DEDICATED TO THE PRESERVATION OF THE CALIFORNIA NATIVE FLORA

BRISTLECONE • CHAPTER

NEWSLETTER

Vol. 9, No. 2 March 1990

NEXT CHAPTER MEETING

March 28, 7:30 pm, at the Maturango Museum in Ridgecrest, a joint meeting. Speaker will be Peter Milne, Chief of Mineral Resources in the Ridgecrest Office of BLM. He will br discussing the National Environmental Policy Act requirements as they apply to mineral operations in the Northern Mojave. The public is welcome to attend.

PRESIDENT'S MESSAGE:

Those of us who live in the Eastern Sierra rain shadow are well aware of the fact that we live in a desert environment-- even in Mono County in which Great Basin conditions prevail. We live in a perpetual drought, as compared to moister regions.

We are aware also that meadows (even though alkaline), springs, riparian areas, and sinks are unique sites in the desert which should be given special protection. But when we are in a prolonged drought, such as we are now experiencing, it is even more evident that these areas are special. Runoff from the Sierra is less each year as the drying worsens. Creeks which carried water past Los Angeles' aqueduct at least during spring runoff have been completely dry for several years. Riparian areas below the aqueduct will surely be dying if relief doesn't come through extensive summer storms or a few wet years in a row beginning next year.

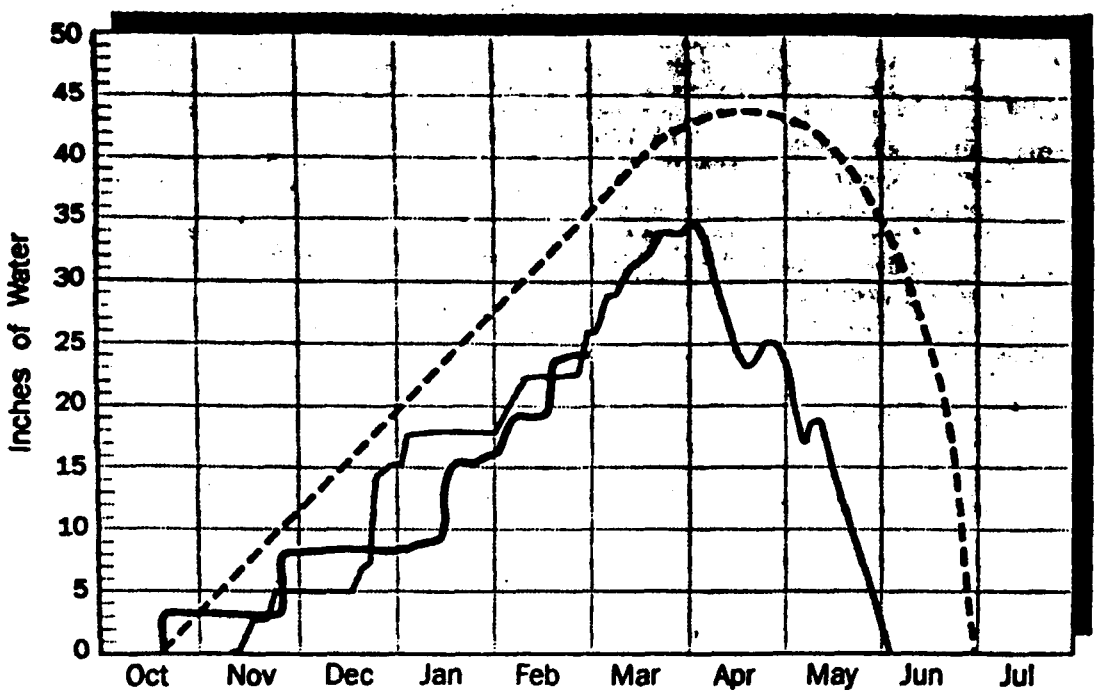
The following chart reproduced from our local Inyo Register shows a snow pack which has been typical for four years now. And even though the Sierra has been receiving 1/2 to 2/3 normal snow pack by season end the valleys have been expecially dry. Notice that the season's precipitation at South Haiwee is only 18% of normal this year and that the Lone Pine area is estimated to be about 25% of normal. No wonder that plants are dying on the valley floor, even in areas not affected by Los Angeles' pumping.

Instead of a burst of green this spring, we see brown slopes and dusty meadows. Again we cannot anticipate a wildflower show in Owens Valley this year. Even the higher elevations will be under stress for moisture.

Think rain! Think rain! Think rain! Think rain!

. . . . . Vince Yoder

See chart on the following page.



Current snowpack conditions for the Eastern Sierra — which dictate just what the Owens Valley can expect in its soil moisture content this summer — don't hold out much hope for a good year in this March 1 graph report.

The dotted line across the entire graph indicates the Mammoth Pass long-term mean, or normal snowpack. The lighter line across the graph is the Mammoth Pass 1988-89 snowpack and the solid line halfway across the graph is the current year's snowpack status as of March 1.

Inches of water, at left, indicates the precipitation content in the snowpack. Mammoth is 72 percent of normal at present.

Snowpack at Rock Creek is 50 percent of normal; Big Pine, 59 percent, and Cottonwood, 56 percent.

Precipitation is 51 percent of normal at the Cain Ranch, 40 percent at Long Valley reservoir, 41 percent at Bishop, 31 percent at Big Pine and 18 percent at South Haiwee reservoir. Precipitation totals are cumulative for the water year from October 1.

INYO REGISTER / DEO SANTOS

3-4-90

DAVID GAINES SIERRA
SCHOLARSHIP

The Golden Trout Committee is pleased to announce the David Gaines Sierra Scholarship. Because David educated and touched so many people about the beauty and natural history of the Sierra Nevada, we would like to continue by providing a scholarship to an individual for attendance at a one-week session (date of the awardees choice) at the Golden Trout Workshop. Application is open to anyone who enjoys and is interested in the conservation of the Sierra Nevada. To apply, please submit a 300-word essay regarding your interest in the Sierra Nevada. Deadline to apply is June 1, 1990. Application should be sent to Cindi McKernan, 1230 Friar Lane, Redlands, CA 92373.

Hydrology of Mono Lake

CNPS Field Trip
16 September 1989
Leader: Dr. David Groeneveld

This trip examined some characteristics of the hydrology of Mono Lake, and gave the participants an opportunity to observe some unusual features of the vegetation along the north shore of the lake. We convened at the county park on the northwest shore of the lake, and began the trip with a stroll down the boardwalk. The willows on the upper edge of the area soon give way to open grassy regions with spring-fed streams meandering through them. A test of the freshness of the water was made with a meter that measures electrical conductivity, which is an indicator of mineral content of the water. Pure water at about 17 C has a conductivity of about 0.2. The stream water returned a conductivity of 0.26, which is reasonably pure. The mineral content present is probably calcium, which combines with the carbonate in the lake to form the tufa towers evident in the area. Tufa grows underwater where spring water seeps into the lake floor. The spring water is less dense than lake water, and so it rises, forming the towers of calcium carbonate that are now left high and dry as the lake level has receded. Water at the bay where the stream joins the lake had a conductivity of 1.1, which is still fairly fresh. Water taken from mid-lake, in contrast, has a conductivity of about 100, indicating a high salinity.

The mineral or ion content of the water at various locations in the lake can be measured, and both the types of ion and their concentrations allow for a "fingerprinting" of the water. That is, specific kinds of minerals in particular ratios indicate fairly precisely the origin of that water.

The location of springs around the margins of Mono Lake is highly dependent upon the level of water in the lake. As the lake level falls, the springs surface at progressively lower levels as well, leaving previously irrigated regions dry at the higher elevations.

We next drove east along the north shore of the lake to a warm pond, which had been created when exploratory oil drilling struck a geothermally warmed aquifer. The water here was high in both phosphorus and nitrogen. Pond levels are sensitive to surrounding land use practices: when grazing was heavy in the second decade of this century, and trees had been cut, increased runoff led to record high lake levels. As the lake waters have receded in more recent times, the exposed margins have revegetated.

The final stop was a dune and playa region on the northeast shore of the lake. We walked through an area characterized by blowing sand stablized by shrubs into dunes, often over 5 feet high. The playa itself was largely barren, except for some revegetation sample plots in which saltgrass (Distichilis spicata) had been established. The hydrology in this area was being studied by means of piezometers, which are perforated tubes inserted into the ground which allow for the determination of the level of the perched water table. The water level was found to be about 1/2 meter below the surface, and was highly saline (conductivity = 22). This water was held in organic layers of soil, trapped between impermeable clay layers. This water was not surface water, but rather had been forced into the aquifer from below lake level by faulting. The deeper these water layers are, the more saline they are, as the fresh surface water does not percolate through the clay boundary. Occasional seeps of fresh water far down the playa produced unusual pockets of vegetation appearing as green oases in an otherwise bleak landscape.

. . . . . Carla Scheidlinger

FIELD TRIPS

APRIL 7: Darwin Falls., Argus Range. Leaders: Ray Mosher, Doris Fredendall. Meet at9:00 a.m at the Panamint Springs Resort on Death Valley Route,(Highway 190),47.5 miles from Highway 395, Lone Pine. We will caravan To the falls parking area. It is an ewasy wwalk up-canyon To the falls, except for the last short portion when one takes to the canyon wall briefly and then forces a way through a tree tangle. The falls are a delightful surprise. We will spend time pulling small saltcedars from the edge of the stream as it meanders through the sand.

Take lunch, liquids, jacket, head covering, sun glasses, and **work gloves**. You might like to have a pair of dry shoes left in the car in case you find that you need them.

April 21: BLM Field Trip, Ridgecrest area. Leader, Peter Milne, Chief of Mineral Resources, BLM. Meet at 9:30 at the Maturango Museum in Ridgecrest. Call Vince Yoder 619/876-4275 or Peter Milne 619/ 375-7125 for more information.

May 26: Joshua Flat, Inyo Mountains. Leader: Doris Fredendall, assisted by Mary DeDecker Meet at 9:00 a.m.toward the crest of the Inyo Mountains on the northern route to Death Valley, where the Saline Valley road turns off To the right. (Leave Highway 395 at the Triangle Campground north of Big Pine, where Highway 168 comes in from the east. Drive east 2.3 miles and turn right. It is 15.3 miles from Big Pine to the meeting site.)

In a good year Joshua Flat is a wonderful flower garden. There may have ben enough precipitation there to bring forth a fairly good variety even in this dry year. Bring the usual needs for desert trips.

June 9: Mammoth Forest Trip. Leader: Barry Freeman. Details to be announced in May newsletter.

June 23-24: Wyman Canyon, White Mountains. Leaders: Paul and Mary DeDecker. Participants must have 4-wheel-drive vehicles with high clearance, and must be approved by the leaders. Call 619/878-2389. Take drinking water and be prepared for overnight camping. It could be chilly, even in June. Meet at Schulman Grove at 10:00 a.m. There should be interesting and unusual plants.

July 7: Green Lake, Bishop Creek area. Leaders Pat and Jack Crowther. Details later. It is suggested that participants be equipped with the chapter publication, "A Bishop Creek Plant List" written by Pat and Jack.

July 21: Agnew Meadow and Shadow Lake trail. Leader: Diane Payne. This interesting trip will begin with a bus ride. Details later.

August: Alabama Hills riparian area. Leader: Vince Yoder. Date and time to be announced later.

September: Leader: Mark Bagley. Time, place and other details to be announced in a later newsletter.

CHANGES IN NOMENCLATURE - Continued from January issue.

Recent name	New Name
ONAGRACEAE	
Camissonia boothii Ssp. *desertrorum*	*Camissonia boothii* Ssp. *inyoensis*
Oenothera contorta Var. *flexuosa*	*Camissonia pusilla*
Epilobium adenocaulon	*Epilobium ciliatum*
Epilobium brevistylum	*Epilobium ciliatum*
Epilobium adenocaulon Var. *parishii*	*Epilobium ciliatum*
Epilobium exaltatum	*pilobium oregenum*
OROBANCHACEAE	
Orobanche ludoviciana	*Orobanche multiflora* Var. *arenosa*
Orobanche ludoviciana Var. *cooperi*	*Orobanche cooperi*
Orobanche ludoviciana Ssp. *latiloba*	*Orobanche cooperi* Ssp. *latiloba*
Orobanche californica Var. *corymbosa*	*Orobanche corymbosa*
PLANTAGINACEAE	
Plantago purshii Var. *oblonga*	*Plantago patagonica*
POLOMONIACEAE	
Imopopsis aggregata	*Gilia aggregata* Var. *aggregata*
Ipomopsis aggregata Ssp. *arizonica*	*Gilia aggregata Var. aggregata* *Gilia aggregata* Ssp. *arizonica*
Ipomopsis aggregata Ssp. *bridgesii*	*Gilia aggregata* Ssp. *bridgesii*
Ipomopsis aggregata Ssp. *attenuata*	*Gilia aggregata* Var. *macrosiphon*
Ipomopsis congesta Ssp. *montana*	*Gilia congesta* Var. *montana*
Ipomopsis depressa	*Gilia depressa*
Allophyllum gilioides	*Gilia gilioides*
Allophyllum violaceum	*Gilia violacea*
Ipomopsis polycladon	*Langloisia setossima* Var. *punctata*
Leptodactylon pungens	*Leptodactylon pungens*

Ssp. *pulchriflorum*	Var. *pungens*
Linanthastrum melingii	*Linanthus melingii*
Linanthastrum nuttallii	*Linanthus nuttallii*
Langloisii matthewsii	*Loeseliastrum matthewsii*
Langloisia schottii	*Loeseliastrum schottii*
Microsteris gracilis	*Microsteris gracilis*
Ssp. *humilis*	Var. *humilior*
Phlox covillei	*Phlox condensata*
Phlox stansburyi	*Phlox longifolia*
	Var. *stansburyi*
Phlox caespitosa	
Ssp. *pulvinata*	*Phlox pulvinata*

POLYGONACEAE

Chorizanthe thurberi	*Centrostegia thurberi*
Eriogonum carneum	*Eriogonum glandulosum*
Eriogonum kearneyi	*Eriogonum mummulare*
Oxytheca luteola	*Goodmania luteola*
Polygonum sawatchense	*Polygonum douglasii*
	Var. *johnstonii*
Rumex feuginus	*Rumex maritimus*
	Var. feuginus

PORTULACACEAE

Claytonia perfoliata	
Var. *parviflora*	*Claytonia parviflora*
Claytonia perfoliata	
Var. depressa	*Claytonia rubra*
Montia chamissoi	*Cruncicallis chamissoi*

ROSACEA

Fragaria platypetala	*Fragaria virginiana*
	Ssp. platypetala
Holodiscus microphyllus	*Holodiscus dumosus*
	Var. *glabrescens*
Ivesia eremica	*Ivesia kingii*
Potentilla flabelliformis	*Potentilla gracilis*
	Var. *flabelliformis*
Cowania mexicana	
Var. *dubia*	*Purshia mexicana* Var. *dubia*
Cowania mexicana	*Purshia mexicana*
Var. *stansburiana*	*Var. stansburiana*

SALICACEAE

Populus trichocarpa	*Populus balsamifera*
	Ssp. *trichocarpa*
Salix anglorum	
Var. *antiplasta*	*Salix artica*
Salix laevigata	*Salix bonplandiana*
Salix caudata	*Salix lasiandra*
Var. *bryantiana*	Var. *caudata*

Salix pseudocordata	*Salix myrtillifolia*
SAXIFRAGACEAE	
Philadelphus microphyllus Ssp. *stramineus*	*Philadelphus stramineus*
Ribes divaricatum Var. *inerme*	*Ribes inerme*
Saxifraga pentata Ssp. *arguta*	*Saxifraga odontoloma*
SACROPHULARIACEAE	
Castilleja breweri	*Castilleja applegatei* Var. *breweri*
Castilleja pinetorum	*Castilleja applegatei* Var. *pinetorum*
Castilleja exile	*Castilleja minor*
Cordylanthus ramosus Ssp. *eremicus*	*Castilleja eremicus*
Cordylanthus canescens	*Cordylanthus maritimus* Ssp. *canescens*
Cordylanthus helleri	*Cordylanthus kingii* Ssp. *helleri*
Mimulus pilosus	*Mimetanthe pilosa*
Mimulus spissus	*Mimulus bigelovii* Var. *cuspidatus*
Antirrhinum filipes	*Neogaerrhinum filipes*
Penstemon confusus Ssp. *patens*	*Penstemon patens*
Penstemon bridgesii	*Penstemon rostiflorus*
Penstemon oreocharis	*Penstemon rydbergii*
Veronica alpina Var. *alterniflora*	*Veronica wormskjoldii* Ssp. *alterniflora*
URTICACEAE	
Parietaria floridana	*Parietaria hespera*
Urtica holosericea	*Urtica dioica* Ssp. *holocerecia*
VIOLACEA	
Viola aurea	*Viola purpurea* Ssp. *aurea*
Viola aurea Ssp. *mohavensis*	*Viola purpurea* Ssp. *mohavensis*
Viola oxyceres	*Viola adunca* Var. *oxyceres*
VISCACEAE	
Arceuthobium campylopodum forma *divaricatum*	*Arceuthobium divaricatum*
EQUISETACEAE	
Equisetum funstonii	*Equisetum laevigatum*

Equisetum kansanum	*Equisetum laevigatum*
PINACEAE	
Pinus balfouriana	*Pinus balfouriana* Var. *australis*
Pinus aristata	*Pinus longaeva*
AGAVACEAE	
Nolina parryi	*Nolina wolfii*
CYPERACEAE	
Carex praeceptorum	*Carex bonanzensis*
Carex yosemitana	*Carex congdonii*
Carex stenophylla	*Carex eleocharis*
Carex nubicola	*Carex haydeniana*
Carex epapillosa	*Carex heteroneura* Var. *epapillosa*
Carex ablata	*Carex luzulina* Var. *ablata*
Carex muricata	*Carex orantha*
Carex hallii	*Carex parryana*
Carex gymnoclada	*Carex scopulorum*
Eleocharis palustris	*Eleocharis machrostachya*
Eleocharis pauciflora	*Eleocharis quinqueflora*
Fimbristylis thermalis	*Fimbristylis spadicea*
Scirpus crininger	*Eriophorum crininger*
Scirpus tabernaemontanii	*Scirpus acutus*
Sc irpus robustus Var. *paludosus*	*Scirpus maritimus*
Scirpus americanus	*Scirpus pungens*
Scirpus olneyi	*Scirpus pungens*
Scirpus pumilus	*Scirpus rollandii*
JUNCACEAE	
Juncus kelloggii	*Juncus abjectus*
Juncus mexicanus	*Juncus balticus* Var. *mexicanus*
Juncus sphaerocarpus	*Juncus bufonius*
Juncus ensifolius Var. *montanus*	*Juncus saximontanus*
Luzula orestra	*Luzula multiflora* Ssp. *comosaa*
Luzula comosa	*Luzula multiflora*Ssp. *comosa*
LILIACEAE	
Calochortus nuttallii var. *bruneaunis*	*Calochortus bruneaunis*
Calochortus nuttallii var. *Panamintensis*	*Calochortrus panamintensis*
Brodiaea dudleyi	*Triteleia dudleyi*
Brodiaea lutea var. *analina*	*Triteleia ixioides* ssp *analina*
ORCHIDACEAE	
Habenaria unalascensis	*Piperia unalascensis*
Habaneria dilatatal var. *lewucostachys*	*Platanthera dilatata*
Habenaria hyperborea	*Platanthera hyperborea* var. *hyperborea*

Habenaria sparsiflora	*Platanthera sparsiflora* var. *sparsiflora*
POACEAE	
Phragmites communis	*Phragmites australis*
Ectosperma alexandrae	*Swallenia alexandrae*
Aristida parishii	*Aristida wrightii* var. *parishii*
Leptochloa fascicularis	*Diplachne fascicularis*
Leptochloa uninervia	*Diplachne uninervia*
Eragrostis megastachya	*Eragrostis cilianensis*
Tridens pilosus	*Erioneuron pilosum*
Tridens pulchellus	*Erioneuron pulchellum*
Sporobolus microspermus	*Mulenbergia minutissima*
Sorgum vulgare	*Sorgum bicolor* ssp. *bicolor*
Setaria lutescens	*Setaria glauca*
Agrostis filicumis	*Agrostis idahoensis*
Agrostis alba	*Agrostis stonolifera* var. *major*
Calamogrostis inexpansa	*Calamogrostid neglecta* var. *neglecta*
Koeleria cristata	*Koeleria macrantha*
Trisetum cernum var. *canescens*	*Tristeum canescens*
Trisetum spicatum var. *molle*	*Tricetum triflorum* ssp. *molle*
Bromus porteri	*Bromus anomalus*
Bromus willdenovii	*Bromus cathicarticus*
Bromus unioloides	*Bromus cathicarticus*
Bromus rigidus	*Bromus diandrus*
Bromus ciliatus	*Bromus richardsonii*
Festuca pratensis	*Festuca elatior*
Hesperochloa kingii	*Leucopa kingii*
Lolium perenne ssp. *multiflorum*	*Lolium multiflorum*
Poa juncifolia	*Poa arida*
Poa cusickii	*Poa fendleriana*
Poa epilis	*Poa fendleriana*
Poa rupicola	*Poa glauca*
Poa interior	*Poa glauca*
Poa hansenii	*Poa leibergii*
Poa ampla	*Poa secunda*
Poa gracillima	*Poa secunda*
Poa incurva	*Poa secunda*
Poa nevadensis	*Poa secunda*
Poa scabrella	*Poa secunda*
Poa sandbergii	*Poa secunda*
Puccinellia airoides	*Puccinellia nuttalliana*
Puccinellia californica	*Torreyochloa californica*
Puccinellia erecta	*Torreyochloa erecta*
Puccinellia puciflora	*Torreyochloa pauciflora*
Festuca megalura	*Vulpia megalura*
Festuca microstachys	*Vulpia microstachys* var. *microstachys*
Festuca grayi	*Vulpia microstachys* var. *ciliata*
Festuca reflexa	*Vulpia micvrostachys* var. *pauciflora*
Festuca pacifica	*Vulpia microstachys* var. *pauciflora*
Festuca octoflora ssp. *hirtella*	*Vulpia octoflora* var. *hirtella*
Oryzopsis kingii	*Ptilagrostis kingi*

Stipa elmeri	*Stipa occidentalis* var. *pubescens*
Stipa parishii	*Stipa coronata* var. *depauperata*
Oryzopsis webberi	*Stipa webberi*
Oryzopsis bloomeri	*Stiporyzopsis bloomeri*
Elymus scribneri	*Agropyron scribneri*
Agropyron parishii	*Elytrigia parishii*
Agropyron smithii	*Elytrigia smithii*
Agropyron spicatrum	*Elytrigia spicatum*
Hordeum hystrix	*Hordeum geniculatum*
Elymus cinereus	*Leymus cinereus*
Elymus condensatus	*Leymus condensatus*
Elymus salina	*Leymus salinae*
Elymus triticoides	*Leymus triticoides*
Sitanion longifolium	*Sitanion hystrix* var. *brevifolium*

POTOMOGETONACEAE

Potomogeton berchtoldii	*Potomogeton pusillus* var. *tenuissimus*

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We extend an enthusiastic welcome to the following new members:

Kathy J. Barnes, Independence

Mr. and Mrs. Sidney Tyler, Jr., Pasadena

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B O O K S

Another of the long-awaited volumes of the INTERMOUNTAIN FLORA, published by the New York Botanical Garden is now available. This one is Volume 3, Part B, THE FABALES, by Rupert C. Barneby. While it does not cover our desert species, it is an excellent reference for the Great Basin species of the Pea Family which occur in the northern part of our area. The cost, including postage and handling fee, is $61.65. Order from Scientific Publications Department, The New York Botanical Garden, Bronx, N.Y. 10458. (This is sure to bring about additional changes in nomenclature for a future issue of our newsletter.)

Genny Smith, long-time Bristlecone Chapter member , has published the fifth edition of Mammoth Lakes Sierra, a handbook for roadside and trail. Many of us own previous editions, but according to Genny this edition is a complete rewrite and contains mountains of new information on the eastern Sierra. This 224 page book is on sale for $11.95 at our local book outlets. For those of you who have inquired, Genny is now working on a new edition of Deepest Valley , a handbook for Owens Valley.

CONSERVATION CORNER

In 1977 an Interagency Motor Vehicle Use Plan was issued. It covered roads and vehicular trails in lands of the Forest Service, Bureau of Land Management, and of the City of Los Angeles. This Plan is now in the process of being updated. The proposal for the unit north of Bishop in the volcanic tablelands and surrounding areas is nearing completion after extensive review and participation by public workshops, meetings and Technical Review Team comments. Signing of some routes for OHV use or closure is expected to begin this spring.

Now the review is to begin for the rest of the routes on Forest Service and BLM lands in the Owens Valley-Mammoth Lakes-Mono Lake areas. Workshops of members of the public representing various user interests will review all routes, trils and ways to determine future use status -- open, restricted in some way, or closed.

Environmental concerns are of paramount importance to us and will receive our continuing attention. Sensitive natural areas, highly erosive soil conditions on slopes, recreational area with high visual values, and rare plant and animal habitats will receive our specialconcern.

Loop rides and long cherry stems are important to recreational OHV riders and will be emphasized by them, but concentrated high-use areas such as Jawbone Canyon are not considered appropriate for our area in which a high level of visual resource is of recreational and esthetic importance.

We hope that this updating can be accomplished this year and signing begin on some routes by next spring.

Vince Yoder

CALIFORNIA NATIVE PLANT SOCIETY - Membership Application.

The California Native Plant Society is an organization of lay persons and professionals united by an interest in the plants of California. It is open to all. Its principal aims are to preserve the native flora and to add to the knowledge of its members and the public.

Name_____ P.O. or Street_____

City_____State_____ Zip_____ Phone_____

Membership Category:

Life, Couple	$400
Life, Single	350
Supporting	30
Family	18
Organization	18
Individual	12
Student	8
Retired	8

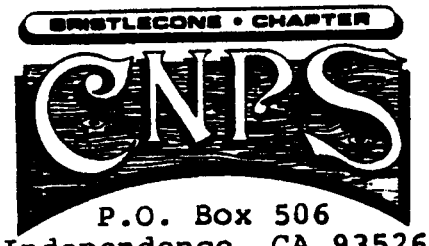
I wish to be affiliated with the following Chapter:

Bristlecone_____

Other_____

Please mail application and check for dues to: Membership Chairman
California Native Plant Society
2380 Ellsworth Street, Suite D
Berkeley, CA 94704

The BRISTLECONE NEWSLETTER comes out bimonthly. It is mailed free to members of the Bristlecone Chapter, CNPS. For non-members the subscription rate is $5.00 per year.



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