assigned to Zion to control large motorcycle gangs expected to assemble and camp in the park. An advance party of "gang" members alerted the cyclists of park preparations and this diverted the groups to other nearby areas. The time put into advanced planning by Chief Park Ranger Nicholson and his staff, and the assistance

rendered by Regional Law Enforcement Specialist Rodgers paid dividends. We learned a great deal from the 1973 Labor Day enforcement problems and by being prepared, we are sure the cyclists chose to go elsewhere.

Working relationships have been established with neighboring law enforcement agencies and all permanent and seasonal rangers were deputized by Washington and Kane County Sheriffs.

The FBI provided firearms instruction for rangers at Zion.

Two hunting violations are now before Judge Ritter's court. These violations occurred during the fall hunting season and should come to trial in the spring of 1975.

Search and Rescue

A comprehensive search and rescue seminar was conducted September 28, 29 at Zion by the State of Utah Office of Emergency Services and the staff of Zion National Park. Approximately 200 participants from Utah and surrounding states attended.

Zion National Park experienced a substantial increase in mountaineering activity over 1973. In 1974 there was a total of 114 attempted ascents as compared to 44 in 1973 and 33 in 1972. The increase is probably due to new equipment which is more suitable for climbing in the sandstones of Zion; climbers desiring to get away from the crowded climbing routes in parks like Yosemite and Grand Teton; and a general increase of interest in climbing. Judging from comments made by climbers concerning the scenic grandeur and challenge at Zion, there will be another increase for 1975.

One individual was evacuated from the cliffs above the Watchman Campground when he became stranded while climbing alone.

On May 15, a search and rescue effort was successful in saving Consuela Arostgui, 25, from drowning. She was found late in the night face down in the Virgin River and was taken to the St. George hospital for treatment.

At the Regional Superintendents' meeting on April 3, Regional Director Thompson presented to Superintendent Heyder a "Unit Citation For Search and Rescue Team Virgin River Narrows, Zion National Park." The Citation was for the rescue of Bob and Harry Pattison from the Narrows of the Virgin River during rescue operations conducted between June 4 and 7, 1973. It was: "In recognition of outstanding teamwork and dedication to duty." The Citation was signed by Secretary of the Interior Rogers C. B. Morton.

Fish and Wildlife Management

Beavers in Zion Canyon are very active. An analysis needs to be made of the population trend, and research formulated for management objectives.

Turkey sightings are frequent near Pine Valley Peak at 6,200 feet.

In 1970, fish planting in the Virgin River was discontinued. Planting has been historically unsuccessful due to severe flooding conditions.

Deer herds remain fairly stable. However, strong hunting pressure plus poaching, are a problem in the Kolob section of the park.

A herd of 20 - 25 deer remain year-around in Zion Canyon. They remain healthy and stable.

The desert bighorn sheep restoration project is progressing successfully. Due to dry conditions, supplemental feeding of alfalfa hay has continued since June of 1974. The 1974 mating season began in July; however, no lambs have been born this year. Of the twelve sheep within the enclosure, there are seven ewes, one ram, and four lambs.

Wilderness Management

The Backcountry Management Plan is being updated to reflect changes in types of use. Current regulations are effective in the protection and management of the resources.

Present deficiencies in the operation of the backcountry include:

1. 1.7 man-year seasonal personnel.
2. Three portable radios.
3. Slip-on fire pumper.
4. Permanent quarters for two developed areas.
5. Two horse corrals.
6. Three horses and one horse trailer.

A fire management program has been initiated and research proposals identified for management needs.

A total of 4,182 hikers registered to camp in the backcountry and 1,255 hikers registered for the Virgin River Narrows trip. Riding horses and pack stock use is permitted on all backcountry trails, but use is not heavy. A riding concession is operated in Zion Canyon during the summer.

Sign Program

Conversion to the new sign system on main park roads should start in late

1975 or early 1976. Our reason for holding off is to wait until the phaseout of overnight accommodations in Zion Canyon is completed in the fall of 1975.

Fee Collection

A total of \$277,796.00 was collected during 1974 calendar year. This breaks down as follows: \$233,553.50 for entrance fees; \$44,042.50 for camping fees; and \$200.00 for convoys through the park tunnels. Camping fees are collected year-around. The South Entrance station was operated from mid-April through October 31, and the East Entrance station from mid-May to mid-September.

Campgrounds

A total of 154,391 campers used the two campgrounds during the year for a 13.6 per cent decrease under 1973. The Watchman Campground was open all year, and the South Campground was open from April 11 through May 5, and May 24 through September 15. The heaviest use occurred August 31 when 363 of the available 430 campsites were taken.

A reservation system is operated at the park level for the group area of the campground. All other sites are on a first-come basis.

Special Use Permits

Three grazing permits for a total of 833 animal-unit months (AUM) on 4,113 acres were issued in 1974. The permits are renewable for the lives of the permittees.

One hiking permit was issued to a commercial operator for a period of six days. The fee for this Special Use Permit was \$25.00.

Fire Prevention and Management

Due to extremely dry conditions high to extreme, fire danger was in effect longer than any previous year. A special fire closure was ordered for State-protected lands and fire danger signs erected on park land. One man-caused two-acre fire occurred in the Watchman Campground over Memorial Day weekend and required one hour to control.

A teletype was installed at Park Headquarters making it possible to send and receive daily fire weathers to the National Weather Service and receive special alerts for dangerous flash floods over the park.

Fire weather was reported daily to Yellowstone National Park.

Nine Class A and B fires and one Class C fire occurred during the year.

In February, Utah Technical College began instructing the Park's Fire Brigade in structural fire training.

In 1973, the Midwest Region evaluation team recommended fire hydrant hose boxes be installed in the maintenance and residential areas. During 1974 ten hose boxes and a limited amount of hose were purchased to start this project. Seven more boxes, hose and nozzles will be purchased to complete the project as funds become available.

On July 30, Chief Park Ranger Nicholson attended the Southwest Fire Council meeting held at the North Rim of the Grand Canyon. On December 5 and 6 he attended a Natural Fire Management Critique at Jackson, Wyoming.

Safety

During 1974, one lost-time accident of 10 days occurred and one visitor motorcycle accident resulted in a fatality. One Government vehicle accident occurred when a seasonal park ranger backed into a gate post. Vehicle damage was \$246.00.

One tort claim of \$390.96 was awarded to a visitor injured while hiking the Weeping Rock Trail. A claim of \$285.40 was awarded to a visitor who damaged his travel trailer by striking the East Entrance station roof.

One vehicle accident, involving the National Park Service snow plow resulted in paying a tort claim of \$640.66.

The Safety Committee held regular meetings and all personnel participated in the monthly safety meetings held in the Visitor Center auditorium.

The Annual Fire, Safety Hazard and Health Inspection was conducted on November 25.

Following is a list of safety improvements made during the 1974 calendar year.

1. Training was held in Cedar City by GSA concerning safe driving and the use of 4-wheel-drive vehicles. Four employees attended.
2. The annual fire extinguisher inventory and inspection was completed and three additional extinguishers were mounted in the Visitor Center.
3. Potential visitor hazards for Zion National Park have been identified and submitted to WASO, RMR, and Harpers Ferry. Hazardous chemicals used in the park have been identified and measures taken to insure safe use and storage.

4. Red scotchlite was placed on the back side of the existing amber tunnel delineators to better mark the opposite wall of the tunnel. Black and yellow hash marks were also painted on the curb of each tunnel curve with fluorescent paint to further help in determining directional changes of the roadway.
5. A hazardous irrigation ditch clean-out headgate was moved from the south campground to a new and safer location downstream. This was done in cooperation with the Springdale Irrigation Company.
6. Upon completion of a six-mile section of roadway all park roads, where required, now conform with approved standards for road striping.
7. Resurfacing of five hundred feet of the Weeping Rock Trail was accomplished to provide a safer walking surface for this heavily used trail. A park visitor was injured on this trail last summer prior to the improvement.
8. Installation of a welding screen in the automotive shop was completed during the early spring.

Research Accomplished

Park Biologist Henry E. McCutchen entered on duty August 19. He is the first biologist to be assigned to this park on a full-time basis. His main assignment to date has been to develop a Resource Management Research Plan and to conduct a research program on the desert bighorn sheep and to provide management direction to that project. He establishes and maintains professional contact with the Utah Division of Wildlife Resources, the Nevada Fish and Game Department, with other federal agencies, and with university professors in a variety of disciplines.

The Park Biologist is developing data concerning the desert bighorn sheep herd. The bighorn enclosure has been surveyed and mapped. A system of forms was designed to record observations in a systematic method. Systematic observations on bighorn behavior and life history have been initiated. A reconnaissance of potential release sites has been initiated.

The Park Biologist is presently preparing a paper on the Zion Desert Bighorn Sheep Project. This paper will be read at the Desert Bighorn Council meeting in April of 1975.

A study of Range Site Soil Correlation being made by Mr. Lamar R. Mason of the U. S. Soil Conservation Service will be concluded after one more year of study. A publication will then be prepared showing the soils and vegetative associations for locations studied in the park.

Maintenance

Buildings

Most buildings received normal routine maintenance throughout the year and special cyclic maintenance was accomplished.

An energy survey was made which included all Park Service buildings to determine maintenance requirements and to schedule corrections where possible, to help conserve energy. Many buildings are old and in need of extensive rehabilitation. Through this program, adjustments have been made which have enabled considerable energy conservation. We are continuing our search for ways to cut back wherever possible to conserve energy.

The painting of the interiors of six and the exteriors of four residences was accomplished. Unfinished garages in four residences were finished and storage cabinets installed.

Residence No. 2 was rehabilitated and electric heat installed. This was the first major maintenance work accomplished on the residence in 19 years.

The annual termite control program was carried out on two infested residences (Nos. 15 and 42).

Two new pit privies were installed for visitor use at the Canyon Overlook trailhead and parking area, which is located at the east end of the Mount Carmel-Zion highway.

One old comfort station was surveyed and removed at the Grotto Picnic Area. The station was previously used for a group site when the Grotto Campground was active.

In 1973 carpeting was installed in the exhibit room and auditorium of the Visitor Center. After a full year's use, we report that the carpeting has reduced the noise level and has reduced our maintenance costs for these two public rooms. This type of floor covering has improved the appearance of the rooms. When funds become available in the future, we plan on installing carpeting in the offices of the headquarters building, as such installation would bring about a saving in maintenance costs.

Utilities

Another year has gone by and replacement of the mercury seal in the trickle filter portion of the sewage treatment plant has not been accomplished. We have been promised delivery once again by the manufacturer and we are hopeful of completing the job before spring opening of seasonal facilities. The Regional Office is presently working with the manufacturer in correcting this situation.

During the past summer facilities were installed to chlorinate the water used at the concessioner lodge and cabins.

This past year, because of serious drought conditions and a resulting dwindling water supply, we have spent more time than we normally would on water collection and distribution systems. Several of the springs have been cleaned, redeveloped, and new collection boxes have been installed to increase production.

The addition of Grotto Springs into the main water system would solve park water shortage problems during dry years. The water distribution lines have also been a problem, particularly the main from the Oak Creek storage reservoir which is lead calk joint pipe and which leaks almost constantly. We would recommend that it be replaced because it is a potential health hazard and we do not have water to waste.

The electric power line which was donated to the Federal Government by the Utah Parks Company in 1972, and which serves the Lodge area has caused considerable problems in maintenance. The line, both underground and aerial, needs replacing as it is unsafe and inadequate.

The water system serving the concessioner Lodge and cabins is antiquated and should be replaced; however, with continued maintenance it may last until the concessions are removed. The storage tanks require constant calking and mains require more than normal maintenance.

Rock and concrete grout was placed along the bank of the Virgin River at two locations where the main culinary water supply line and the South Campground irrigation ditch were almost washed out during spring floods of 1973. These repairs are temporary only until funds are provided for more permanent control.

Sampling of water both from the culinary water systems and from the wastewater treatment plant have been continued on a scheduled program throughout the year.

The Sewage Treatment Plant has operated quite well throughout the year and we are hopeful that it will meet E.P.A. standards during the 1975 calendar year.

The sanitary landfill was not operated at peak efficiency again this year due to the lack of a tractor bulldozer. Rental rates are continuing to escalate and we have not been successful in obtaining a unit from excess property. During December 1974 we have had the use of a tractor from Bryce Canyon National Park which has been helpful.

Grounds

The Regional tree transplanter assisted by park employees was able to transplant over 160 trees and shrubs during the year. These plantings were accomplished in the campgrounds, residential areas, at the Visitor Center and at parking areas along Routes 1 and 2, where needed.

The agreement between the National Park Service and the Springdale Irrigation Company was renewed this year for a 10-year period with responsibilities defined for routine and emergency maintenance of the diversion dam and irrigation ditch within the park.

Park crews poured 531 feet of concrete irrigation ditch which serves the South Campground. The improved ditch will help the Park Irrigator as the area has a large population of gophers which constantly cause maintenance problems.

Roads and Trails

Snowfall for the 1974 calendar year was considerably less than for 1973; however, small slides and rocks continued to come down on the roads and trails, requiring daily checks and removal.

The Kolob Terrace Road, which is surfaced with a sealcoat only, again suffered considerable damage through the winter. Five hundred tons of plant mix was used to accomplish repairs.

The Taylor Creek road into the Kolob Canyons section of the park came through the winter very well with a minimum of slides and damage. This road was opened for use on March 25 and remained open throughout the year.

Approximately eight miles of park roads were sealed and chipped during the year. (Routes 3 - 9 - 21 - 22 - 23)

Prior to sealcoating, the roads in the South Campground received a one inch lift of asphalt paving to fill pot holes and level the road surfaces.

Center line striping was accomplished on six miles of Route 1, which now brings all roads into conformance with the new striping standards.

The concrete pad serving the outgoing lane of traffic at the South Entrance station was extended 82 feet to eliminate the corrugated asphalt which presented a safety hazard.

A section of stone retainer wall was replaced on one of the switchbacks near the Zion-Mount Carmel Tunnel to support the roadbed which is constantly settling in that area.

A large parking area near the Zion Lodge which was little-used was reduced in size. The obliterated area was seeded and the remaining area improved both in design and in landscaping.

In the Kolob Canyons area all signs, guard rails and posts were painted along the road, Route 7. The color was changed to a softer tan.

The park again participated in the Student Conservation Wilderness Program. A crew of high school students and their supervisors spent three weeks working on the East Rim Trail and on rehabilitation of the old cattle trail from the East Rim Trail to Sawmill Springs. Once again their work was very good and we hope the program can continue.

Gravel walks were replaced with concrete around two comfort stations in the Watchman Campground and three in the South Campground.

Curbstone salvaged from the old Zion Inn area has been used to construct curbing around parking areas and along trails at the Great White Throne View Point, Weeping Rock and Emerald Pool trails. A soil cement surface was also poured on the lower portion (500 feet) of the Weeping Rock Trail.

Construction

Slope stabilization was continued on the Taylor Creek Road. Seeding and stabilizing with excelsior blanket has been accomplished on several of the flatter-cut sections.

The outfall of one large culvert was stabilized with rock and concrete grout. Protective posts were installed around the inlet of one newly-installed culvert to prevent debris from plugging the culvert.

Additional leveling between spray field laterals for better water distribution was accomplished at the Lodge Spray Field.

A new sewer line was constructed connecting the Pine Creek residential area and the Visitor Center with the sewer treatment plant. A considerable distance of old sewer line running through the South Campground was replaced with new pipe. Some modification and improvements were also accomplished on the plant.

Other

Public Relations

Monthly travel news releases were made to newspapers, news agencies, and to radio and TV stations. Releases of special items of interest are made from time to time as they occur.

Speaking engagements are accepted when the opportunity arises with local Chamber of Commerces, Service Clubs and other organizations. The programs of the National Park Service and of Zion National Park are explained with the hope that greater understanding is imparted.

A clipping service is provided to the Public Affairs Office in the Rocky Mountain Region. Two daily and five local weekly newspapers are reviewed and all material relating to Zion National Park, Pipe Spring and Cedar Breaks National Monuments and other material pertinent to the National Park Service is clipped and forwarded. This service is provided by the Superintendent's secretary, Alice Till.

Cooperative Activities

The Park continues a close working relationship with the U. S. Forest Service, the Bureau of Land Management and other federal and local governmental agencies in forwarding park programs.

The Park continues its close working relationship with the Utah Department of Wildlife Management concerning the management of the desert bighorn sheep restoration project. We hope that we will be able to expand this spirit of cooperation into other fields.

Energy Conservation

A survey was conducted to find and correct excessive uses of fuel consumption in the heating of park buildings and in vehicle and equipment operation. The warm fall and winter weather also assisted in savings of energy, as less fuel has been used for heating. Park programs are in compliance with the President's Energy Saving Program.