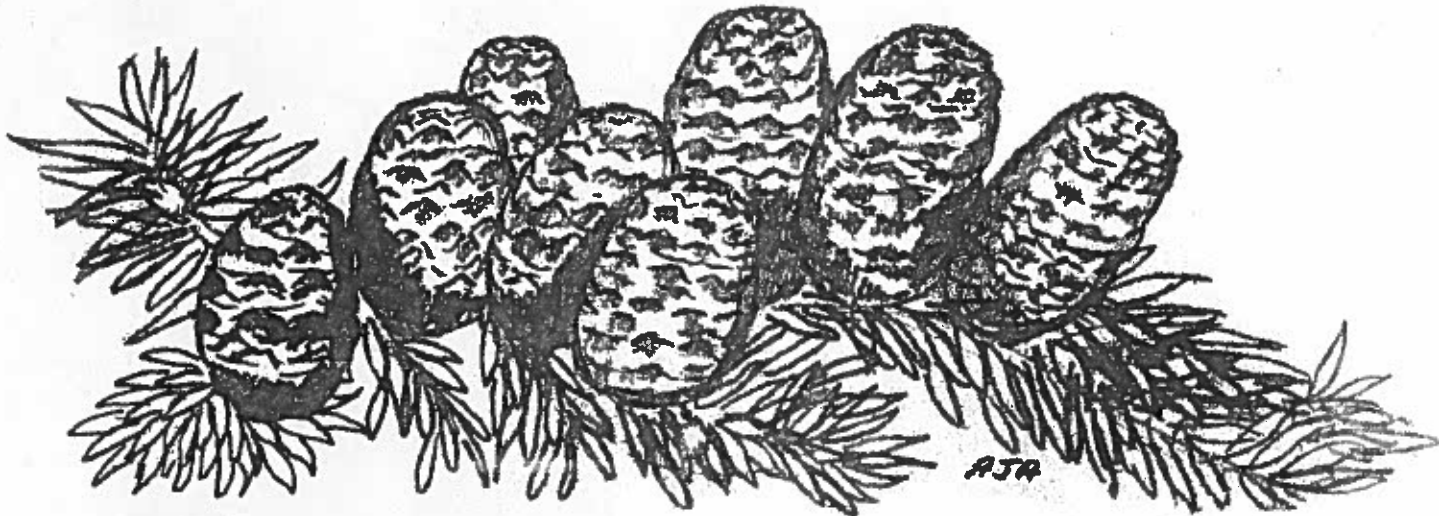




NUMBER 1

MERRY CHRISTMAS AND HAPPY NEW YEAR

DECEMBER 1969

YELLOWSTONE INTERPRETERS' NEWSLETTER

YELLOWSTONE NATIONAL PARK, WYOMING 82190

Here It Is - our first Newsletter - the first of a series you will receive periodically throughout the winter months. The idea for this newsletter - to keep you informed and in touch with Yellowstone during the off-season - was suggested by several of our staff members last summer. It will not be fancy; rather, we will keep it simple so it will not bog down in production. Send along your comments and any suggestions for improvement.

A Harty Crew Wraps Up The Operation

Several of our seasonal staff remained to operate interpretive facilities into the fall. We don't think much snow fell on their backs, but they heard the elk bugle and saw some of the animal herds start moving down toward their winter range. Ed Starkey closed operations at Canyon on September 30; George Algard migrated to his winter range at Death Valley in early October; and George Marler, Cathy Downey and Kelly Motherspaugh kept tabs on Old Faithful until the end of October. Jerry Bromenshenk shivered out at Norris all by his lonesome until the last week in September. Keith Hoofnagle worked full-time at Mammoth until the end of October and is still working weekends in the museum and doing a little freelance artwork on the side.

Bob Jonas Given Superior Performance Award

Bob Jonas was awarded the Department of the Interior Superior Performance Award in the amount of \$250. The award was presented by South District Naturalist Dick Lake and his wife Carol at a coffee at Washington State University in Pullman, Washington on November 20, 1969. About 30 of Bob's associates from the Biology Department attended the presentation. Anyone who has taken the Storm Point Walk with Bob, or has come in contact

with his slick Fishing Bridge operation will know what is meant by "superior performance." The coffee for the award presentation was to have been a surprise; however, very little comes as a surprise to Bob Jonas on his home ground. So, with an actor like Bob I guess we will never know! ! ??

Winter Comes To Yellowstone - ??

Yellowstone's fall weather has been fantastic this year; snowfall has been light and the days have been clear, sunny and unseasonably warm. Snow depth is as follows: Mammoth - 0 inches; Norris - 8 inches; Madison Junction - 1 inch; West Yellowstone - 4 inches; Old Faithful - 1 inch; Grant Village - 8 inches; Lake - 4 inches; Canyon - 4 inches; Tower - 11 inches; Northeast - 11 inches and South - - 7 inches.

The road from Norris to Canyon, Lake, Grant Village and South Entrance closed to traffic on November 12 to stop compaction and icing by wheeled vehicles thus permitting snow buildup for snow machine travel. The road from Mammoth to Old Faithful and West Entrance closed on November 16. It is still open to administrative travel; however, it will most likely close with the next snowstorm.

Grant Village

Gary Brown has moved the protection operation to the new ranger office building. We will work with him this winter to arrive at a plan for operating next summer in such a way as to give visitors the best service possible now that the two stations (Naturalist and Protection) are far removed from one another.

The Museum Laboratory staff is working on a revision of the visitor center exhibits which will give the exhibit room more impact than it now has. They have some exciting ideas.

Old Faithful

The new visitor center and the duplex apartment unit are still in the construction program; however, we can only anticipate that they will be under construction next summer as no contracts have been let to date. We are checking with trailer companies now to find out what is available in the line of trailers which could be used as a temporary visitor center-information station.

The contractor made good progress on the new road, but with the coming of cold weather in early October they closed their operation and left.

On the natural history ledger, one of the old buffalo (Sam?) in the Lower Geyser Basin died recently, providing the coyotes and ravens with a feast.

Ron Warfield reported that Beehive erupted three times in one 24-hour period in early November. George Marler knows of three or four other times when this occurred. George Marler and Dr. Don White probed many springs and geysers in late October for depths and temperatures. The summary sheet is a gold mine of facts. Few of the features are over 20 feet deep.

Norris Museum Gets A Face Lifting

Rehabilitation of the Norris Museum is moving ahead at a rapid rate. All old exhibits have been removed and the building is being put into shape for new ones to be installed next spring. The entire job must be completed by June 30 next year.

Interpretive-wise the building will have 3 main sections. The breezeway exhibits will orient visitors to Norris and will contain prediction board, trail maps, walk schedule and bulletin board. The wing which formerly contained the old geology exhibits will house new ones to interpret subjects such as a geologic cross section of Norris Geyser Basin; causes of pool coloration; interpretation of geysers, hot springs, mud pots and fumaroles; Steamboat Geyser exhibit; rocks and minerals of the Norris area and thermal research. The wing which formerly housed the bird dioramas will interpret the ecology of the thermal areas, emphasizing small things which most visitors overlook.

Heavy use will be made of back lighted transparencies. The five main exhibits will emphasize bacteria, algae, the grazing insects, predators, and an environmental exhibit relating the brine fly's restricted environment to man's. There will also be an audio message tying the whole ecological story together.

We also hope to have a series of 15 full color trailside interpretive labels installed in Porcelain Basin early next summer.

Etcetera - Etcetera - Etcetera

Attached is an assortment of press releases, handouts and information we thought might interest you. We now have a new writeup in handout form on geology, based on the talk Bob Christiansen gave at the Interpretive Training Session last summer. It should bring us up-to-date on the general geology of Yellowstone and tide us over until the new U.S.G.S. publication comes out in '72. Due to its length, we will distribute it next summer; however, if any of you has a burning desire to have a copy now, let us know.

UNITED STATES DEPARTMENT OF THE INTERIOR
YELLOWSTONE NATIONAL PARK
NATIONAL PARK SERVICE

*****news release

INFORMATION FOR THE PRESS
FOR IMMEDIATE RELEASE

August 25, 1969
Hennessey 344-7381

Fourteen Citations Issued For Bear Feeding In Yellowstone

Officials of Yellowstone National Park cautioned visitors today that bear feeding violations are as serious as any traffic violation.

Fourteen visitors have received citations within the past two weeks for feeding bears within the Park.

Yellowstone Park Superintendent Jack Anderson noted "Just as any traffic regulation, the bear feeding regulation was established for the protection of visitors. Any time a violation is committed, the individual is endangering himself or someone else. Though a bear may seem quite tame and docile, it is still a wild animal, and just as any wild animal, a bear is unpredictable and potentially dangerous."

Since June 1 of this year, 39 visitors have been cited for bear feeding. Anderson said that though there were many more people who fed bear, they were fortunate in not being caught by a Ranger, and even more fortunate if they escaped injury or property damage from the bear itself.

(more)

UNITED STATES DEPARTMENT OF THE INTERIOR
YELLOWSTONE NATIONAL PARK
NATIONAL PARK SERVICE

*****news release

2-2-2

August 25, 1969

There were four reported injuries from bears biting visitors who were feeding them during the 1969 season. Many more incidents are suspected, but were unreported for fear of possible repercussions.

"Despite many bear warnings and other precautionary measures taken by the Park Service, visitors do not seem to fully realize the dangers involved in bear feeding.

"Any larger wild animal is a potential danger at any time and should always be viewed from the safety of a car," Anderson said.

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*****news release

August 26, 1969
Hennessey 344-7381

Some Yellowstone National Park facilities will begin closing in early September, Park officials announced today.

August 30	Pelican Creek
September 8	Fishing Bridge, Tower Falls, Norris
September 10	Canyon, Pebble Creek
September 22	Grant Village
September 30	Slough Creek
October 5	Madison
October 10	Bridge Bay
October 20	Lewis Lake, Snake River
October 31	Mammoth, Lava Creek

With the exception of Mammoth, which is open year around, food and lodging will be available in Canyon until Sept. 8, in Lake until Sept. 22, and in Old Faithful until Oct. 30.

Service stations will be open in West Thumb until Sept. 10, in Lake and Fishing Bridge until Oct. 18 and in Old Faithful until Oct. 20.

Nature hikes and Campfire programs will be discontinued beginning August 31. Visitor centers will be open 8 a.m. to 5 p.m. until about the middle of September. The Visitor Center in Canyon will close Sept. 30, and at Old Faithful Oct. 31.

UNITED STATES DEPARTMENT OF THE INTERIOR
YELLOWSTONE NATIONAL PARK
NATIONAL PARK SERVICE

*****news release

INFORMATION FOR THE PRESS
FOR IMMEDIATE RELEASE

September 19, 1969
Hennessey 344-7381

Yellowstone Programs Popular

Although total travel for Yellowstone National Park was down slightly during the 1969 season, interpretive programs and activities enjoyed all-time high visitor participation, according to Chief Naturalist Bill Dummire.

Ranger conducted hikes had a total attendance of 51,000. These hikes range from short, leisurely walks to half- or all-day excursions to mountain peaks, scenic areas or out of the way thermal features.

Campfire programs, held in eight locations through the park, drew a total audience of 178,000. These evening programs are given every day of the week on subjects dealing with Yellowstone and other National Parks.

Mr. Dummire said 74% of the two million people who visited Yellowstone during the 1969 season made use of the six visitor centers and museums. These facilities provide information in the form of a Ranger Naturalist to answer questions, and various exhibits to help explain different aspects of the park. Three centers have slide programs presented throughout the day to help elucidate local park features.

Dummire also pointed out that the park offers numerous leaflets providing information and enjoyment of Yellowstone's self-guiding nature trails.

In addition this year, Yellowstone experimented for the first time with radio broadcasting devices that send out a repeating information message on a frequency that can be picked up by car radios. At various times, six of these local-message transmitters were operating throughout the park.

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UNITED STATES DEPARTMENT OF THE INTERIOR
YELLOWSTONE NATIONAL PARK
NATIONAL PARK SERVICE

*****news release

INFORMATION FOR THE PRESS
FOR IMMEDIATE RELEASE

October 17, 1969
Hennepay 344-7381

BEARTOOTH HIGHWAY CLOSED

The Beartooth Highway between Cooke City and Red Lodge is closed for the season, officials of Yellowstone National Park advised recently. Superintendent Anderson said he had been advised by officials of the Montana State Highway Department that the road was being closed on the east side because of inclement weather. The road was closed four days earlier than last year.

Mr. Anderson said the roads within the park will be kept open until the first major snowstorm after October 31. He further cautioned visitors to drive with extreme caution because of possible icy conditions which they may encounter and to carry tire chains at all times while in the mountainous areas.

☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆☆ news release
 INFORMATION FOR THE PRESS October 31, 1969
 FOR IMMEDIATE RELEASE Hennessey 344-7381

Mr. Anderson further advised snowmobilers to check with the nearest Ranger Station before entering the park with their machines and obtain the latest information pertaining to snowmobiling within the park.

UNITED STATES DEPARTMENT OF THE INTERIOR
YELLOWSTONE NATIONAL PARK
NATIONAL PARK SERVICE

★ news release

PRESS RELEASE FOR
IMMEDIATE RELEASE

November 26, 1969
Hennessey 344-7381

YELLOWSTONE BRACING FOR WINTER

With the closure of the road from Gardiner to Old Faithful and West Yellowstone, Yellowstone National Park is bracing for a surge of snowmobilers. Superintendent of the park, Jack K. Anderson said all roads in the park, except the Gardiner-Cooke City road are closed because of heavy snowfall.

Anderson said with the coming of snow, snowmobilers are beginning to get itchy feet. He said snowmobiling is a rapidly growing sport and visitation to the park by oversnow vehicle this winter is expected to exceed the 9,000 mark set last year. He went on to advise snowmobilers that there are a few regulations governing the use of oversnow vehicles within the park which they should be aware of before entering the park.

Oversnow vehicles shall be operated only on unplowed roadways or designated parking areas which would normally be open to conventional wheeled vehicles during the summer months.

No oversnow vehicles shall be operated on plowed roads open to conventional wheeled vehicles.

Mr. Anderson said for their own personal safety snowmobilers should always travel with a minimum of two machines, and should check at the Ranger Station both upon entering and leaving the park.

COLOR OF HOT SPRINGS
By
John R. Douglass
West District Naturalist
Yellowstone National Park, Wyoming

Visitors often ask why certain pools are a given color.

The major factors which contribute to the colors in thermal pools have been identified as: algae; opaque, colored minerals; selective reflection and absorption of light by colloidal particles; selective absorption of light by water itself; and combinations of these. In Yellowstone there appear to be no pools in which the color is due to dissolved substance; for example, the deep blue of Sapphire Pool, Gentian Pool, Abyss Spring, the blue in pools at Norris and elsewhere do NOT come from copper compounds.

There seems to be little problem in recognizing the colors that are due to bacteria and algae in the hot waters. In the alkaline areas such as the Upper Geyser Basin yellow colors in the very hot water grade into orange, browns and greens. In hot acid waters, more common at Norris, the striking color is from a bright green algae. In cooler water a different species appears that has a dark purplish color.

Mineral deposits often provide color on the cones, edges and inner walls of hot springs. The most prevalent is the gray color of sinter, a hydrated form of silica. Sulfur is more colorful, forming a dull to bright yellow deposit in and around a pool as in Green Dragon's Caldron, Yellow Funnel Spring at Norris, the Evening Primrose Spring at Sylvan Springs and Sulfur Caldron on the Yellowstone River. Manganese oxides often form brown to black deposits such as those at Steady Geyser in the Lower Geyser Basin. Most spectacular of all are colors due to iron compounds. These may cause a wide variety of colors varying from orange and red to black:

Yellow - Mustard Spring in Biscuit Basin

Yellowish efflorescence on acid ground

Orange - Little Whirligig at Norris

Aurum Spring in Upper Geyser Basin

- Red - Echinus at Norris
- Edges of red mud pools
- Red Spouter at Fountain Paint Pots
- Dark Brown - Dark Cavern at Norris
- Black - Several springs at Mud Volcano

Mud pots offer a variation in that the color may be due to a single mineral or to a mixture in which one mineral forms a coating on the surface of another. The simplest case is that of the red muddy pools in which the particles of silica, or possibly clay, are coated with iron oxides (Red Spouter). Certain pools near Calcite Spring are black because of suspended particles of iron sulfide. The black muds of the Black Dragon's Caldron are probably colored by iron sulfides. Similarly, the black cinders at Cinder Pool at Norris may be pure sulfur or they may contain a bit of iron sulfide impurity which may cause the color.

Very fine colloidal particles suspended in water can cause a variety of colors. For example, under laboratory conditions, suspensions of metallic silver can be prepared in all shades of yellow to brown, as well as different shades of clear red, vermillion, dark red and violet, and in a variety of tones of green and blue, blue gray and black. The color varies with the particle size, changing from the red end of the spectrum towards the blue as the particles become smaller.

Thus it would not be surprising if pools showed a variety of colors due to suspended matter of different sizes. The most clear-cut case is that of the opalescent (or milky) blue pools - Opalescent Pool in Black Sand Basin, a spring in Sylvan Springs, and several milky blue pools at the base of Porcelain Terrace at Norris. These pools are often translucent, having so much suspended silica or clay that you cannot see to the bottom of the pool. Very possibly under the conditions existing in Yellowstone each type of suspended material, whether clay, silica, iron oxides or sulfur, gives just one particular color when in colloidal suspension. The only ones of these that have been recognized are the cases where clay or silica suspensions cause pools to be blue.

As for water itself, it transmits light in the blue range and absorbs light in the red range, so it is not surprising that light

that has gone through the water in the pool and then been reflected back to the surface will appear blue. Possibly the deposits on the walls and floor of the pool which reflect the light back to the surface have some effect on the blueness of the light seen looking down into a pool. To date, no one has come up with a completely satisfactory explanation for the deep blue colors of springs like Sapphire Pool and Gentian Pool.

The most outstanding examples of springs which owe their color to combinations of factors are the green colored springs such as Emerald Spring at Norris in which the blueness of the water is modified by yellow effects from sulfur, either on the walls or in the pool itself, so that the resulting sensation is the combination of yellow and blue - that is, green.

These are some of the factors which affect the color of hot springs. We should remember that no two springs have exactly the same conditions, so that there is always room to wonder just what the factors are which give a particular spring its color.

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