

NEW PEREGRINE ON SQUARE LEDGE

Editor's Note: This fine article was submitted by member Jesse Beecher, a young Tamworth naturalist. Jesse is a homeschool study student, performing at the 7th grade level. During the late winter and early spring of 1996 he volunteered to watch a pair of Peregrine Falcons under the guidance of Chris Martin, senior biologist with the Audubon Society of New Hampshire. Jesse has an avid interest in natural history, and as evident from the article, an unusual ability to observe, record, and narrate what he sees. Thank you Jesse.

A bird circles above my head and dives towards the cliff face in front of me and disappears into a crevice in the rock. Then another bird shoots out, circles and flies away to hunt. I cannot see the bird inside the crevice, but I know that this Peregrine Falcon must be incubating eggs, soon to hatch.

The spring and summer of a Peregrine Falcon is quite interesting. After finding a mate a pair will scratch an eyrie in a cave or crevice in a cliff—or they will live in the city and make an eyrie out of a window ledge or bridge post. The female lays two to five eggs. The eggs must be incubated for 33 to 34 days before they hatch. During this time, either the male or female must sit on the eggs to keep them warm. The female does the majority of the incubating. While one sits on the eggs, the other will either eat, hunt, or just hang around. When a Peregrine hunts, it flies high in the sky to spot another bird. Then it will dive down, sometimes reaching speeds of 200 mph, and hit its prey on the back. The Peregrine will then carry the bird back to its mate to eat, or it will eat the kill itself.

This pair of Peregrine Falcons has been coming to Square Ledge for a number of years. In 1991, on May 15, the pair was spotted near Square Ledge, but no more data was collected that year. In 1992, they were seen once on February 21st, and on April 19th the watchers confirmed the Peregrines were incubating eggs. But the hatch failed. In 1993 they were not even seen. In 1994 they were seen once in May, and not again. Last year was the best year yet. The pair returned and were spotted first on April 16th, watchers

confirmed incubation three days later, and the eggs hatched on May 24th.

This spring I hiked the 3.3 miles to Square Ledge almost every week to check the pair of Peregrines. Chris Martin, senior biologist at ASNH and Paul LaRose, a



Figure 1. Unhatched Falcon Egg

seasonal Falcon biologist, instructed me to take observations of the Peregrines' behavior. These observations would help us determine if the pair were incubating eggs or not, if they were having problems with other birds in the area, or if their egg(s) had hatched. I recorded on data sheets events such as: "At 2:56, male Peregrine flies to favorite tree and begins grooming. At 3:01, flies down to eyrie and does a switch with the female." But much of the time, the Falcons were either hunting or incubating their eggs, which meant that I spent lots of time sitting around and waiting.

Six times I hiked to observe the Peregrines, and finally I saw indications that hatching had occurred. Hatching is indicated by a change in behavior; the parent Peregrines stop switching, and when either of them returns from hunting, it brings the kill to the "doorstep" of the

(Continued on Page 2)

PRESIDENT'S VISION

Editor's Note: Prior to the opening of the Annual Meeting in late August, retiring President George Zink described the present condition of the Club, something of its history, and his sense of coming issues.

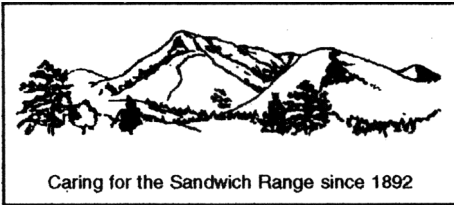
I am delighted to report that our Club has prospered during the past twelve months. The bank account is healthy, though never as robust as one would wish. Membership continues to grow. Much has been accomplished on the trails, with more to come during the next two months. Two Newsletters were written and distributed. During the summer there were four Club activities, the last of which took place yesterday, as Dr. Robert Newton lead a geological field trip on the Kelley Trail, attended by 36 people. It has been a busy year for the Executive Committee with meetings once a month, each lasting well beyond two hours.

There are many challenges ahead, some of which are on the agenda for discussion later this evening. Before the business meeting, I want to say a word about the Club, its past and future actions.

The first summons was to create a trail system. In 1890 there was only one trail in the Wonalancet region of the Sandwich Range; by 1900 there were at least fifteen. In their tome, *Forest and Crag*, the Watermans devote a page to this, and remark "The Wonalancet trail-builders opened access to all of the peaks in the Sandwich Range, with an integrated network of connecting paths to make possible a rich variety of hikes."

From 1900 to 1915 the Club focused much of its energy on protecting the White Mountains from exploitative lumbering; and in concert with others of like mind, succeeded in convincing Congress to pass the Weeks Act. When acquisition of forest lands was the issue, it lobbied to include the Sandwich Range within the WMNF purchase boundary.

Many in this room recall the activity of WODC during RARE II, when we labored to include the Sandwich Range in the list of areas with Wilderness potential. Our involvement peaked during the late 1970's and early 80's when we lobbied Congress to pass the Wilderness Act of



The *Newsletter* is published twice each year by the Wonalancet Out Door Club. The mailing address is:

WODC Newsletter Editor
HC 64, Box 5
Wonalancet, NH 03897

The Editor encourages members and interested readers to submit material for use in future issues. Articles, poems, drawings, comments, criticisms, suggestions, are welcomed.

1984, which created the Sandwich Range Wilderness.

Now to the future. I believe the next decade will bring several new challenges. I foresee our involvement with revision of the Forest Plan; the Executive Committee has signaled its intention by informing the Forest Service that we will be active participants. We have also expressed our intention to work with the Forest Service to implement the Sandwich Range Wilderness Management Plan. Within the past decade the WMNF formulated a management plan, but little has been implemented. The newly appointed Wilderness Manager, Rebecca Oreskes, who has a strong commitment to quality Wilderness, has met with the Executive Committee. We have expressed our intention to assist her.

There are several other advocacy projects in which I believe WODC will want to take part. Considering the lengthy agenda, I will mention only one more. The largest and most significant forest protection project faced by us as individuals, as well as other citizens of the United States, has been under way since 1988. The substance of the project is known by several names: "the recommendations of the Northern Forest Land Council," and "the Northern Forest Stewardship Act." At stake is the preservation and protection of 26 million acres of undeveloped land in northern sections of Maine, New Hampshire,

Vermont, and New York, an area thirty times the size of the WMNF.

"Not the spotted owl, but the vast reforestation of the United States is the most important environmental story in the nation—one with worldwide implications,"

are the words on the cover of the April 1995 issue of the *Atlantic Monthly*.

Members of the Executive Committee believe the Club should support the project, and propose that we join the Northern Forest Alliance, a group of approximately 30 New England and national environmental organizations.

I mention these challenges because I believe some members who are not already assisting the Club in one capacity or another, will volunteer—tonight if possible—to work on one or more of these and similar projects. We need your interest, efforts, and enthusiasms. You will not be alone. You will be working side by side with former WODC benefactors of whose acts we are the fortunate inheritors: Kate Sleeper, Arthur Walden, Tom Wiggan, Fred Bickford, Edgar Rich, Edgar Heermance, Marjory Harkness, as well as several here in this Chapel tonight.

Dues Notice

A *WODC Membership and Order Form* has been included with previous issues of the *Newsletter*. This has resulted in numerous members paying their dues more than once a year. To eliminate confusion, this form will no longer be sent with the *Newsletter*.

Two new forms will be created: a *WODC Order Form*, and a *WODC Membership Form*. The *Order Form* will be sent with each *Newsletter*. The *Membership Form* will be sent each January to all members; a note will be included if the dues have already been paid for that year.

For those of you who have enjoyed paying dues more than once a year, don't despair—both the *Order Form* and the *Membership Form* will allow contributions.

(Continued from Page 1)

NEW PEREGRINE

eyrie and rips parts of the meat off the carcass and leans into the crevice and feeds it to the chicks. If the eyrie is out of sight, then feathers from the dead bird may be seen flying around.

A few days later, as arranged by Chris Martin, two climbers scaled down the cliff to the eyrie and found one chick and one egg that hadn't hatched. This egg may not have hatched for a number of reasons. The egg may not have been fertilized, or some chemicals may have destroyed the embryo. Also, if the first chick hatched before the unhatched egg, the parent Peregrines may have given up on the egg. (The unhatched egg was sent to a lab so these questions could be answered, but results have not yet been determined.) The climbers banded the chick, took pictures, collected feathers and other parts of prey, and came back down with the egg. The leg bands will help watchers in later years determine the identity of this bird. I was lucky enough to be looking through the telescope at the climbers right when they lifted the baby Peregrine out of the eyrie, so I caught a quick glimpse of the white, puffed-up, screeching chick.

Peregrine Falcon reproduction hasn't always been so successful. In the 1960's there were no Peregrine Falcons nesting east of the Mississippi River because DDT had been sprayed into the air to kill insects. This chemical thinned the eggshells of Peregrine Falcons, making them easily broken. In 1972, DDT was banned for use in the United States.

The Peregrine Falcons at Square Ledge are not the only Falcons around the state. Some of the more local nesting sights are the Painted Walls near the Kancamagus Highway, Frankenstein Cliff, and on Mt. Willard in Crawford Notch.

In 1996 there were nine pairs of territorial Falcons in New Hampshire. Five of the nine pairs successfully raised young for a total of thirteen offspring. All of the thirteen baby chicks were banded by the Audubon Society or the New Hampshire Fish and Game Department. This is the first year that they have banded 100% of the year's young. Last year, they also

banded thirteen chicks, but that was out of fifteen hatched.

Already two of this year's young chicks have been spotted. One of them hatched at Devil's Slide in Stark, and migrated down the Connecticut River to Newbury, Vermont. The other was hatched on Holt's Ledge in Lyme and migrated down the Connecticut River to where the river empties into Long Island Sound.

Peregrine Falcons don't always nest on cliffs; they also nest on buildings in cities. Supposing you were a Peregrine Falcon and you were migrating down the Merrimack River (which is a migrating path for some Peregrines) and you flew by Manchester. You would look over at the buildings and think, "Hmmm. What odd cliffs over there. Oh, well. Why don't I spend the winter there?" That's what some Peregrines do. A young female, named Alex by Manchester observers, returned for her ninth consecutive winter in Manchester this fall. A young male from Dixville Notch was seen this fall in Manchester sitting with Alex on the same building. They appear to be getting along quite nicely.

As I stand beneath the cliff eating my lunch and reviewing the information I've recorded so far today, I hear a screech; the male Peregrine Falcon has returned from hunting. He flies to the eyrie, and then, after delivering the kill to his mate, the female flies out. She alights atop the ledge on her favorite dead tree and begins grooming. I am glad to be volunteering my time for such a wonderful experience, and I wish all kids could have the chance to do what I am doing. I think Peregrine Falcons are remarkable creatures, and with help, I believe someday we may see them fly more abundantly.

Jesse Beecher

TRAILS REPORT

November 9th began with an approaching cold front and rain in the forecast. Not the most appealing weather for the final work trip of 1996, but ideal for studying water bars under operating conditions. Perhaps it was the billing as a "Waterbar Extravaganza," but for whatever reason nine hardy souls turned out, including several newcomers. We split into two groups and headed for the Cabin Trail and Blueberry Ledge Trail, two trails with plenty of vital drainage structures. Although dropping temperatures shortened



Figure 2. Bennett St. Trail Trip. F. Lavigne, P. Kirsch, A. Thompson, E. McKinnon, B. Brunell, J. Reardon, (P. Smart photo).

the trip on Blueberry Ledge Trail, many water bars were cleared by both groups.

This was but one of over fifty reported work trips this season. They ranged from leisurely afternoons of brushing by individual adopters, to a 3-night treadway restoration project on the remote Kate Sleeper Trail. Approximately forty volunteers performed over 1000 hours of trail work. Some worked as official trail adopters, performing the vital tasks of keeping our trails clear of brush and blowdowns. Into this group we are pleased to welcome Paul King, adopter of the upper Dacey's Mill Trail and East Loop, and Larry and Sandy Labrie, adopters of the lower Dacey's Mill Trail. John

Boettiger, son-in-law of Red and Charlotte Smalley, also joins us as adopter of the Old Mast Road. Many others participated in the twelve scheduled projects focused on repairing eroded sections of our trails. We were delighted to continue our tradition of joint work trips with the Chocorua Mountain Club, as well as two trips with Trailwrights.

Although not strictly volunteer, the Sandwich Range Conservation Association (SRCA) trail crew made a valuable and devoted effort to our trails. In fact, the SRCA crew performed all of the heavy trail maintenance for the USFS Saco

District this season. With a shrinking trail budget, the Saco and Pemi Districts found the SRCA crew to be a most cost-effective vehicle for meeting their maintenance goals. This pooling of resources from the USFS, WODC, and area trail clubs, helped insure that critical maintenance and restoration was performed on numerous trails in the WMNF. This included over 150 hours of work on the Dacey's Mill Trail, helping build the final water bars needed to fully protect this trail. Our thanks to the many people who helped make this collaboration work, and especially to crew-leader Wes Crane for his skill and dedication.

Due to the sustained efforts of many devoted individuals over many years,

WODC trails are generally in good condition. This means not only that the trails are pleasant to walk, but that they are reasonably protected against erosion caused by water and hikers. Constant vigilance is required to keep the trails in good condition, and there are still trails with critical problems, most notably the Walden Trail.

Although the WODC trails budget will remain nearly constant in 1997, by reallocating funds from other categories we plan to increase our trail crew funding by 30%. We hope this will form a nucleus for the funding and operation of the SRCA trail crew, and enable them to attend to the remote work on Walden Trail.

To support our volunteer efforts, the Trails Committee will be completing the new *Trail Maintenance Guidelines* over the winter. We hope to have this booklet in the hands of all volunteers and other interested parties by early spring. The Committee will also be preparing a calendar of projects for 1997. Any adopter who would like to arrange a special work trip, is encouraged to contact us by mid-January so we can include you in the calendar.

Peter Smart

CAMP HEERMANCE

Earliest evidence that Camp Heermance was constructed on Mt. Whiteface during the summer of 1912 comes from the WODC Secretary's Minutes of the Annual Meeting in September of that year:

"This camp is situated about fifty feet from the spring on the north and east side, where it commands the sun-rise, and it is well sheltered by a spruce growth and its name is Camp Heermance."

There is no mention of the huge rock that faces the open front of the shelter, a feature most campers will remember.

Minutes of previous meetings do not mention an intention to build a second shelter on Whiteface. Perhaps the camp was built on the spur of the moment,

when there were workers eager and available.

Some details of its construction come from an article in *Appalachia* written by the daughter of Edgar Heermance.

"Mountain-climbing interest flourished at Ferncroft. Father made this note, in the unpublished *Heermance Book*, about the shelter project, 'A group of husky friends - Fred Luquens and other Yale classmates - had joined us and helped me achieve a much-needed cabin on the Summit of Mt. Whiteface. After I left, they named it Camp Heermance, from the chief engineer.'



Figure 3. Camp Heermance, 1913. AMC Archives photo.

Father had selected a broad rock face as giving ideal wind protection across the front of the shelter as well as reflecting some of the fire-place heat inside. But it is the presence of the rare mountaintop spring that encourages summit camping on Mt. Whiteface. Father told me of one hot workday when the spring was low. The last two cups had been reserved for the end of the day. Then 'some fool lady hiker' decided that the mud ought to be cleaned out. A record for speed in getting down the mountain was set that afternoon by the crew.

Father took considerable pride in his backpacking ability. Others assisted with the supplies, but he carried the heaviest bulk. He would make two trips a day. Logs were cut at the highest possible point and then carried the remaining distance."

An early photograph of the open shelter from 1913, Figure 3, shows that the logs used in construction were of small size, most less than 6 inches in diameter. Strong tapering of the logs required some patching. The two short front walls are of vertically placed logs of a small diameter. The original shelter had no wooden floor; hikers slept on the bare ground, or more

usually on a bed of balsam and spruce boughs.

Judging from the early photograph, it appears the builders were inexperienced, in contrast to the construction crews that built the relocated Passaconaway Lodge and Camp Shehadi. That is understandable, since the young men who erected Camp Heermance were not woodsmen, but paying guests at Ferncroft.

In just three years of weathering it was necessary to reroof, and within 15 years there were discussions about removing the shelter, as reported in minutes of the annual meeting. In 1932 the camp was fully restored during a major construction project. A metal roof was installed.

Following is an account of how the roofing materials were carried to the site, as narrated by Caswell E. MacGregor, a young man who assisted.

"In 1933 I helped repair Heermance and to put a complete new roof on it. Walter Walker, a man of about 50 who was handy-man of Wonalancet (Club President from 1925-1928, Editor) was the man with whom I worked.

As a young and vigorous college fellow I had loads of energy. The corrugated metal roofing was either 6x4 or 7x3 feet, an awkward size to horse up a mountain. From the initial pile he and I would each carry one or

receiving heavier use than Shehadi. Its location close to the exposed ledges on the south side of the peak, with extraordinary views of the valley below and the lakes to the south west, is an attraction. Its proximity to the ledges makes it an ideal camp for those who wish to observe sunrise and sunset, moon rise and moon set. The presence of the spring, when it's running, within a few yards of the shelter, is another enticement.

No complete restoration of Camp Heermance was made after the 1930's, which accounts for the present poor condition of the shelter. Minor repairs such as painting the metal roof and



Figure 4. Camp Heermance, 1993. P. Smart photo.

two sheets for 200 yards. He would return for his next load while I advanced another 200 yards, deposited mine, and returned for the load he had brought up. The one who worked faster could get a bit of rest between loads.

As an older native, he was determined to wear out the college boy. Nobody wore out, but we had the whole load—about 14 to 16 sheets—at the top in a day and a half."

From its beginning Camp Heermance was a favorite with campers, customarily

replacing a rotting sill, are made whenever the need arises. In early years the trail crew had the annual chore of carrying down the mountain discarded materials—usually an abundance of rusted metal cans. Today, better disciplined hikers "Carry In and Carry Out." However, the onerous task of emptying the toilet is still required.

In his excellent monograph **Hiking Trail Shelters and Their Management on The White Mountain National Forest**, Ned Therrien, former Information Officer on the WMNF, writes:

"The Forest Service has a mandate to save a representative sample of all types of cultural resources that occur on the National Forest. For any shelter that is considered for removal the following question(s) must be asked: Is the shelter associated with a well known individual or organization?" (Ned includes 5 additional questions. Editor)

In partial answer to this question, it is appropriate to give further details on the life and activities of Edgar Heermance.

Reverend Edgar L. Heermance and family spent vacations in Wonalancet as early as 1907, when they stayed with Kate and Arthur Walden at Wonalancet Farm. From 1908 and many years after that, they were guests of Elliott and Elizabeth Fisher at Ferncroft. Edgar was an active outdoorsman; one summer he cycled 4,000 miles in Europe.

His interest in hiking developed from experiences in the mountains of New Hampshire, especially the vacations at Ferncroft.

"Mountain climbing flourished at Ferncroft on the south side of the Sandwich Range, and the inn was much used by members of the Wonalancet Out Door Club...The program of the Connecticut trails system was launched at the Sleeping Giant in 1929. A marker there commemorates Father's trail work and twenty-five years of development under the Connecticut Forest and Park Association. The basic idea came from the trails network of the White Mountains. The application of the idea to Connecticut developed at our summer camp at Mt. Carmel. Even the Connecticut trail blue harks back to the Wonalancet blue blazes. I remember the evenings at home when we tested paint shades graded from the WODC medium blue to white. The pale blue selected for the Connecticut trails was the shade which showed up the longest at dusk."

Throughout his long life—he died in 1953 at age 77 years—he was an active leader in the development of hiking trails and hiking organizations. He was the

moving force in creation of the Connecticut trails system under the Connecticut Forest and Park Association. A biographer notes, "The first meeting of the Association's Trails Committee was held December 27, 1929 and Edgar L. Heermance was naturally chosen chairman, a post he held until June 2 in 1935."

In 1935 he was elected Secretary of the Association, a position he held until 1948. He assumed the role of editor of the association's publications. Best known today is his *Connecticut Guide*.

Heermance's interest in trails extended well beyond his home state. In 1916 he helped organize the New England Trails Conference and was its first chairman. He became interested in forestry, and out of this grew the development of the Northeastern Wood Utilization Council, of which he served as executive director for a decade. There is abundant evidence that Reverend Heermance's contributions to trails and hiking in New England give a strong "Yes" to the question, "Is the shelter associated with a well known individual or organization?"

George E. Zink

EDGAR J. RICH FUND

At the 1996 WODC Annual Meeting on August 18, those present discussed the proposal of the Bylaws Committee to amend the Bylaws to allow the establishment of one or more special purpose funds for the Club. Since the Club has been named by an anonymous donor as the beneficiary of a portion of an annuity fund upon the donor's death, with the requirement that said bequest be used for trails purposes, it was proposed and voted that a Trails Fund be the first fund to be established. It was further decided to officially dedicate for that fund the money left to the Club by Edgar J. Rich in 1948, which has never been spent by the Club and has accumulated to about \$6,100. The fund was named in honor of Edgar J. Rich after discussion of many ideas at Annual Meeting. Although there may be many donors the Club will wish to honor in the future, Edgar J. Rich was notable in his devotion of time, money and concern to the future of the trails, and we feel that he would approve of this fund.

Since trail maintenance is an important and expensive function of the Club, and one whose expenses can vary greatly, the



Fig. 5. Edgar J. Rich on Mt. Chocorua

Trail Fund can be used to supplement the normal annual trail budget as necessary. For instance, in a year when Club revenues have fallen, or a low-cost trail crew is not available, or a major trail project is necessary, the Edgar J. Rich Fund will be a source of funding. The new Bylaws allow expenditures from the Trail Fund to be approved by Executive Committee, but approval of Annual Meeting will be sought for any major spending from the Trails Fund. There was brief discussion of whether the trail purposes for which money could be used should be further specified at this time, but it was decided to review this further in the future as the needs arise. The Trust Fund Committee discussed the option of managing the Trail Fund by creating an independent trust with its own bylaws and governing board, but preferred the less cumbersome option of a separate fund within the control of the WODC.

We are pleased to report that since Annual Meeting, a donation of \$100 was received from an anonymous donor to add to the Fund, for which the Club is very grateful. Anyone with questions about the Fund or about cash donations can contact the Trust Fund Committee (Susan Bryant-Kimball, Judith Reardon, and John Chandler) or any Executive Committee member.

QUESTIONNAIRE

One duty of the Executive Committee is making decisions concerning the future of the Club. Frequently the question arises, "What are the views of Club members on this issue?" Often the answer is, "We do not know."

Within the past year an ad hoc committee (Susan Korpi, Roger Korpi, Peter Smart, Jim Boyle, Chairman) has composed several drafts of a questionnaire, tested the form with a sample of Club members, and finally produced a document which has EC approval. We believe responses to the questions will help make decisions which have solid member support.

A WODC Questionnaire will be mailed to members in January, 1997. In the case of an individual member, only one response is expected. In the event of a family member, multiple responses are anticipated. Since the number of members of a family varies with the family, either request additional copies, or photocopy the form.

In most organizations the response of members to questionnaires is very low. Since WODC members are unique, we are expecting a high return. Please fill out the form, and return it to us.

The Questionnaire mailing will be sent with the Annual Dues notice, and will include a return envelope. You can pay your dues and return the completed form in a single envelope.

Thank you.

This process can also be followed to establish any other desired Funds in the future: for education, book publishing, a building, or any other purpose the Club deems appropriate. Persons with ideas for a Fund should let their suggestions be known.

Judith Reardon

ANNUAL MEETING

Several articles in the current *Newsletter* are detailed reports given at the Annual Meeting, and will not be included in this report.

August 18 was a fine day with no threat of rain or wind to interfere with plans for the potluck supper. Each year this event grows in popularity, as does our membership. Supplied with hot dogs and hamburg from an earlier planned but dismal and rainy workday/barbecue, we were able to provide variety to the picnic. Our thanks go to chefs Beth Brunell and Kent Hemingway for their culinary skills. It is surprising to find a completely unplanned yet varied and balanced potluck meal. One can say that there was more than a morsel to please one's appetite.

The Meeting began promptly at 7:30 with George Zink presiding. He introduced the new WMNF supervisor, Donna Heppe, who spoke to the members on the important role cooperators such as WODC play in assisting the Forest Service with trail work.

The minutes of the 1995 Annual Meeting were approved as amended, and passed unanimously. Dick Daniels' Treasurer's Report reviewed the income and expenses for the years 1995, and 1996 to date. The report was approved unanimously. He then presented the proposed budget for 1997 which was passed.

Sally Zink reported that 3,250 new maps and envelopes were received in February, at a cost of \$5,800.17. Four hundred and fifty-seven maps had been sold through August 18, for a total income of \$1859.

In the absence of Nominating Committee Chairman John Mersfelder, his report was read. Nominations were: Vice-President,

Judith Reardon; Secretary, Barbara Sidley; Treasurer, Dick Daniels. There were no further nominations, the nomination for president remaining unfilled. John Chandler suggested the meeting recess for 5 minutes to work on filling the vacancy. When the meeting was recalled, there were no further nominations for President. Under the new Bylaws (see below) present officers serve until January 1. Judith Reardon agreed to perform the duties of President on that date. Recommendations of the Nominating Committee were moved and the motion seconded and passed.

Clarinda Philips, who resigned earlier this year, was commended for her efficient work as membership chair. Under her leadership the membership of WODC has steadily grown. We thank her for a job well done.

Judith Reardon announced the recommended changes to the Bylaws:

- o Terms will run from January to January.
- o WODC can establish special funds and accept donations.
- o Voting members must have dues paid for the year.
- o The Executive Committee may conduct Club business between meetings.
- o The President will appoint committee chairs and members.
- o There will be one Secretary. Membership will ultimately be the responsibility of the Secretary, although who keeps the list may change from year to year.

The Executive Committee will report any decisions made, in the *Newsletter* or at the Annual Meeting. A motion was made, seconded, and passed unanimously to adopt the changes. The Bylaw Committee consisted of Ted Sidley and Judy Reardon.

Helen Steele thanked George Zink for his term as President. stating he is "a treasure and an amazing act to follow."

Martha Chandler, Beth Brunell, Susan Korpi, and Jean Tewksbury volunteered to help Sally mail out the November *Newsletter*.

The meeting adjourned at 10:15 P.M.

Sally Y. Zink

TREASURER'S REPORT

The Club now functions on a calendar year basis; therefore the latest complete annual budget is for 1995.

Jan. 1, 1995 - Dec. 31, 1995

Income:	
Checking Interest	\$191.59
Concert	134.00
Contributions	903.00
Decals	22.00
Maps	833.70
Patches	75.00
Signs	260.00
Tee shirts	453.00
Trails	500.00
WODC Membership	4005.00
CD Interest	363.82
TOTAL	7741.11

Expenses:	
Clerical	\$832.25
Concert	250.00
Dues to others	63.00
Newsletter	1453.08
Patches	54.00
Tee shirts	308.93
Trails	3949.18
TOTAL	6910.44

NET CHANGE \$830.67

Assets 12/31/95	
Checking Account	\$4883.85
CD 910-1700003	2536.53
CD 910-1700004	2552.71
CD 000-6228097	5999.87
TOTAL	\$15,972.96

BUDGET FOR 1997

Trails	\$3975.00
Newsletter	1200.00
Clerical (Includes Flyers)	1000.00
Tee shirts	300.00
Dues to others	200.00
Miscellaneous	200.00
Contingency (Ex. Com.)	200.00
Library	250.00
TOTAL	\$7325.00

MOUNTAIN THOUGHTS

Editor's Note: Robert J. Carson is Professor of Geology and Environmental Studies at Whitman College in Walla Walla, WA. He volunteered to write this article, following a long hike from the Wonalancet Range to Mt. Paugus and return via the Big Rock Cave Trail. We are grateful to him for sharing the thoughts he had as he hiked.

Hundreds of millions of years ago, North America collided with Eurasia and Africa, closing the proto-Atlantic Ocean and creating the Appalachian Mountains. The sediments and volcanics on the sea floor, and the edges of the continents, were caught in a giant vice. Deformation by folding and faulting, metamorphism due to pressure and heat, and finally melting occurred. The magma rose and cooled slowly as the complex White Mountain Batholith. A batholith is a huge intrusion of granitic rocks into the Earth's crust. In this part of the Sandwich Range, the Conway Granite underlies Wonalancet; Mt. Paugus is underlain by the Mt. Osceola Granite; and a related rock, syenite (like granite, but with little or no quartz), is beneath Hedgehog. These rocks cooled deep beneath the surface when the Appalachians were like the modern Rockies, or even the Himalayas. Great uplift and erosion has brought the granites and the syenite to the surface.

After most of the White Mountain Batholith had cooled, dikes (tabular cross-cutting igneous bodies) were intruded into the coarse-grained granitic rocks. The dikes are only meters thick, so cooled relatively quickly, with the result that they are fine-grained. To the west, on the steepest part of the route between Hedgehog and Paugus Pass, are dark-colored mafic dikes, with a composition similar to the basalts of the Columbia River Plateau of the Pacific Northwest. To the east, in the vicinity of The Overhang, are light-colored felsic dikes, with a composition similar to granite, and a texture like the welded tuff of Yellowstone National Park.

These were my thoughts as I hiked alone on a loop from Wonalancet. Although the rest of my family has always lived in the Appalachian Mountains, I migrated to Washington State. My greatest love when returning to the East is to hike in the

Appalachians. With short vacations in New Hampshire every two years or so, it took 31 years to join the Four Thousand Footer Club. Although I return to some of the "giants" like the Presidentials, the Twins, and Mt. Carrigain, I now prefer the lower peaks, the road less travelled, new rocks and streams and trees. On that summer day in the Sandwich Range, I found the geology fascinating and the trail steep. Indeed, the Lawrence Trail between Paugus Pass and Mt. Paugus is one of the steepest and most rugged in New England. The felsic dikes are less resistant than the adjacent granitic rocks; the route follows the breaks in the cliffs where the dikes have been eroded.

Now my story jumps forward in time to about two million years ago, to the beginning of the Pleistocene Ice Age. During each of many glaciations, thick ice advanced from eastern Canada, burying the White Mountains and extending south to Cape Cod and Long Island. The thick glacier moved southeastward over the Sandwich Range, abrading the northwest sides of the mountains, and plucking the southeast sides, creating cliffs like The Overhang. Along the trail over Mt. Paugus (near Old Shag Site) are striations; the glacier was the agent, and its tools were rocks at its base, in the formation of the parallel scratches aligned with the direction of ice flow.

I am fascinated by depressions near mountains tops. Craters and calderas on volcanoes are expected. What about less common origins for high depressions? Just below the summit of Pat O'Hara Peak in northwestern Wyoming is a lake in a landslide scar; nearby Dean Indian Hill is collapsing so that a trench crosses its summit. Near the top of the Matterhorn (the one in Oregon's Wallowa Mountains) is a cavern. What is the origin of the big depression just north of the trail on the east side of Mt. Paugus near Old Shag Site? The rocks must be less resistant there, for as the glacier flowed over the ridge, the ice excavated this hollow. When the glacier retreated (this does not mean that the ice ignored gravity and flowed uphill) about 15,000 years ago, the hollow became a pond. The pond slowly filled, mostly with organic matter, and today is a swamp.

Big Rock Cave is an impressive site because the boulders there are so huge. Somewhere to the northwest, perhaps at The Overhang, the glacier quarried giant blocks of bedrock. The ice dragged these boulders southeastward and left them at Big Rock Cave. These are record-setting ice-transported boulders—it's rare to see any larger.

There's considerable geologic variety in the Sandwich Range. In the late Paleozoic magma cooled in coarse-grained batholiths and fine-grained dikes. Two varieties of dikes exist: dark ones that are iron-rich, and light ones that are silica-rich. These rocks are the foundation which later Cenozoic processes sculpted. In the most recent hundreds of thousands of years of Earth history, glaciers have eroded the Wonalancet-Paugus area and transported the rock debris southeastward, not only to Big Rock Cave, but farther to the present continental shelf. The last glaciation began about 100,000 years ago and ended only 10,000 years ago. When will the present interglaciation end, so that a glacier is reborn in eastern Canada, and advances south over New England?

Bob Carson

WINTER ACTIVITIES

We have scheduled three activities during the coming winter season. One will be an indoor social event featuring a potluck supper followed by a Forest Service Ranger's presentation. The other two will be outdoor events for cross country skiers: an easy to moderate event on a moonlight evening in late February, the other a day trip into the Sandwich Range Wilderness as a challenge to experienced skiers. Details below.

The two cross country events are cosponsored with the Tamworth Outing Club (TOC), a local organization with a long history of promoting outdoor activities. It is a pleasure to be working with them.

All three events are open to the public. We suggest you make reservations for any event you would like to attend. Phone numbers are included with the description of each event.

January 11, 1997 (Saturday) with "snowdates" of Jan. 12, or Feb. 1 or 2. A Wilderness cross country ski trip from the Bickford Trail trailhead on Rt. 113A in Wonalancet, via Bickford and Whittin Brook Trails to a spot below the Overhang on the Lawrence Trail, and return. Meet at trailhead at 8:00 A.M. Led by **Fred Lavigne (WODC)** and **John Mersfelder** representing TOC. For advanced skiers. Prior registration required. Limit of 10 skiers. Phone Fred at 284-6919 (call before 8:00 P.M.) or John at 323-7793. Skins a must; an all day trip.

February 8, 1997 (Saturday). Potluck Supper at Runnells Hall, Chocorua, 5:30—9:00 P.M. Presentation at 7:00 by **Chuck Prausa, WMNF**, who will lead a discussion on the topic "The Forest Plan Revision." Chuck is director of the revision. Phone Sally Zink at 323-8693, Susan Korpi at 323-8767, or Susan Bryant-Kimball at 284-6506 for further information and suggestions.

February 22, 1997 (Saturday). Cross Country skiing under a Full Moon, 7:00—9:00 P.M. Leaving from the Four Corners parking space for skiers on Great Hill. Hot drinks after the ski! Led by **Sheldon Perry (TOC)** and **John Mersfelder** representing WODC. For the novice and intermediate skier. Prior reservations required. Phone Sheldon at 323-7827 or John at 323-7793.

Several districts have been combined, which should result in greater integration, and an infrastructure allowing one person to perform a function Forest-wide. For example, Rebecca Oreskes has been appointed a Wilderness coordinator, giving greater effectiveness to Wilderness policy. Following his presentation, Terry Clark was very forthcoming about answering many questions from the audience.

Next, Chris Martin, Senior Biologist for the Audubon Society of New Hampshire, gave an illustrated talk on endangered or threatened raptors in New Hampshire. See article on Peregrine Falcons on page 1. The talk was of special interest to those of us who braved the hurricane.

Also of great interest was the illustrated

sustainable development for those living in that area.

For a change of pace, Robert Newton of the Geology Department at Smith College led a geological field trip along the Kelley Trail on August 17. (See the article in the April 1996 *Newsletter*.) The day was very pleasant, the Kelley Trail always beautiful, and we stopped often and examined the unusual geological features of the valley of Kelley Brook.

We look forward to planning for another summer shortly. It is hoped that readers will contact Club officers if there are special subjects or programs they would like to have included in the schedule. If I may add a personal note, I found the programs very meaningful, largely because



Figure 6. Kelley Brook geology hike with Bob Newton

SUMMER ACTIVITIES

Many WODC members, as well as others, attended and enjoyed the unusual variety of programs sponsored by the Club this summer. For those who could not attend, we hope the following will give you a taste of what was missed.

Summer activities opened with a potluck supper at the Benz Center in Center Sandwich, an opportunity to visit with friends after the long winter. Following supper, recently appointed Saco District Ranger Terry Clark spoke about changes on the White Mountain National Forest.

talk given on July 27 by Nat Scrimshaw, co-founder and Executive Director of SRCA, an organization dedicated to supporting citizen stewardship of the Sandwich and Squam mountain ranges. He served as the Executive Director of the Monteverde Institute of Costa Rica. The speaker described the cloud forest at Monteverde, and suggested that its survival was to some extent a function of how well local people were involved in its workings, and how that population was able to sustain itself. He drew interesting parallels with the Tamworth area, but felt that Waterville Valley had not provided

of the sincerity and knowledge of the speakers, as well as the topics presented and their bearing on Wonalancet. It was almost inspiring to hear speakers so involved with their community and their subject matter.

Barbara Sidley