

Colorado Native Plant Society



NEWSLETTER

VOLUME 4 NUMBER 1

JANUARY - FEBRUARY 1980

"DEDICATED TO THE APPRECIATION AND CONSERVATION OF THE COLORADO FLORA"

OFFICERS 1979-1980

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*Year when term expires is given in ().
Numbers following names are phones
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Colorado is covered by the area code 303.

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PUBLICATIONS	Scott Peterson
THREATENED & ENDANGERED	Bill Harmon

CORRESPONDENCE

Please direct all correspondence and inquiries
to the Secretary, Sue Martin, USDA Crops
Research Laboratory, Colorado State University
Ft. Collins 80523

MEMBERSHIP RENEWALS & INFORMATION

Please direct all membership applications,
renewals and address changes to Myrna
Steinkamp, USDA Crops Research Laboratory,
Colorado State University, Ft. Collins 80523

SCHEDULE OF MEMBERSHIP FEES

LIFE	\$ 250.00
SUPPORTING	50.00
SOCIETY	25.00
FAMILY	12.00
INDIVIDUAL	8.00
STUDENT & RETIRED	4.00

The CONPS Newsletter is sent to all other
Native Plant Societies in exchange for
theirs. Nonmembers may subscribe to the
Newsletter for \$ 4.00.

NEWSLETTER

EDITOR: Dieter H. Wilken, Dept. of Botany
& Plant Pathology, Colorado State Univ.
Ft. Collins 80523

Deadlines for the 6 bimonthly newsletters
are the last day of January, March, May,
July, September and November.

All articles of interest to the general
membership of the Society are desired
for inclusion in the Newsletter.

FIELD TRIPS 1980

The Board of Directors concluded that field trips were one of the most important and satisfying functions of the CONPS. It is by far the best activity for recruiting new members and for stimulating a renewed interest among existing members. Bob Heapes, newly elected Board Member and Field Trip Coordinator, has put together a 1980 Field Trip Program comprising six trips. Included are 3 one-day field trips oriented primarily for Front Range area members and 3 trips outside the Front Range area. These latter trips are oriented primarily for members who live and work in those areas but they will be arranged such that Front Range members may attend. Overnight stays for these 3 trips will be necessary. This is a bold schedule and will require participation in planning and execution in addition to cooperation from many members. We will need those members who have helped in the past and will call upon those who may have wanted to help but were never asked. There will be a very special emphasis placed on car pooling and rallying points will be selected with this as the primary factor. The sharing of the cost of driving is detailed under RIDE & COST-SHARING POLICY. If you have other helpful suggestions please call Bob Heapes:

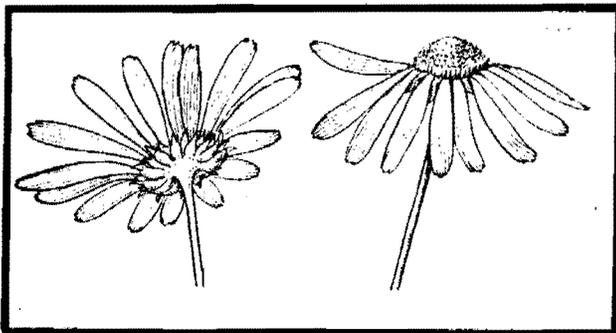
Office Number : 779-0888

Home Number : 841-3978 before 9:00 PM!

GENERAL FIELD TRIP POLICY

REMEMBER to come prepared with regard to the weather. Consider all possibilities from hot and dry to cold and wet. Bring adequate food supplies for all members of your party. Field trip schedules may not be arranged by leaders on availability of stores or restaurants. With overnight field trips consider the possibility of either overnight lodging or camping. REMEMBER to consult with field trip leaders well in advance so that you can plan your participation with a minimum of potential discomfort.

As a general policy, all plant collecting is forbidden on CONPS field trips.



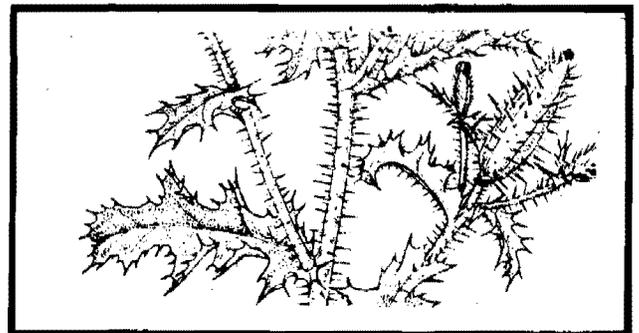
RIDE & COST-SHARING POLICY

With the rising cost of gasoline it has become necessary to establish a policy on the costs of sharing field-trip rides. After discussing methods used by other organizations, it became clear that there was no perfect answer. The Colorado Mountain Club charges 4¢ per passenger mile whereas the Botanical Gardens used a method whereby both driver and passengers shared in the cost. Neither of these seemed fair and a new scheme was developed for reimbursing field trip drivers.

If the driver has 2 passengers sharing his/her car, each passenger will be assessed 4¢ a mile. If 3 passengers are carried, the assessment will be 3¢ a mile and if 4 passengers are carried, the assessment will be 2¢ a mile per passenger. These costs were arrived at by projecting the cost of gasoline this summer to \$1.30 per gallon and an average mileage of 17-20 per gallon. Computation indicates that cost of gasoline will be about 6.5¢ - 8¢ per mile. This cost was then divided by the number of passengers to determine the amount due to the driver. In this way, the driver does not have to pay for the cost of the gasoline but he/she is involved with other expenses in the operation of the vehicle. The Hertz Corporation estimates a cost of 38¢ per mile to operate a compact car so the expenses other than gasoline are from 30¢ - 32¢ per mile.

We think that most drivers are willing to absorb this cost when the out-of-pocket expense for gasoline is paid by the passengers. Also, it has been noted in other organizations that many drivers do not elect to collect gasoline expenses. This is admirable, but unfortunately it places a burden on drivers who find it economically necessary to collect the money. Consequently, the policy of this Society will be that all drivers on field trips will graciously accept the payment from the passengers. Hopefully all of the passengers will come forward at the end of the trip and pay the driver, rather than having the driver ask for the gasoline money.

If you have any suggestions or questions regarding this policy or if you find something that appears unfair, please contact Bob Heapes at 779-0888 during the working day.



FRIDAY - SUNDAY, MAY 2-3, 1980

MESA DE MAYA, LA JUNTA & KIM,
COLORADO.

TRIP LEADER: Dexter Hess 384-4443 (La Junta)

This weekend comprises 2 field trips to be held in conjunction with a weekend meeting of the Colorado Biological Consortium. Dr. Hess, Dean of Faculty at Otero Junior College and a member of the CONPS will be our host and field trip leader. A Friday evening arrival is recommended since a program that evening will be of interest to everyone.

Emphasis on field trip sites will be determined on the basis of the following criteria: 1] particular plant communities; 2] large displays of wildflowers; 3] unique, rare or unusual plants; 4] raptor habitats; 5] geology and soils; and 6] ranching sites.

The total field trip encompasses Saturday and Sunday with an overnight stay in ranch country requiring trailers and/or tents. Packets of informational material will be prepared and sent to all registered participants. The field trip will not be strenuous and families of members are encouraged to attend. More information on cost, camping facilities, lodging, etc. will be in the next newsletter. For other details and/or questions call Dexter Hess at 384-4443 in La Junta or write c/o Otero Junior College, La Junta, CO 81050.

SATURDAY, JUNE 14, 1980

PICEANCE BASIN & RAVEN RIDGE, COLORADO

TRIP LEADERS: J. Scott Peterson
491-6824/6524 (CSU, Ft. Collins)
Karen Wiley Eberle
824-3417 (Craig)

This trip will depart from Meeker City Park, where overnight camping is available, at 8:00 AM. We will travel to the Piceance Basin and visit sites along Piceance Creek as far as the Cathedral Bluffs on the western rim. In addition to the many western slope flowers, field trip participants will see populations of the rare OIL SHALE COLUMBINE (*Aquilegia barnebyi*) and the OIL SHALE FESCUE (*Festuca dasyclada*). John Mann, a geologist, will accompany us to explain the interesting geology of the basin and to help us relate

the distribution of vegetation to the substrate. This also will be an excellent trip for birders. Time permitting, the field trip may include a visit to the experimental oil shale project.

If participants are interested, the trip will be extended to Sunday, June 15 in order to visit Raven Ridge. Raven Ridge is an exposure of the Evacuation Creek member of the Green River Formation, a geological formation on which a number of common Utah plants extend their range into Colorado. Returning to Craig, one can practice "belly botany" and view populations of the YAMPA BEARDTONGUE (*Penstemon yampaensis*), a plant featured in the last CONPS Newsletter. This tentative schedule will be verified in the next Newsletter. For details or questions contact either Scott Peterson or Karen W. Eberle.

SATURDAY, JUNE 21, 1980

PIKE'S PEAK, OLD STAGE COACH ROAD

TRIP LEADERS: Bob Heapes 779-0888 (Denver)
Sue Tabar 473-2233 ext. 304
(Colorado College, Co. Springs)

Car-pooling will be in South Denver for the 65 mile drive to Colorado Springs with a rendezvous at the Broadmoor Hotel. The field trip will follow the Old Gold Camp Road to inspect populations of the YELLOW LADY'S SLIPPER (*Cypripedium calceolus*). Special time will be devoted to this plant so that participants can properly photograph this elusive beauty. SPOTTED CORAL-ROOT (*Corallorhiza maculata*) and GREEN BOG-ORCHID (*Habenaria viridis*) have been reported in the same area. This road is an old stage road carved out of decomposed Pike's Peak granite and passes through heavy stands of PONDEROSA PINE with Stout Running Creek providing an abundance of water from the melt of the Pike's Peak snowpack. Sue Tabar is presently working out further details of the trip to be presented in the next Newsletter. Contact either leaders for further details.



SUNDAY, JULY 20, 1980

GOLDEN GATE STATE PARK

TRIP LEADERS: Bob Heapes 779-0888 (Denver)
Bill & Berta Anderson
733-7387 (Denver)

A "close-in" experience of only 15 miles east of Golden, the Aspen Meadows Picnic Ground in Golden Gate Park will be our rallying point. In 1 to 1.5 miles or less we expect to find more than 60 species, highlighted by the seldom seen SPURLESS COLUMBINE (*Aquilegia caerulea* var. *daileyae*) and, the jewel of the open forest meadows, the MOUNTAIN WOOD LILY (*Lilium philadelphicum*). Bill and Berta Anderson bring an unusual dimension to the CONPS field trip. Involved in a lifetime of teaching, these delightful people have, for many years, led field trips for both the Colorado Mountain Club and the Denver Botanical Gardens. Contact either leader for further details.

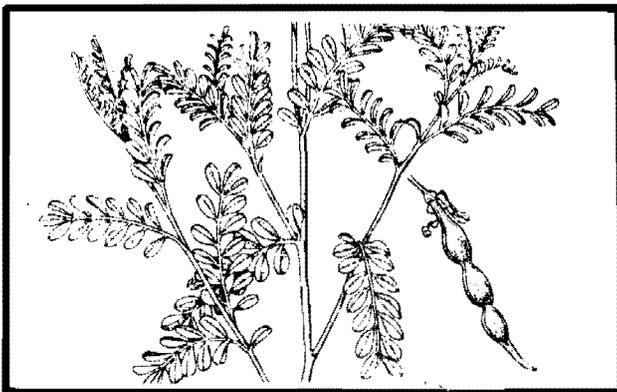


SATURDAY, AUGUST 2, 1980

LONG'S LAKE & NIWOT RIDGE

TRIP LEADERS: Bob Heapes 779-0888 (Denver)
Mary Jane Foley 442-1476
Boulder

Car-pooling will be in northwest Denver and in Ft. Collins with an as yet undetermined rallying point in Boulder, prior to car-pooling to Red Rocks Lake Parking Area on the Brainard Lake Road, west of Ward. From there we will proceed to the Long's Lake Trail with a short walk through the trees to Long's Lake, a much-flowered wet meadow and over a series of switchbacks to above treeline on Niwot Ridge, where we will encounter a spectacular vista overlooking Long's Lake and the Brainard Lakes. A full gamut of high alpine flowers can be expected as well as one of the most magnificent colonies of PARRY'S PRIMROSE (*Primula parryi*) you may ever have seen. Contact either leaders for further details.



SATURDAY, AUGUST 9, 1980

GRAND MESA & GRAND JUNCTION

TRIP LEADERS: Walt Kelley 248-1264
(Grand Junction)
Sheri Hamann (Palisade)

For this field trip, plan to arrive in Grand Junction by Friday evening, as the field trip will begin at the rallying point, junction of I-70 and Colorado Highway 65, at 8:00 AM on Saturday. From there we will proceed along Highway 65 along Plateau Creek. Passing through SAGEBRUSH and PINYON-JUNIPER WOODLAND, the field trip will enter Grand Mesa on the northern side at an elevation of 9200 feet, passing through SCRUB OAK and ASPEN. The mesa is clothed with Spruce forest interspersed with meadows and lakes. Several stops will be made to admire the diverse members of the flora. Upon reaching the top of the mesa we will travel south to Land's End Road, then west to Land's End, overlooking the Bookcliffs and the Grand-Gunnison River Valleys.

Grand Mesa encompasses ca. 800 square miles at an elevation of ca. 10,000 feet. There are many springs, streams and over 300 lakes. We will be visiting the area shortly after the peak of flowering but fortunate in that "national mosquito time" will be avoided. Among the many flowers to be seen are LARKSPUR, SCARLET GILIA, MONKSHOOD, GOLDEN BANNER, YARROW AND INDIAN PAINTBRUSH, ranging from white to red in color. On the return to Grand Junction, a stop will be made at the Toothpick Cafe in Mesa for pecan pie. Since this is an overnite field trip for participants from the Front Range area, consider the many motels and campgrounds available either in Grand Junction or in Grand Mesa National Forest.

OTHER EVENTS

ALPINE ECOSYSTEMS

COLORADO HERITAGE CENTER
FEBRUARY 26 - APRIL 30

Color photographs of fragile alpine valleys in Colorado highlight the special exhibition on view at the Colorado Heritage Center, 1300 Broadway in Denver. The tenuous relationship between man and the environment is visually documented in this exhibition of 22 photographs. Designed and photographed by Robert Lewis of the Environmental Research Group in Aspen, Colorado, "Alpine Ecosystems" features striking photographs of dragonflies, beaverponds, elk, spruce and fir trees, rare and endangered plant species, alpine geology and the impacts created by highways, mining and boomtowns.

This special exhibition is being presented by the Colorado Historical Society to increase awareness and understanding of the many issues involved in preserving Colorado's heritage for present and future generations.

The Colorado Heritage Center is open for visitors Monday - Friday, 9:00 AM to 5:00 PM and on weekends and holidays, 10:00 AM to 5:00 PM. For further information call 839-3681.

HORTICULTURAL ART SOCIETY OF COLORADO SPRINGS

MEETINGS AND WORKSHOPS OPEN TO THE PUBLIC

May 24 at 9:30 AM

"Roadside Gourmet" a presentation by Linda Overlin on edible plants. Nonmembers of Hort. Art Soc. are required to make reservations and pay a fee of \$1.00.

June 21 at 9:00 AM

"Plant Walk" in the Demonstration Gardens

July 19 at 9:00 AM

"Identifying Native Plants" led by Linda and David Overlin

August 23 at 9:30 AM

"Field Trip to the Alpine Area"

Contact either the Horticultural Art Society P.O. Box 9812, Co. Springs 80932 or call 475-9267 for further details.

STALKING EDUCATION IN THE WILD

COLORADO OUTDOOR EDUCATION CENTER
MAY 2-4, 1980

The Center is planning its 7th annual conference on outdoor education. Over 300 sessions cover a full range of topics from botany to curriculum development. This conference is attended by over 300 persons involved in outdoor education and is ideal for camp directors, teachers, park and recreation workers and professional naturalists.

For further details write The Colorado Outdoor Education Center, Florissant, CO 80816 or call 748-3341.

GRASSLANDS INSTITUTE

The Denver Audubon Society has announced its 6th annual Grasslands Institute to take place from June 8-June 14, 1980. The institute program familiarizes participants with the short-grass prairie ecosystem and heightens awareness of the subtle interactions of plant communities. In addition, the institute blends the arts, sciences and humanities to form the basis for viewing the prairie. Man's role and impacts are assessed. Formal details of the individual programs can be obtained from:

Mr. Ed Butterfield, 17410 East Nichols Place, Parker, CO 80134 or call 690-5019.



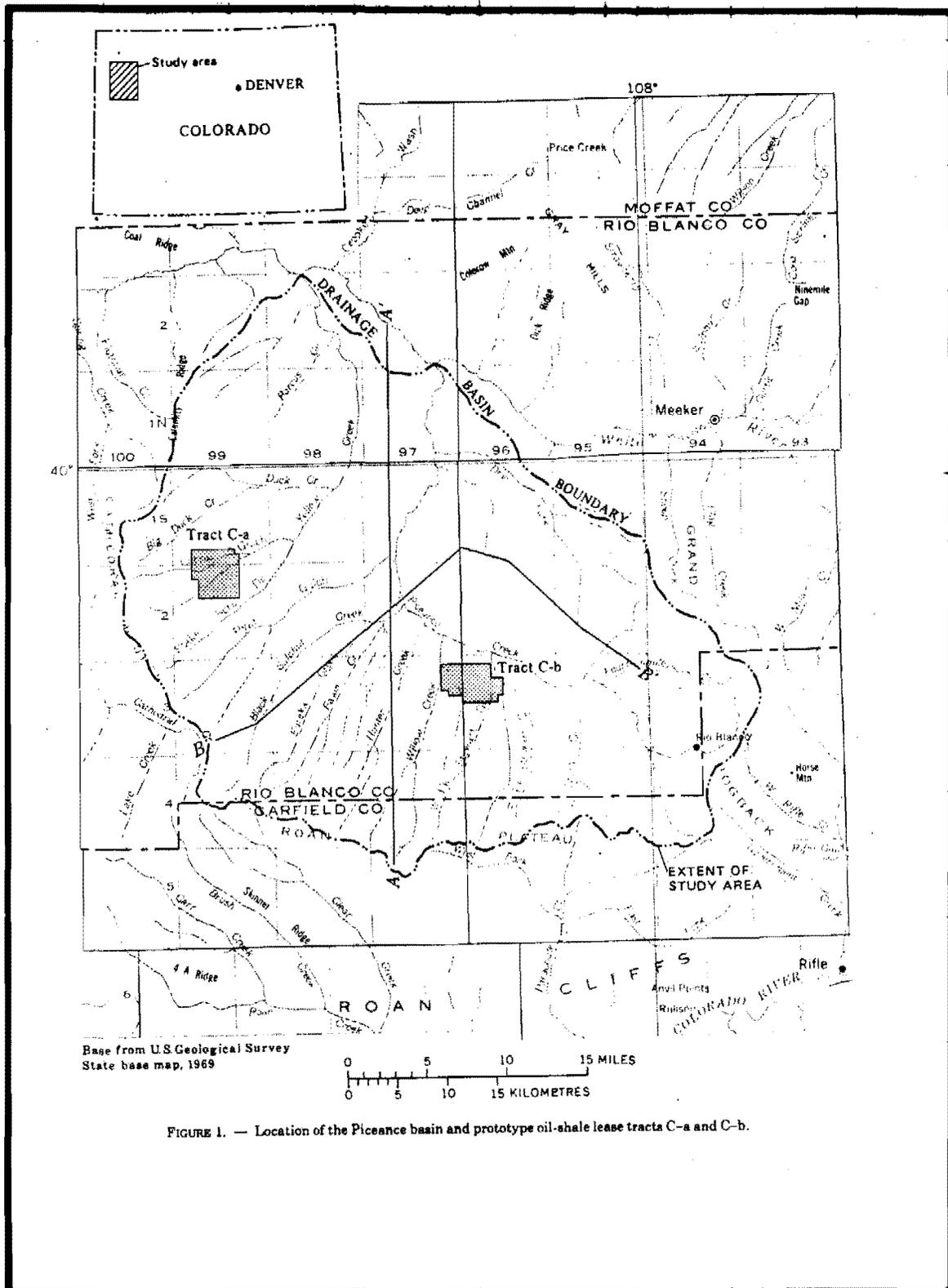


FIGURE 1. — Location of the Piceance basin and prototype oil-shale lease tracts C-a and C-b.

PICEANCE BASIN: AN INTRODUCTION TO THE GEOLOGY

This provides information for those planning to attend the Piceance Basin Field Trip. An introduction to the flora will appear in a forthcoming issue of the Newsletter. For those of you not planning to attend, this will familiarize you with a fascinating area of Colorado, which is rapidly gaining national attention.

Knowledge of the geology often helps in understanding the basin flora. The patterns may reflect the substrate. If one knew that a certain MILKVETCH, *Astragalus detritalis* for example, grew only on a specific rock type, one could limit a search for the plant only to that particular rock type. Knowledge of the geology, in addition, provides a better understanding of development pressure that is currently increasing in the basin.

The Piceance Basin is located in northwestern Colorado southeast of Rangeley. The basin is about 150 km long and about 80 km wide (See Figure 1). It is bounded by the White and Colorado River Valleys on the north and south respectively and the Cathedral Bluffs and Grand Hogback on the west and east respectively. The majority of the basin in Rio Blanco County drains into the White River and ranges from 1500 to 2600 meters in elevation. 64 % of the land is administered by the BLM with most of the remainder in private hands. The major land use is livestock and wildlife grazing. The largest migratory deer herd in the world is to be found in the basin. Mountain building, uplift and tilting of the earth's crust during the Tertiary and Quaternary led to the present structural features (6). The rocks of the basin are Eocene to Quaternary in origin and have been assigned to the Wasatch, Green River and Uinta formations (Figure 2). The Uinta formation, which overlies the Green River formation, attains a thickness of up to 380 meters. It consists primarily of brown sandstone and siltstone and forms most of the surface substrate in the basin (4).

The Green River formation was deposited as Eocene Lake Uinta began receding. This deposition was gradual and fluctuated, resulting in a complex contact between the 2 formations. It is in the Green River formation that the well known oil shale is to be found. This material contains the greatest known, potential oil resource in the world and 80% is found in the Piceance Basin (5).

The Parachute Creek member of the Green River formation, ca. 550 meters thick, and consisting largely of marlstone, contains the highest concentration of oil shale (3,4). This member was described from outcrops along Parachute Creek in Garfield County, where it is exposed at the surface. It also may be seen as part of Anvil Points, west of Rifle. The richest and thickest sequence of oil shale strata, that of primary economic interest, has been designated as the Mahogany zone (2).

In 1974, a prototype leasing program was initiated for oil shale leases. The major objectives were to: 1] determine methods for maintaining environmental integrity of the affected areas; 2] provide a new source of energy; 3] permit an equitable return to all parties; and 4] develop management expertise. Within the basin, two tracts (C-a and C-b), comprising ca. 41 square km, were leased (Figure 1).

That part of the Parachute Creek member below the Mahogany Zone primarily comprises rich oil shale and a mineral, Nahcolite. Reserves of Nahcolite, a sodium alkaline salt, are estimated to occur in the basin at 26.3 billion tons (1). Initial studies have shown that this mineral functions well as a desulfurizing agent in utility power boilers, and interest in the mineral appears to be increasing exponentially (7). As with oil shale, all Nahcolite and related Dawsonite lie within the Parachute Creek member, which underlies much of the Piceance Basin.

References 1-8, cited in the text, can be obtained from the author upon request.

--- J. Scott Peterson

RECENT ACTIONS BY THE BOARD OF DIRECTORS

The BOD has voted to support and cooperate with the Colorado Natural Heritage Program. The Society will provide this state program information on threatened and endangered plant species with the exception of precise localities of certain species sensitive to exploitation. The Society will attempt to arrange for reciprocity in our relations with the program.

Profit-making organizations will be charged for information from the threatened and endangered species files maintained by the Society. Charges for such information have been established at from \$3 - \$6 per species or geographic location.

The Board voted to donate \$50.00 to the Colorado Federation of Garden Clubs to support their program of native plant seed dissemination for highway right-of-way revegetation. We will urge them to see that only seeds from appropriate sources are used and to be aware of the possible effect of such plantings on natural populations and their gene pools.

The Board voted to support the supervisor of the Gunnison National Forest to protect a bog containing the only known population in Colorado of SUNDEW (*Drosera*).

The Board accepted Tom Eamons offer to chair and organize a committee in planning the 1980 annual meeting of the Society. Tom will welcome any and all suggestions.

The Board decided to continue membership in the Colorado Open Space Council at the associate level for 1980. Currently, Karen Hollweg is our representative.

--- Lloyd Hayes

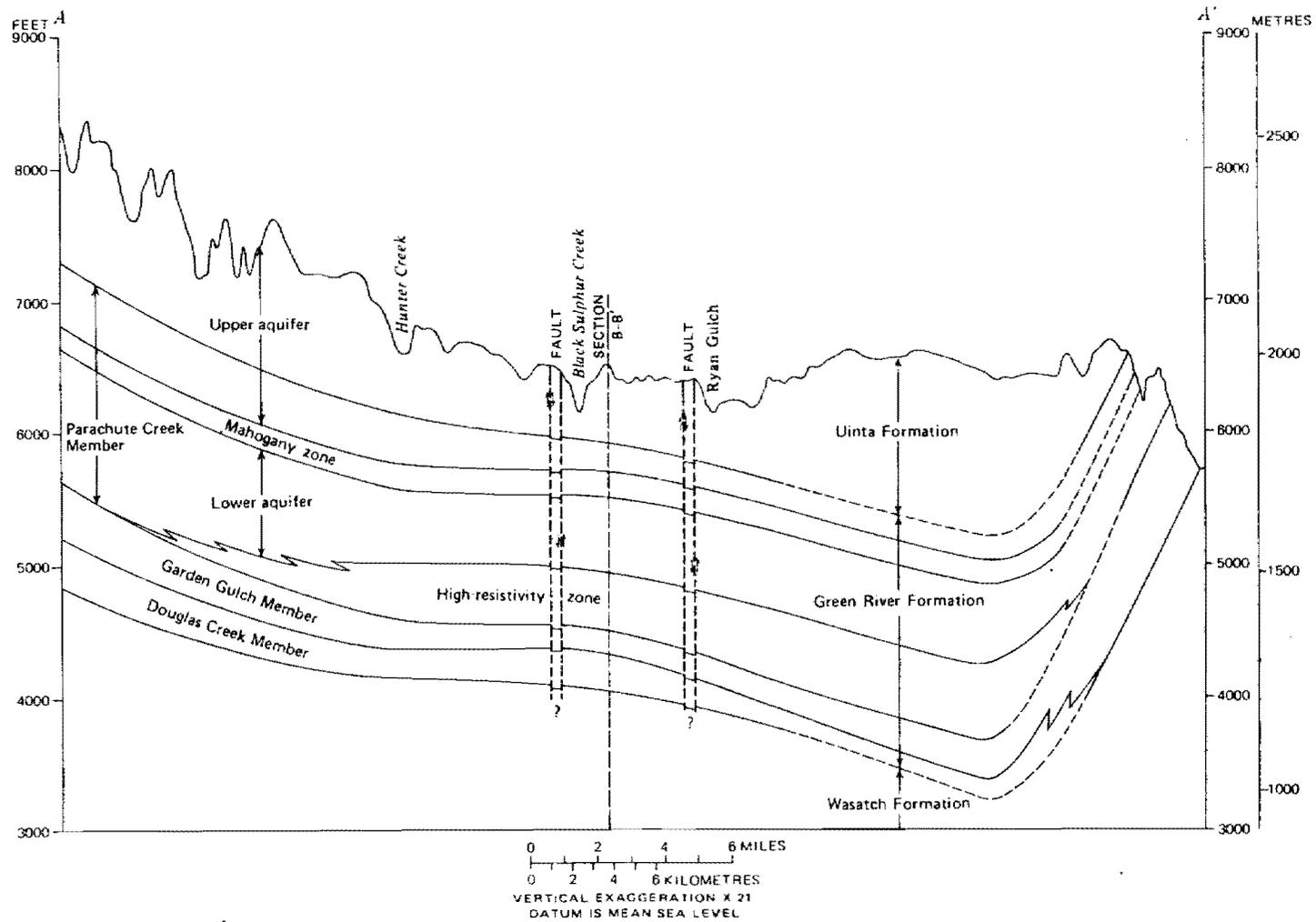


FIGURE 2. — Geologic section through the Piceance basin. Section is located in figure 1.