

**Organization of
Biological Field Stations**

**Newsletter
No. 57
Winter 1994**



Number 57

Winter 1994

Newsletter Editor

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Carnegie Museum of Natural History
Rector, PA 15677

NEWSLETTER

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**MINUTES -- 1993 ANNUAL MEETING FOR BUSINESS,
ADIRONDACK ECOLOGICAL CENTER, NEWCOMB, NY,
22-26 SEPTEMBER 1993**

- I. In attendance were representatives of station and individual members and guests as listed in Appendix I.
- II. President Susan Lohr convened the meeting at 8:20 a.m., made announcements and introductions.
- III. Lohr appointed the following nominating committee: Grundman (Chair), Connors and Lohr. Offices to be filled are: President, Vice President, Secretary-treasurer, and Member at Large of the Executive Committee. Each victim to serve two years.
- IV. Minutes of the 1992 Meeting for Business were approved as circulated in the Winter, '93 Newsletter.
- V. Report of Secretary-Treasurer. Coles presented information on membership which appears as Appendix II. Our group has grown to now include 182 members (147 of them as station members; 35 individuals).

The Financial Report appears as Appendix III. On 8/31/93 the OBFS account at Jefferson Bank held \$3,472.30.

- VI. Report of the Editor. Merritt summarized the production of the new directory. Financial details appear as a part of Appendix III. Thanks were given to Colleen Hannikan and Becky Palmer for heroic contributions they made to this project. The directory contains listings for 150 stations. 1500 copies were printed and, in November '92, two copies were mailed to each OBFS station member and one copy was mailed to OBFS individual members. As of August 31, 1993 sales had generated revenue of \$466. The price (\$10 per copy) includes postage and handling. We were not charged for a few defective copies by the printer and have been selling these at \$5 each.

Notices and advertisements have been placed in various professional journals and newsletters. (Any suggestions of other publications where a notice might be placed would be welcome. Copies were sent to ten scientific journals for review. Those from campuses having an office of off-campus study opportunities (or equivalent) are urged to suggest they purchase the directory. Bob Singer at the School for Field Studies offered to provide their mailing list for the distribution of our ad. Those having contacts with Beta Beta Beta (the undergraduate biologists society) might help Joe send ads to their members. Susan Lohr will include a copy of our ad in the 2500 Course Announcement posters she mails out in January. Joe welcomes additional marketing suggestions.

Future editions of the directory should be easier thanks to computerization of the contents. Purchasers of record will be sent updates which will be produced occasionally from descriptions received from stations new to OBFS. The latter would also provide good content for future newsletters.

- VII. Historian. Fisher made available prints of candid photos taken (some of them surreptitiously) at the '92 meeting at Malheur. The Fall '92 issue of the WILDERNESS Society Magazine has a nice article on the Malheur area. Fisher reminded us that the OBFS (originally the Organization of Inland Biological Field Stations) began with an organizational meeting in 1966 at Cedar Creek in Minnesota. The first premeditated, annual meeting occurred in 1967 at Lake Texoma in Oklahoma.

Dave and Jean Parmelee have moved to Las Vegas where he is at the U of Nevada Museum. Both are well and busy. Fisher, himself, is semi-retired and spends Jan.-June in Costa Rica. He welcomes visitors and helps them get around. He's still working on a history of OBFS but being half-time "has doubled his load" and carrying archival records back and forth is difficult.

Scrapbooks of photos from our past meetings were on hand for attendees to enjoy. A list of prior meeting sites will be prepared for the Newsletter.

- VIII. Poster Editor. Lohr pointed out that production of the poster is a cooperative enterprise which involves contributions of money and content from those listed. In '94 the poster listing fee (which is in addition to OBFS dues) will again be \$60. Sue needs a new picture of people doing science in the field with a nice background. She distributed forms soliciting poster information from those present. Later she will send a mailing to those not in attendance, and will send out invoices. The poster has stimulated inquiries, applications and enrollment at stations effectively. Stations already filled for the summer are encouraged to direct overflow applicants to other stations.

At a recent NSF conference on the REU (Research Experiences for Undergraduates) project, discussion arose about their producing an REU poster. Sue would like our reaction....wouldn't this "compete" with our poster?

Bill Porter said that undergraduates don't respond to or take note of the "research opportunities....for credit...and..for non-credit" as they assume "research" is for those at a higher level. Discussion followed regarding the history and purpose of the poster - was it just for undergraduates? The issue is unresolved and she welcomes input.

- IX. AIBS Representative. Due to illness, Steve Havera was unable to attend. His report of the Feb '93 meeting of AIBS which he attended appeared in the spring Newsletter. Steve was elected to the AIBS governing board.

- X. **Future Meeting Sites:** The '94 meeting will be from the evening of Thursday, Sept. 15 to the morning of Sunday, the 18th at the Flathead Lake Biological Station (FLBS) of the U of Montana. Sue Gillespie representing the station described the setting. Located 90 miles north of the main campus FLBS is at 3000 ft., surrounded by peaks of the Mission Range which go up to 10,000 ft. Glacier National Park is to the north (we plan to visit it) and the Bob Marshall Wilderness is to the east. An Indian Reservation occupies much of this territory. The headwaters of the Saskatchewan, Columbia, and Missouri Rivers are here. Flathead Lake (480 Km², 28 x 15 miles) has a gravel shoreline and is the largest freshwater lake in the western U.S. The landscape is dominated by a forest of Ponderosa Pine/Douglas Fir. FLBS owns 60 acres at its main facility and an additional 190A on various islands. There are hiking trails, three labs, and summer housing for 45-65 students, in rustic 2-person cabins. There are 10 two person dorm rooms and 8 faculty cabins (holding 4). The faculty is drawn from the parent institution and from other universities. The station will provide linens, pillows, towels. The dining room on the lake shore feeds 100 (50 inside, 50 outside).

Plans for field trips include visits to Glacier National Park, Wild Horse Island, the Nat'l Bison Range, and the Nine Pipe Reservation. (Some of these may be available only to those able to arrive before Thursday, the 15th...) We should expect cool weather and possible snow, at least on nearby peaks!

The 1995 meeting will be at Treehaven Nature Center in Wisconsin. Beyond that, invitations are still being evaluated.

- XI. **Standing Committees:** Several committees are currently in purgatory and no reports were forthcoming. As matters appropriate for committee treatment arise, it is assumed that resurrections will occur on an as needed basis.

A. **International Committee.** Wyman reported that efforts to contact 150 stations world wide had generated 37 positive responses so far - Saudi Arabia's station returned elaborate information on their date palm research effort! Various questions from respondents were discussed. Stations in some countries are primarily agricultural.

It is still unclear what sort of dues we might charge to an international station wishing to join OBFS. (To date, the secretary has been encouraging foreign stations to have a representative join as an individual member thus sparing them of the greater expense of station membership. This was done in part because of our limited ability to provide significant service to remote localities and due to the low likelihood that they would be able to benefit from attending our meetings.) It was suggested that we establish a new international category of membership but the matter was left unresolved.

The international outreach effort had cost the Huyck Preserve more than the \$200 authorized for the committee's use. It was moved, seconded and passed that we reimburse for the amount budgeted and that we again budget \$200 for the committee's use in 1994 and that we gratefully commend the Huyck Preserve for absorbing the unanticipated expense.

B. Program Committee: The '93 program itself stands as the report of Bill Porter, of the Adirondack Ecological Center. The executive committee suggested that the next year's host (in this case Jack Stanford of FLBS) serve as chairperson of this committee. In reality this person is the logical person and the one on whom this duty gently descends. The President, Vice President and any who volunteer their services fill in the rest of the committee. The Vice President can serve to receive and convey suggestions about the meat of the program. Numerous topics have arisen from member suggestions in the past and many are yet to be explored. This suggestion was agreed upon. The '94 program will be announced in the spring newsletter.

C. NSF Relations (a committee of the whole): Last year discussion arose concerning NSF's having declined our invitation that they send a representative to meet with us. In '92, Steve Havera assembled a questionnaire which Sue Lohr sent to our members in November. There was haste based on Art McKee having talked with Tom Callahan at NSF who needed statistics about our needs to help him defend the budget for facilities at field stations. Susan sent the results and a letter to Tom Callahan who did use the information in his budget submission. This and related correspondence are in Appendix IV.

Subsequently, in May '93, Jennie Moehlmann of AIBS asked regarding the importance of NSF funding to build stations and was given the same information which was used again in a presentation by AIBS before a congressional committee.

In her presentation to a non-business session of our 1993 meeting Joanne Hazlett had indicated a willingness to receive a proposal from OBFS to hold a conference to evaluate NSF funding policies and to suggest increased funding for field stations. Points raised in our discussion included:

- It's been almost ten years since the last conference and we need to raise our visibility again and urge continuation of funding in the future (lest the program be dropped if we do nothing....)

- Jim Edwards (friendly to Field Stations) is now an 'Executive Officer' at NSF. He is a higher-up and still supportive. We need to keep him up to date. Sue tries to do this, especially regarding the inseparability of research and education at both the level of the undergrad and of the grad student.

- An NSF panel member reported that a pure education proposal at NSF did poorly. But a proposal to do some education submitted by a field station with a strong research program fared better.

- When facilities funding programs for terrestrial field stations (\$1M) were merged with those for marine stations (\$0.5M) the awards from the new pool (\$1.5M) went mostly to the large proposals (\$100K or more) submitted by marine stations. (As background: Several years ago, a congressman from Rhode Island, Connie Schneider, forced this merger by attaching it to an appropriations bill. This gesture had been prompted by marine stations advocates.)

- NSF regulations drive the number of proposals down, and the success rate up. (This is interpreted by NSF as reflecting a reduction in our level of need, as reported by Joanne Hazlett this year, as well as by others previously.) We should consider flooding NSF with more proposals. Changing NSF regulations (re. matching, and the artificial separation of research facilities (which might qualify for funding) from education facilities (do not qualify) would encourage small teaching-oriented stations to apply. (It should be mentioned that a small station submitting its first proposal of magnitude, under \$25K, no longer needs to provide a match...)

- We should do another quick polling of field stations, telling them what the regulations are and asking what their reactions are and, especially, "do these requirements inhibit you?" In addition the questionnaire might present 3-4 alternate scenarios and ask "which would encourage you"?

- Susan Lohr will call Tom Callahan as he seems to be assembling new regulations for next year's round of proposals. To be most meaningful a workshop would have to precede 1994.

- The marine stations, our competitors, are active, have a lobbyist and are pressing NSF continually. We have to put out significant effort to convince NSF. While it might be difficult for our organization to mount this effort, it's likely that we could put on significantly more pressure than we now do and do so at little more cost.

- Recently the Ecological Society of America (ESA) provided input to Congress on how ecologists access the natural world, but didn't mention field stations or OBFS. However, when the ESA met at Snowbird, Utah, a little self-inspection was performed and it was discovered that 80-85% of today's ecologists decided to enter the discipline after having a field station experience.

- Directors of OBFS member stations could ask their researchers to write a short paragraph on how important field stations are to them and their work and thus to research and education in Ecology (etc.) Directors should also develop contacts

with their U.S. Congressmen and Senators. Directors should also contact Tom Callahan individually and not just leave the matter of applying pressure to OBFS officers.

- The Biodiversity initiative funds are coming largely from the USF&WS budget and will go mostly to cooperative research units.....and NOT field stations.

It was moved, seconded and passed that the OBFS executive committee proceed as soon as possible to convene and conduct an evaluation workshop to consider the needs for facility funding at field stations and the impact of present NSF regulations and policies. (Presumably this effort would build upon the previous workshop held at Kellogg Biological Station in October, 1984 and its report.)

Earlier, 5-6 hands went up from people who already have contacts with legislators. We should assign someone the job of reminding those several people to actively use them. In the preparation of the proposal Susan Lohr will do a questionnaire/survey on the impact of NSF regulations on our proposals, and will include the results in communications with NSF. She will add to the questionnaire, questions like - "who do you know", "could you contact them", "would you consent for OBFS to contact them", etc.

D. Report of the Nominating Committee: Grundman presented the following slate:

| | | |
|------------------------|------------|------------------|
| President (2 yr. term) | Art McKee* | Steve Havera* |
| Vice-President " | Dave Mahan | Wade Sherbrooke* |
| Secretary-Treasurer " | Dick Coles | <u>write in</u> |
| Member at large " | Dan Dawson | Bob Hastings |

* - pending acceptance of the nomination by the potential victim. There being no nominations from the floor, a motion to accept this slate and to thank the committee for its labors was passed.

XII. New Business

A. Susan Lohr reviewed the actions of the executive committee regarding the questionnaire and proposal to NSF and concerning the change in the selection of the program committee chairperson, as detailed above.

B. She also reported that she declined a request from an unidentified faculty member who had not been paid by a field station who asked that we intervene.

She also turned down a request that OBFS assign a representative to Partners in Flight (PIF), a new organization focusing on neo-tropical migrant birds, but encouraged interested OBFS members to participate individually. (Bill Scharf is on the mid-west steering committee of PIF.)

C. In the past there was a survey of fees charged at field stations. Lohr would like to see this reinstated and have a compilation of the results. Ross Shaw volunteered to conduct a poll and report.

D. It was moved, seconded and passed that the present dues structure (\$50/yr for station members; \$10/yr for individual members) be extended for 1994. In related discussion it was suggested that as part of the NSF-workshop initiative, consideration be given to what new or expanded OBFS activities might strengthen our position with NSF and in general. Included should be the possibility of raising dues to facilitate such expansion of our role. The executive committee was asked to consider this and perhaps spend an additional day at the proposed workshop site (at OBFS expense) for this purpose.

E. The USDA animal regulations apply to vertebrates being held 12 hours. or more. If you aren't registered and aware of the regulations, contact Joe Merritt.....prevention here is far simpler than cure. USDA is very helpful. For those funded by NIH, it may be the relevant lead agency but NIH is way behind regarding its responsibility here.

F. Peter Connors brought word from Bodega Marine Lab (whose director, Jim Clegg is president of the National Association of Marine Labs (NAML) asking informally whether OBFS might want to cooperate with NAML at some level (perhaps at the board level). Might we get together occasionally to discuss cooperation. NAML has three regional associations which meet yearly. The national board of directors meets semiannually. There is a national membership meeting biannually. NAML membership includes 85 of the 100, (plus or minus) extant marine stations.

It was observed that OBFS might benefit from such activity more than NAML might. The goal could be that by our working together the size of the pie might be increased to the benefit even of those with a more limited appetite. One member reported feeling like a box turtle chased by a shark.....

A motion was passed that: Keeping prior discussions in mind, our executive committee is encouraged to attend either of the national meetings as our executive committee may decide.

XIII. Adjournment: With thanks to Becky Palmer who executes many of the duties of the Secretary-Treasurer and who, with her husband Paul was able to attend many parts of this years OBFS meeting and with thanks as well for the hospitality of our gracious hosts, the meeting was adjourned Saturday, Sept 25, 1993.

* * * * *

| | | | |
|---|------------|--|---------|
| Host Station: Adirondack Ecological Center - NY Bill Porter | | Kathleen Gibson Meanook Biol Res Sta Alberta, Edmonton | Station |
| Susan Beegel Nantucket Field Station Massachusetts | Guest | Ronald Giegerich Roosevelt Wildlife - SUNY New York | Guest |
| John Brady Black Rock Forest New York | Station | Sue Gillespie Flathead Lake Biol Montana | Station |
| Bob Burgess Adirondack Ecol Center New York | Station | Alan Grundman Jasper Ridge Biol Pres California | Station |
| Laura S. Carter E N Huyck Preserve (Bd of Directors) NY | Individual | Robert W Hastings Turtle Cove Biol Sta Louisiana | Station |
| LeBaron Colt Lloyd Center, Dartmouth Massachusetts | Individual | Harold E Klieforth Whitell Forest Nevada | Station |
| Richard W Coles Washington U Tyson Res Missouri | Station | Terri Kromel Powdermill Biol Sta Pennsylvania | Station |
| Peter Connors Bodega Marine Lab California | Station | Susan Allen Lohr Rocky Mountain Biol Lab Colorado | Station |
| Tom Crandell Univ MI Douglas Lake Michigan | Individual | Dave Mahan Au Sable Institute Env Michigan | Station |
| Robert Dalgleish Lloyd Ctr Envir Studies Massachusetts | Station | Mark J Mellow Lloyd Ctr Env Studies Massachusetts | Station |
| Daniel R Dawson Valentine Eastern Sierra California | Station | Joseph F Merritt Powdermill Nature Res Pennsylvania | Station |
| Bohdan Dziadyk Green Wing Env Lab Illinois | Station | Gail Anne Mihocko Mohonk Preserve New York | Station |
| Robert L Fisher Raystown Field Station Pennsylvania | Individual | Alan P Romspert Desert Studies Ctr California | Station |

Jerome G Rozen Individual
American Museum Nat
New York

Barbara L Rozen Guest
American Museum Nat
New York

William C Scharf Individual
Cedar Point Biol Sta
Nebraska

William Schuster Station
Black Rock Forest
New York

Ross F Shaw Station
Thomas B Crowley Lab
Washington

Bob Singer Station
School for Field Studies
Massachusetts

Carol Spain Station
McCall Field Campus
Idaho

Wesley N Tiffney Station
Nantucket Field Station
Massachusetts

John Wrazen Station
Babcock Nature Pres
Vermont

Richard L Wyman Station
Huyck Preserve
New York

Chuck Yohn Station
Raystown Field Sta
Pennsylvania

III. OBFS REPORTS

OBFS FINANCIAL REPORT

Balance Checking Account, August 31, 1992 \$13,596.54

Income

| | | |
|----------------------|-----------|-----------------|
| Dues | \$6942.00 | |
| loss for Canadian \$ | <15.24> | |
| Interest on NOW | 234.65 | |
| Directory Sales | 446.00 | |
| | | <u>7,607.41</u> |

21,203.95

Expense

| | | |
|--------------------------|---------|----------|
| Office and Miscellaneous | | |
| Secr - 155 hrs @ \$11.25 | 1743.75 | |
| Postage | 483.55 | |
| Phone (toll calls) | 45.27 | |
| Xeroxing & Copying | 86.44 | |
| P O Box Rental | 7.25 | |
| Inv Forms, Acc't book | 17.88 | |
| Tyvec Envelopes (Dir) | 129.60 | 2,513.74 |

| | | |
|-----------|--|--------|
| AIBS DUES | | 100.00 |
|-----------|--|--------|

| | | |
|------------------|--|--------|
| Travel & Lodging | | |
| Joe Merritt | | 886.47 |

| | | |
|------------|--|--------|
| Newsletter | | |
| Printing | | 713.45 |
| Postage | | 425.00 |

| | | |
|-------------|-----------|-----------|
| Directory | | |
| Printing | 10,448.15 | |
| Data Entry | 1,446.00 | |
| Film | 11.54 | |
| Cover Photo | 125.00 | |
| Advertising | 620.00* | |
| Postage | 430.00 | 13,080.69 |

| | | |
|--------------------------|--|-------|
| Incorporation Fee | | 1.00 |
| Bank Charge - new checks | | 11.30 |

17,731.65

Balance Checking Account August 31, 1993 \$ 3,472.30

*Including Am Soc Mammology \$500.00

* * * * *

DIRECTORY EXPENSES

1992

| | | |
|----------------|----------|---------|
| Correspondence | \$ 21.00 | |
| Typing | 580.00 | |
| Postage | 200.00 | |
| Software | 1465.00 | |
| | | 2266.00 |

1993

| | | |
|------------------------|-----------|-----------------|
| Printing (1500 copies) | 10,448.15 | |
| Data Entry | 1,446.00 | |
| Film | 11.54 | |
| Cover Photo | 125.00 | |
| Advertising | 620.00 | |
| Postage | 430.00 | |
| | | 13,080.69 |
| | | <hr/> 15,346.69 |

* * * * *

60* copies sold (through September 20, 1993)

Orders unfilled - approximately 20

* Some were and are being sold for \$5.00 (damaged copies)

Financial sheet shows the income \$466.00 (thru 8/31/93)

The \$6.00 figure is a result of a Canadian sale; the amount remitted was \$6.00

CURRENT STATUS OF OBFS MEMBERSHIP

182 members - 147 station members; 35 individual members
11 new members - 11 New Directors at Member Stations
5 resigned

NEW MEMBERS

S Dr David Bechler - Center Coastal & Marine Studies TX
S Laura Davalos-Lind - Chapala Ecology Station TX
S Dr Lawrence Gilbert - Brackenridge Field Laboratory TX
I Dr Moshe Gophen - Univ of Oklahoma Biol Station OK
S Kenneth Kinucan - Univ Idaho Field Sta - Clark Fork ID
I William Matthews - Univ of Oklahoma Biol Station OK
I Steve Peterson - Great Basin Env Ctr, Snow Coll UT
S Luther Probst - The Rincon Institute AZ
S Dr William Schuster - Black Rock Forest NY
S Dr Michael Swift - Monticello Ecologist Res Sta MN
S Dr Stanley L. Welsh - Lytle Preserve UT

NEW DIRECTORS AT MEMBER STATIONS

New Director - (No other information) Kananaskis Calgary
Barbara Kent - Mount Desert Island Biol Lab NY
Dr Walter Nelson - Indian River Marine Science Ctr FL
Dr Jim Neufeld - Churchill Northern Studies Manitoba
Dr Margery Oldfield - Seatuck Foundation - NY
Carol Spain - University of Idaho - McCall Field ID
Dr Dave Tilman - Cedar Creek Natural History Area MN
Henry Wilbur - Mountain Lake Biological Station VA
Chuck Yohn - Raystown Field Station PA
Dr Paul Zedler - Sky Oaks Biol Field Station CA

RESIGNED

Dr Elizabeth Gladfelter - West Indies Laboratory V I
Dr Nathan Hatch - University of Notre Dame IN
Lynn Jorgensen - Individual MN
J C Richardson - Las Rocas De Dios CA
Bill Sperling - Pigeon Lake Field Station

PUBLIC RELATIONS/FUNDRAISING PANEL (September 1993 OBFS Meeting)

Summary of panelist remarks; compilation of fundraising and public relations tips.

Public Relations/Fundraising Committee
(Laura Carter, Kathleen Gibson, Chuck Yohn)

PANELISTS

Alan Grundmann Jasper Ridge Biological Pres., Stanford U.
topic: public relations in the community

Twenty years ago, the Jasper Ridge Station upset the surrounding community when it fenced itself off to protect research areas. To improve public relations, the Preserve trained community leaders as docents, and they, in turn, trained others as docents. Today, more than 80 docents give tours to 3,500 visitors and 2,000 elementary students each year.

Tom Crandell U. of Michigan Bio. Sta. at Douglas Lake
topic: strategies for public relations and fundraising

The Douglas Lake Station raises about \$30,000 in its direct mail campaign each year (approximately 6,000 letters). A strong alumni group made up of faculty, students, and researchers, is key to the campaign's success, says Crandell, who keeps the group informed of station activities via newsletters and special events. Media coverage is important too: interesting news stories help build public awareness and support for programs. The station and the community also raised \$1.2 million to rescue a 300 acre hardwood forest from developers.

Susan Beegal U. of Massachusetts, Nantucket Field Station
topic: general fundraising principles

Susan Beegal, a member of the Nantucket Library board of directors that undertook a \$4 million capital campaign, shared fundraising strategies with OBFS members. She advised against using professional fundraisers who tend to be expensive as well as a turnoff to potential donors.

Susan Allen Lohr Rocky Mountain Biological Lab
topic: public relations and fundraising

RMBL trained its board of directors and scientists to fundraise after a disastrous experience with a professional fundraiser who knew nothing about field stations. The most effective spokespeople in fundraising campaigns are people with the greatest pride in and commitment to the station. Create a menu of projects/activities for donors to chose from, and, later, show them how their money is being spent.

Ron Lawrenz St Croix Station, Minnesota
topic: fundraising (not at meeting, but sent comments)

Lawrenz stressed the importance of creating a master plan to indicate the direction/mission of the station. And, since fundraising campaigns are based on salesmanship, presentations should be more visual, have more graphics, and be less technical than scientific grant proposals.

FUNDRAISING AND PUBLIC RELATIONS TIPS**A. WHY YOU SHOULD NEVER HIRE PROFESSIONAL FUNDRAISERS**

- They are EXPENSIVE and will take 10-12% of what you raise.
- They may not understand field stations or your concerns; they are never as convincing as you are.
- Donors don't want to pay fundraiser's salaries/fees.
- Professional fundraisers may underestimate capital needs and set campaign goals that are too low (they want to increase their chance of reaching their goals).
- They may decide that the margin for success is not high enough to take the campaign public. This results in the loss of money and prestige for your organization.
- You pay extra for brochures, videos, etc. when you buy them through professional fundraisers.

B. FUNDRAISING TIPS

1. Conduct a **FEASIBILITY STUDY**: Interview key people in community. Conduct 1-hour interviews with 20 key people in the community to assess people's perception of the organization (key people should include local business leaders, political leaders, leaders in similar non-profits). You may also want to provide a copy of your plan/proposal and solicit input on the strengths and weaknesses of the plan. Questions to ask, include:

Are you a member, why or why not?
 Which programs are important/not important and why.
 Suggestions for new programs

2. Develop a **MASTER PLAN** to indicate direction/mission of station.
3. Choose a **STEERING COMMITTEE** (campaign chairmen)--2 high profile opinion makers; rich; energetic
4. **IDENTIFY potential DONORS**
 - Foundation directories (Check trustee lists too. You can contact trustees you know, invite them to station, let them know you're submitting proposal, etc.)
 - Internet Bulletin Boards post foundation announcements
 - Annual reports of other nonprofit groups often list donors
 - Alumni, past researchers, faculty
 - Create a leadership list of donors (people who can potentially contribute a substantial amount or have access to others who can). Think big and don't be afraid to go after the big donations (the Nantucket Library's leadership gifts were \$50,000 and more). Usually, 80-90% of the money raised will come from a very few people.
 - Remember, some people have to give money away (for tax purposes)
 - Find community leaders and opinion makers and make them your friends

5. Fundraising materials

- a. **Write a case statement:** Approximately five pages long; provides a brief history of your organization; rationale for fundraising campaign; address weaknesses identified during the feasibility study. The case statement can also be used to train solicitors.
- b. **Fundraising packets** can be tailored to specific donors (the packets can be inexpensive folders with pockets).
- c. **Fundraising letters** can be very effective (have Board members write personal notes on letters to people they know--fundraisers say that this can increase donations by 30% or more).
- d. **Proposals** should be succinct, yet provide details of the problems.
- e. Make heavy use of visual aids.
- f. Avoid using materials that are too technical.

7. Have menu of possibilities for donations

- Every donation is important
- Life insurance policy with station as beneficiary
- Station can be included in wills
- Develop different funds using names of faculty members
- Specific projects, scholarships, equipment, etc.

8. Be careful not to tailor programs to meet foundation guidelines. You may end up with money for programs that are not really in the interest of your station.

9. Have at least 10% of your campaign goal privately pledged before taking the campaign public. This generates initial enthusiasm and helps to create an atmosphere of success.

10. Three year campaigns tend to be very effective. People can pledge over a long period of time and include their contribution in their financial planning. There is typically an 80% success rate on pledge returns.

11. Be accountable

- Donors need to know where money is spent
- Use visual rather than technical displays to show results
- Show donors tangible outcomes
- Thank donors (Board can write thankyou's to donors they know)
- Don't forget to acknowledge donors--remember the brass plaques and tea parties
- Spend the money on what you said you would spend it on and keep detailed records for reporting.
- Keep a file of photos, press releases, articles, etc. for each grant to enhance reporting

12. Other tips:

- Use University Development Office (if applicable)--
Get included in University's fundraising drive; provide brochures, pictures, information on station activities.
- Use students and field station alumni in your campaign.
- Campaigns are based on salesmanship, not grant writing.
- Use gimmicks such as auctioning off shovels and bricks

C. PUBLIC RELATIONS TIPS

1. Develop a "friends of" organization

- Alumni, faculty, researchers, other visitors
- Provide newsletters or other means of keeping in touch
- Plan events, gatherings for group
- Creates a spirit of belonging; pride in station
- Ensures that people who care about facility are actively involved--and they are more likely to donate money
- Student "Friends" can give slide shows, recruit others
- Encourage board of directors to get involved

2. Media coverage is important--provide press releases about station activities to media (or to University PR office if appropriate). Media includes university publications, newspapers, regional magazines, travel magazines, television, radio.

3. Sit on other nonprofit boards in community (but not too many); you'll make contacts that may lead to funding sources.

4. Give tours to prospective donors; show them beautiful things and things that need urgent attention.

5. Be a good neighbor.

6. Find the community leaders and opinion makers and make them your friends. You can even train community leaders as interpretive guides for your facility--this can foster good public relations,

7. Have trustee spouses visit facility (on trustee weekends).

8. Use telemarketing.

9. Make sure administrators are personally aware of station activities and problems.

10. Remember that public relations and fundraising are intertwined.

FEE STRUCTURES FOR FIELD STATIONS

Organization of Biological Field Stations

| NAME OF STATION | TUITION | LODGING | MEALS | LAB FEE |
|--------------------------------------|-------------------|--------------|--------------------|------------|
| Churchill Northern Studies Centre | 450 /week course | included | included | |
| Flathead Lake Biological Station | 130/sem. hour | 1,000/summer | included | included |
| Highlands Biological Station | 85/sem. hour | 30/week | kitchens available | 25/week |
| Hopkins Marine Station | 2,398 for 6 units | not provided | not provided | |
| Manomet Bird Observatory | 1,300 | | not provided | |
| Mountain Lake Biological Station | 200/sem. hour | 90/ 5 weeks | 390/ 5 weeks | 65/courses |
| Mountain Research Station | 500/course | included | included | included |
| Oregon Institute of Marine Biology | 390/4 sem. hours | 920/summer | included | included |
| Pymatuning Laboratory of Ecology | 160/sem. hour | 600/session | included | 40/class |
| Rocky Mountain Biological Laboratory | 133/unit | 18/day | included | 3.25/day |
| Seattle Pacific University | | 250/course | included | included |
| Shoals Marine Laboratory | 1,495/course | included | included | included |
| Sierra Institute | 1,200 | | | |
| University of Michigan Bio. Station | 1,600/summer | 735/summer | included | 50/summer |

To OBFS Station Directors:

I've attached a compilation of fee structures for a few field stations. This information came from the mailings I received during the year, usually of course posters. For 1994 I would be willing to do a much more comprehensive compilation, if you will send me your rate schedules or fee structures. Send to: Susan Lohr, Director, RMBL, Box 519, Crested Butte, CO 81224. My email address is "RMBL_DIR@WSC.COLORADO.EDU". Thanks!

LETTER TO NSF FROM PRESIDENT LOHR

Dr. Tom Callahan
Biological Research Resources
National Science Foundation
1800 G St. NW
Washington, D.C. 20550

Dear Tom:

At the OBFS Annual Meeting in September, field station directors discussed how grateful we are for National Science Foundation support for facilities and research we have received in the past, and how important it is to all of us that such support continue. We realize that the NSF is beset by funding problems and that NSF staff are chronically overworked. We agree that our organization should make every effort possible to assist the NSF in whatever way it can, so that important funding resources are not lost to us.

As a result of our concern, the OBFS Research Committee circulated a questionnaire to field station and marine laboratory directors, with the goal of compiling the results for presentation to you in a timely fashion (that is, for your use when FY 1994 budget negotiations begin). I've enclosed the compilation, which was sent to me by Dr. Stephen Havera, the Chair of the Research Committee. The data indicate that NSF funding for both facilities and research is essential to developing research infrastructure and to fostering research productivity at field stations and marine laboratories. By virtue of that support, field stations have enhanced capabilities to make important contributions toward addressing the nation's research agenda and toward training tomorrow's research scientists, resource managers, policy makers and informed citizens. Perhaps most telling is that for 80 percent of the 46 field stations to whom the questionnaire was appropriate, NSF facilities funding is either critical (61%) or very beneficial (16%) to their programs, and 80% had a significant number of principal investigators, research staff and graduate students with NSF research support over the past five years.

Station directors are deeply appreciative of past NSF support, as indicated by these results, but they are concerned that the current trend is toward declining funding for field stations. We want to do whatever we can to reverse that trend, and to increase the NSF funding commitment to field stations. We are especially concerned that managing the field station program adds to an already overburdened staff and we urge the NSF to add a rotating staff member to handle a variety of tasks, including special competitions such as ours. Also, the OBFS views the peer review process as an essential component of NSF funding and we urge the NSF to continue it, in addition to panel reviews.

On behalf of the governing board and members of the OBFS, I want to express my gratitude for your personal interest in field stations and in the OBFS. I've asked that your name be added to our routine mailing list, and I will put a plea in our next newsletter urging that any station directors interested in serving on a review panel contact you directly. For my part, I would be very interested in serving whenever you think it might be appropriate. I've also asked Dick Coles, the OBFS Secretary/Treasurer, to send you information about the organization. Please don't hesitate to contact me at any time.

Sincerely,

Susan Allen Lohr
Director, Rocky Mountain Biological Laboratory
President, OBFS

cc: Jim Edwards, NSF
encl.

NSF Research and Facility Support at Field Stations and Marine Laboratories for the Past Five Years:
Results of a Questionnaire by the Organization of Biological Field Stations, November 1992

| | <u># of stations</u> | <u>median</u> | <u>mean</u> |
|---|----------------------|---------------------------------|----------------------------------|
| 1. Stations with research projects funded by the NSF (n=46) | 30 (65.2%) | 6/\$554,286 | 11/\$2 million |
| 2. Stations with PIs funded by NSF (n=46) | 37 (80.4%) | | |
| - on-site only | 3 (6.5%) | 2 | 2 |
| - off-site only | 8 (17.4%) | 5 | 6 |
| - both on- and off-site | 26 (56.5%) | 4 (on-site) 7 (off-site) | 7 (off-site) 10 (off-site) |
| 3. Stations with research staff and/or grad students funded by NSF (n=46) | 37 (80.4%) | | |
| - staff only | 2 (4.3%) | 12 | 12 |
| - grad students only | 4 (8.7%) | 1 | 15 |
| - both staff and grad students | 31 (67.4%) | 8 (staff) 10 (grad students) | 24 (staff) 14 (grad students) |
| 4. Stations receiving an NSF facilities program grant (n=45) | 31 (68.9%) | | |
| - total \$\$ from facilities grants | | \$115,485 | \$226,532 |
| - \$\$ per facilities grant | | \$ 65,750 | \$ 85,126 |
| 5. Non-NSF extramural funding received (n=42) | 38 (90.5%) | \$300,000 | \$1.38 million |
| - staff supported by this funding | | 6 | 35 |
| - students supported by this funding | | 6 | 18 |
| 6. NSF funding received for non-research endeavors (n=45) | 17 (37.7%) | 2/\$73,000 | 2/\$290,429 |

Note: the NSF Facilities Program had important effects on 35 (79.5%) of 46 responding stations.

Critical: 28 (63.6%)
Beneficial: 7 (15.9%)
No change: 1 (2.3%)
Not important: 8 (18.2%)
No response: 2 (4.3%)

AMERICAN INSTITUTE of BIOLOGICAL SCIENCES

MEMORANDUM

730 11th Street, N.W., Washington, D.C. 20001-4521 • (202) 628-1500

To: Stephen Havera, AIBS Board

Fr: Jennie Moehlmann *jm*

Da: May 11, 1993

| | | |
|--|-----------------------|----------------|
| Post-It™ brand fax transmittal memo 7671 | | # of pages » 1 |
| To Stephen Havera | From Jennie Moehlmann | |
| Co. Illinois Nat. Hist. | Co. AIBS | |
| Dept. | Phone # 202-628-1500 | |
| Fax # 309-543-4979 | Fax # -1509 | |

Dear Dr. Havera -

Below are six questions the House Science Subcommittee has asked AIBS to address in testimony next week regarding the authorization of the National Science Foundation. Please take a look at these questions, and fax me any comments you may have by Thursday, May 13. Thanks. Fax: 202/628-1509.

1. Is the balance between curiosity-driven and strategic research at NSF correct, and what criteria should be used to determine the proper allocation?

2. Is the balance between research and education activities correct? If the Clinton proposal for more than doubling the NSF budget over the next five years is adopted, what percentage of the increase should go to research and what percentage to education?

3. What level of funding should be provided to the academic research facilities modernization program? If the Clinton proposal for more than doubling the NSF budget over the next five years is adopted, what part of the increase should go to the facilities program?

4. What fields of science and engineering that have significant technological promise or importance for public policy formulation are not adequately funded by NSF? Which fields depend primarily on NSF for support, and for which fields does NSF provide only marginal support relative to other federal funding agencies?

5. What constraints, if any, should be placed on the involvement of foreign companies in research projects supported by NSF?

6. Should NSF explore use of block grants to academic departments as an additional mechanism for grant support for individual investigators and groups? Should NSF place more importance on investigator track record in making research awards and give seasoned investigators longer awards?

To: Jennie Moehlmann

From: Stephen Havera

Date: 13 May 1993

Dear Jennie,

I have been out of the office so my reply regarding the authorization of NSF is made in haste. I feel that I cannot provide adequate answers to most of your six questions. However, I do have some comments for the last part of question number 3.

As the Organization of Biological Field Stations representative to the AIBS council, I can definitely tell you that the facilities program has a major impact on terrestrial and marine field stations. For many field stations, including mine, it has been crucial. As chairman of the Organization of Biological Field Stations Research Committee, I completed the results of a questionnaire circulated to field station and marine laboratory directors in October 1992.

The data indicated that NSF funding for both facilities and research is essential to developing research infrastructure and to fostering research productivity at field stations and marine laboratories. By virtue of that support, field stations have enhanced capabilities to make important contributions toward addressing the nation's research agenda and toward training tomorrow's research scientists, resource managers, policy makers and informed citizens. Perhaps most telling result was that for 80 percent of the 46 field stations to whom the questionnaire was appropriate, NSF facilities funding was either critical (61%) or very beneficial (16%) to their programs, and 80% had a significant number of principal investigators, research staff and graduate students with NSF research support over the past five years.

If the NSF budget at least doubled over the next five years, the facilities program should be at least doubled as well.

IV. FIELD STATION DESCRIPTION

COLLINSON ECOLOGICAL PRESERVE AUGUSTANA COLLEGE

The Collinson Ecological Preserve was purchased by Augustana College from the Illinois Chapter of the Nature Conservancy in November 1992. The Conservancy had acquired the property from the Budelier family of Rock Island, Illinois who wanted to see it preserved from housing developments or agriculture. The Collinson name acknowledges the neighboring Collinson Stone Company who provided funding for Augustana's purchase of the property. This facility will enhance the College's Green Wing Environmental Laboratory as a field station intended to provide research and educational opportunities.

ACCESS

The station is located in Rock Island County, in the town of Milan which is part of the Quad Cities of northwest Illinois and eastern Iowa. The Augustana campus lies just 8 km north of the property.

ENVIRONMENT

The 27 ha of the Collinson Preserve comprise a forest remnant in excellent condition. The dominants of the overstory are species of oaks, hickories, elms and basswood. The understory is rich with typical midwestern woodland wildflowers. Along one border of the property are two small hill prairies containing many typical and a few rare species of prairie forbs and grasses. Vertebrate animals include deer, opossums, raccoons, foxes, beavers (along a sizeable creek), turkeys and many songbirds. Except for some logging in past decades, there has been no significant human disturbance. There are no buildings or facilities of any sort on the property, and construction is not planned.

RESEARCH AND EDUCATION

Inventories of biotic diversity are the first research priority. Analyses of forest and prairie plant species have already begun. Additional work on the structure and function of this community awaits interested researchers. Because of the close proximity of the station to the campus, academic field trips have become common.

CONTACT:

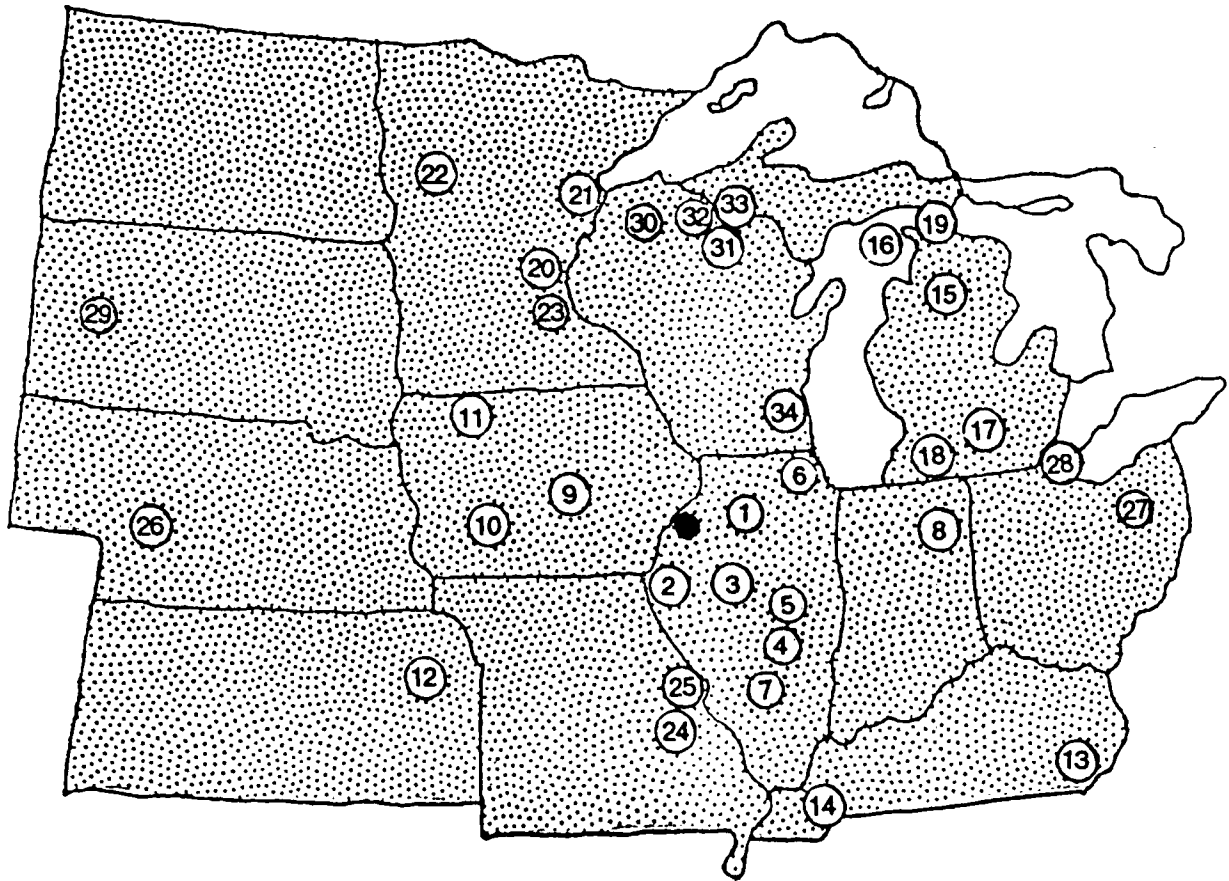
Dr. Bohdan Dziadyk, Director
Department of Biology
Augustana College
Rock Island, IL 61201-2296

Phone: (309) 794-7331

Location: 83d Avenue, Milan, IL 61264

| | | |
|-------------------------------|---|----------|
| STATE / PROVINCE | IL | |
| STATION # | | |
| NAME | Collinson Ecological Preserve | |
| AFFILIATION | Private | |
| SEASON | March - Nov | |
| AREA (hectares) | 27 | |
| BIOTIC COMMUNITIES | CONIFEROUS | |
| | DECIDUOUS | ● |
| | SHRUB | |
| | GRASSLAND | ● |
| | OLD FIELD | |
| | TUNDRA | |
| | AQUATIC | ● |
| | MARINE | |
| FACILITIES | LABORATORY SPACE | |
| | DORMITORIES | |
| | CABINS | |
| | MEALS | |
| | KITCHENETTES | |
| | EMPHASIS | RESEARCH |
| EDUCATION | | ● |
| PRESERVATION | | |
| # PERMANENT STAFF | | |
| UNIVERSITY-LEVEL CLASSES | | |
| MAILING ADDRESS & TELEPHONE # | <p><u>Location:</u> 83d Avenue Milan, IL 61264</p> <p><u>Mailing Address:</u> Biology Department Augustana College Rock Island, IL 61201-2296</p> | |

NORTH CENTRAL REGION



Illinois

Indiana

Iowa

Kansas

Kentucky

Michigan

Minnesota

Missouri

Nebraska

North Dakota

Ohio

South Dakota

Wisconsin

● *Collinson Ecological Preserve
Augustana College*

V. ANNOUNCEMENTS

COOPERATIVE OBSERVERS DATA, JUNE 1993 NORTHERN CALIFORNIA-NEVADA

| | ELEV FEET | TEMPERATURE (F) | | | | | PRECIPITATION (INCHES) | | SNOWFALL (INCHES) | |
|---|--------------|-----------------|------------|------|-----|-----|---------------------------|-------|----------------------|----|
| | | AVG MAX | AVG MIN | AVG | HI | LO | TOTAL SINCE 1 JUL | TOTAL | MAX DEP | |
| -----Eastern Sierra and Nevada----- | | | | | | | | | | |
| Coleville-Lapp | 5200 | 79.8 | 41.3 | 60.6 | 94 | 30 | .10 | 12.30 | | |
| Bridgeport-Sheriffs | 6470 | 73.9 | 38.7 | 56.3 | 86 | 28 | .30 | 12.31 | T | 0 |
| Bodie State Park | 8370 | 66.7 | 30.4 | 48.6 | 79 | 15 | .31 | 13.81 | 1.0 | 0 |
| Mono Lake-Lee Vining | 6797 | 73.7 | 43.5 | 58.6 | 86 | 29 | .12 | 20.36 | | |
| Tuolumne Meadows | 8680 | | | | 74 | 20 | 1.11 | 37.61 | 6.5 | 5 |
| Mammoth Ranger Station | 7820 | 66.0 | 32.8 | 49.4 | 81 | 23 | 1.17 | - | | |
| Convict Cr-SNARL | 7080 | 70.9 | 34.2 | 52.6 | 81 | 22 | 1.16 | 21.76 | | |
| Aspendell-Archer | 8400 | | | | | | .20 | 21.23 | 1.0 | 0 |
| Bishop Ap-NWS | 4110 | 87.7 | 48.9 | 68.3 | 102 | 34 | T | 7.88 | | |
| Deep Springs College | 5225 | | | | 94 | 35 | .23 | - | | |
| Dyer-Kirby | 4899 | 83.1 | 49.3 | 66.2 | 96 | 33 | .53 | 4.93 | | |
| Death Valley Nat Mon | -194 | 107.2 | 75.1 | 91.2 | 122 | 54 | .00 | 3.53 | | |
| Edwards AFB | 2310 | 91.4 | 58.2 | 74.8 | 104 | 46 | .45 | 13.54 | | |
| Winnemucca-NWS | 4301 | 76.8 | 43.1 | 60.0 | 96 | 31 | 1.03 | 8.27 | | |
| Elko-NWS | 5050 | 71.4 | 40.5 | 56.0 | 88 | 31 | 1.43 | 9.61 | | |
| Ely-NWS | 6253 | 74.3 | 35.4 | 54.9 | 90 | 26 | 1.17 | 12.67 | T | 0 |
| Cave Lake State Park | 7316 | 72.0 | 27.5 | 49.8 | 86 | 20 | 1.55 | 15.01 | 0.5 | T |
| Great Basin N.P. | 6825 | 74.9 | 45.7 | 60.3 | 89 | 31 | .58 | 13.43 | | |
| Las Vegas-NWS | 2162 | 95.7 | 69.2 | 82.5 | 109 | 48 | .08 | 7.56 | | |
| Desert Rock-NWS | 3298 | 90.2 | 61.5 | 75.9 | 103 | 46 | .41 | 10.03 | | |
| -----Tahoe-Truckee-Northern California----- | | | | | | | | | | |
| Corte Madera-Ashby | 8 | 84.3 | 52.0 | 68.2 | 99 | 43 | 1.07 | 42.02 | | |
| San Anselmo-Klieforth | 100 | | | | | | .79 | 54.89 | | |
| Sacramento 11 ESE | 120 | 88.0 | 53.5 | 70.8 | 106 | 46 | .40 | 21.00 | | |
| Chico,CA-Goodridge | 283 | 88.3 | 57.5 | 72.9 | 104 | 45 | .99 | 36.79 | | |
| Washington,CA-Krausch | 2600 | 79.2 | 46.7 | 63.0 | 96 | 38 | 3.09 | 74.29 | | |
| Donner Summit-Snow Lab | 6883 | 66.0 | 37.6 | 51.8 | 84 | 30 | 2.68 | 85.37 | 3.7 | 6 |
| Sugar Pine Pt St Pk | | 68.0 | 34.6 | 51.3 | 85 | 27 | 1.21 | 42.79 | 2.3 | - |
| Tahoe City-Sutter | 6230 | 66.7 | 37.2 | 52.0 | 83 | 29 | 1.04 | 42.91 | T | 0 |
| Alpine Mdws Ski Area | 6835 | | | | | | | | | |
| Squaw Valley Ski Area | 6230 | | | | | | | | | |
| Donner Memorial S.P. | 5937 | | | | 83 | 27 | 1.89 | 51.10 | 1.0 | 0 |
| Tahoe Donner-McMillan | 6600 | 70.1 | 40.0 | 55.1 | 88 | 32 | 1.07 | 50.28 | 3.5 | 2 |
| Truckee Airport | 5880 | 69.5 | 30.3 | 49.9 | 85 | 19 | 1.20 | 37.84 | | |
| Truckee R.S.-Huber | 6020 | 71.0 | 35.9 | 53.5 | 86 | 28 | 1.24 | 40.04 | 1.0 | 1 |
| Sagehen Creek-Univ Cal | 6337 | 67.1 | 32.2 | 49.7 | 81 | 26 | .98 | 43.05 | | |
| Sierraville RS | 4975 | 72.5 | 39.3 | 55.9 | 86 | 32 | 1.33 | 33.45 | | |
| Loyalton 2W-Hawthorne | 5000 | 73.4 | 39.2 | 56.3 | 88 | 29 | 1.48 | 36.59 | 0.2 | 0 |
| Boca-Linde | 5575 | 71.6 | 33.0 | 52.3 | 86 | 28 | 1.10 | 30.72 | T | 0 |
| Floriston-Alioto | 5360 | 73.4 | 38.5 | 56.0 | 87 | 28 | 1.41 | 27.73 | T | 0 |
| Tahoe Meadows-DRI | 8540 | | | | 69 | 22 | 2.05 | 68.07 | 10.5 | 51 |
| Slide Mountain-DRI | 9658 | 49.9 | 33.3 | 41.6 | 65 | 18 | | | | |
| Incline Village-Coppin | 6550 | 75.1 | 39.9 | 57.5 | 93 | 29 | 1.00 | 33.40 | 4.0 | 2 |
| Sand Harbor State Park | 6300 | 70.7 | 32.1 | 51.4 | 88 | 20? | 1.08 | - | - | - |
| Glenbrook Fire Station | 6355 | 67.1 | 40.2 | 53.7 | 80 | 31 | .57 | - | T | 0 |
| Daggett Pass Fire Dept | 7334 | 63.3 | 37.6 | 50.5 | 78 | 26 | .16 | 30.77 | T | 0 |
| Sierra Ski Rch-Sprock | 7350 | 60.7 | 39.6 | 50.2 | 78 | 27 | 3.19 | 70.51 | 14.0 | 32 |
| Twin Lakes-CalTrans | 8000 | 61.8 | 34.3 | 48.1 | 75 | 26 | 2.31 | 58.58 | 10.0 | - |

COOPERATIVE OBSERVERS DATA, JUNE 1993
NORTHERN CALIFORNIA-NEVADA

| | ELEV FEET | TEMPERATURE (F) | | | | | PRECIPITATION (INCHES) | | SNOWFALL (INCHES) | |
|--------------------------|--------------|-----------------|------------|------|----|----|---------------------------|-------|----------------------|---|
| | | AVG MAX | AVG MIN | AVG | HI | LO | TOTAL SINCE 1 JUL | TOTAL | MAX DEP | |
| -----Reno-Sparks----- | | | | | | | | | | |
| N Reno-DRI, Maxeys Bldg | 4955 | 72.8 | 49.8 | 61.3 | 89 | 36 | | | | |
| N Reno-Ashby | 4902 | 75.9 | 48.3 | 62.1 | 92 | 35 | .59 | 10.83 | T | 0 |
| NW Reno-Klieforth | 4690 | 76.2 | 44.0 | 60.1 | 94 | 36 | .60 | 11.30 | | |
| NW Reno-Pitter | 4740 | | | | | | .46 | 11.79 | | |
| NW Reno-Rch San Rafael | 4640 | 81.0 | 46.6 | 63.8 | 97 | 37 | .72 | 10.97 | | |
| SW Reno-Ganser | 4700 | 79.5 | 47.8 | 63.7 | 96 | 38 | .40 | 10.71 | | |
| SW Reno-James | 4990 | 75.4 | 46.6 | 61.0 | 93 | 35 | .37 | 13.28 | T | 0 |
| SW Reno-Shad | | 76.4 | 42.2 | 59.3 | 89 | 32 | .44 | - | | |
| SE Reno-NWS | 4404 | 77.4 | 46.3 | 61.9 | 94 | 38 | .35 | 7.68 | | |
| Sparks-Kelly | 4420 | 80.4 | 41.9 | 61.2 | 99 | 34 | .43 | 8.52 | | |
| Sparks-DelGrosso | 4505 | 79.8 | 46.0 | 62.9 | 98 | 38 | .52 | 9.18 | | |
| Sparks Fire Station | 4357 | 77.1 | 44.2 | 6.07 | 92 | 36 | .34 | - | | |
| Verdi-Widmer | 5000 | | | | | | 1.00 | 28.06 | | |
| -----North Reno----- | | | | | | | | | | |
| Stead, DRI-ASC | 5000 | 75.8 | 44.0 | 59.9 | 94 | 36 | | | | |
| Stead Fire Dept | 5122 | 73.5 | 44.3 | 58.9 | 90 | 33 | .58 | - | | |
| Hungry Valley | 5000 | 74.3 | 43.6 | 59.0 | 92 | 32 | | | | |
| Lemmon Valley-Klump | 4938 | 75.8 | 40.7 | 58.2 | 93 | 31 | 1.10 | 12.37 | | |
| Red Rock-Borys | 4920 | | | | 88 | 32 | 2.16 | 18.94 | T | 0 |
| Cold Springs Vly-Cruz | 5050 | 74.2 | 40.1 | 57.2 | 91 | 32 | .80 | 13.89 | | |
| Warm Sprgs Vly-French | 5230 | 75.6 | 45.4 | 60.5 | 94 | 33 | 2.13 | 11.77 | 1.0 | 0 |
| -----South Reno----- | | | | | | | | | | |
| Callahan Ranch-Evarts | 5420 | 71.0 | 38.4 | 54.7 | 86 | 29 | .35 | 26.37 | T | 0 |
| Virginia Fthills-Olson | 4710 | 76.5 | 44.2 | 60.4 | 92 | 34 | .59 | 12.05 | | |
| Virginia City | 6340 | 70.5 | 48.1 | 59.3 | 86 | 33 | 1.14 | 16.02 | T | 0 |
| V.C. Highlands-Smith | 6655 | 69.1 | 43.0 | 56.1 | 85 | 30 | 1.19 | 13.92 | 6.0 | 4 |
| Galena Creek Park | 6300 | 71.1 | 42.0 | 56.6 | 87 | 25 | .51 | 26.93 | | |
| Frost Ranch | | 76.6 | 46.4 | 61.5 | 92 | 36 | .36 | - | | |
| -----Carson City----- | | | | | | | | | | |
| Carson City Fire Dept | 4700 | 76.4 | 43.8 | 60.1 | 92 | 34 | .71 | 10.04 | | |
| Carson City-Hill | 4650 | 76.5 | 43.6 | 60.0 | 94 | 36 | .49 | 10.99 | | |
| Lakeview-Erickson | 5280 | | | | | | .83 | 23.49 | | |
| Washoe Vly-Simoncini | 5080 | 72.8 | 39.3 | 56.1 | 86 | 28 | .18 | - | | |
| Little Valley-DRI | 6540 | 66.7 | 35.6 | 51.2 | 82 | 29 | 1.05 | 31.50 | | |
| Davis Creek Park | 5160 | 74.9 | 40.1 | 57.5 | 92 | 31 | .58 | 30.25 | | |
| Minden-Hendricks | 4730 | 78.8 | 40.8 | 59.8 | 94 | 31 | .47 | 12.54 | | |
| Johnson Lane-Allen | 4709 | - | 42.8 | - | - | 34 | .70 | 8.75 | | |
| -----Western Nevada----- | | | | | | | | | | |
| Pyramid Lake-Sutcliff | 3980 | 76.4 | 52.7 | 64.6 | 96 | 41 | 1.03 | 8.35 | | |
| Fernley-Jackson | 4150 | 79.5 | 43.3 | 61.4 | 99 | 33 | .83 | 6.30 | | |
| Janesville, CA-LoBuglio | 4500 | 77.7 | 51.3 | 64.5 | 94 | 40 | .92 | 31.82 | | |
| Gerlach-Meyers | 3950 | 74.1 | 48.9 | 61.5 | 93 | 33 | 2.44 | - | | |
| Smoke Creek-Espil | 3850 | 77.1 | 46.2 | 61.7 | 95 | 37 | 2.29 | - | | |

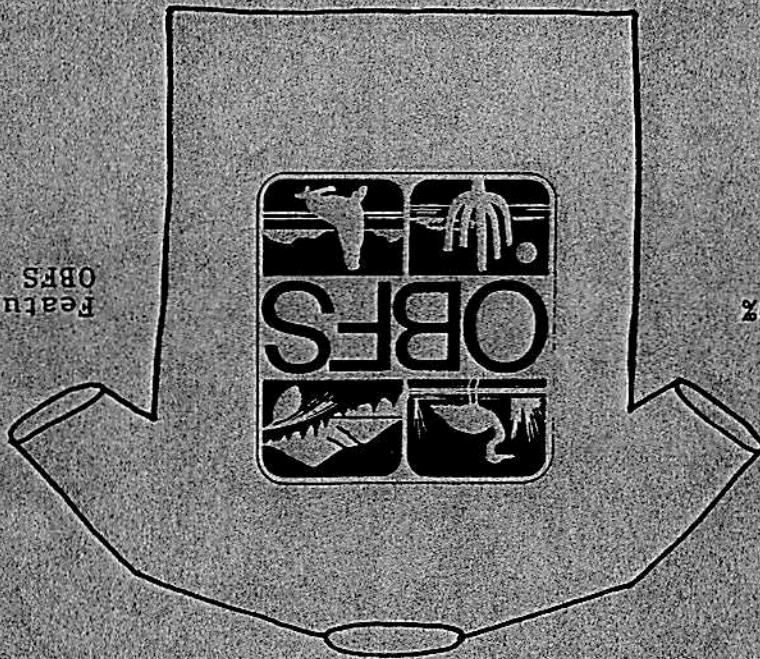
PRECIPITATION DATA, JUNE 1993
 TAHOE-TRUCKEE BASIN
 DESERT RESEARCH INSTITUTE

| Site | Elev | Total Snowfall | Monthly PPT | | Cumulative PPT since 1 Jul | |
|---------------------------|------|-------------------|----------------|-----|----------------------------------|-----|
| | | | Total | %N | Total | %N |
| 8-Jct 395 and NV 431 | 4590 | | .30 | 49 | 11.37 | 110 |
| 6-Lancer | 5110 | | .18 | 37 | 11.13 | 86 |
| R-Evergreen Hills Road | 5700 | | .32 | 52 | 24.66 | 125 |
| 4-Whites Creek | 5670 | | .27 | 60 | 18.19 | 123 |
| FD-Galena Fire Station | 5800 | | .33 | | 19.41 | |
| 2-Jones Creek | 6000 | | .35 | 67 | 34.72 | 173 |
| 0-RNR Forestry Site | 6400 | | .53 | 74 | 29.34 | 110 |
| N-Reindeer Lodge | 7060 | | .88 | 176 | 35.04 | 128 |
| K-Sky Tavern | 7620 | 3.0 | 1.48 | 192 | 47.68 | 134 |
| G-Mt Rose Ski Resort | 8280 | 5.0 | 1.42 | 158 | 53.56 | 122 |
| A-Tahoe Meadows | 8540 | 10.5 | 2.05 | 190 | 68.07 | 134 |
| U-Below Incline Lake | 8000 | 7.1 | 1.69 | 228 | 45.43 | 123 |
| V-Apollo Way | 7300 | 2.2 | 1.42 | 229 | | |
| Z-Third & Incline Creeks | 6235 | | .99 | 183 | 24.05 | 112 |
| SS-Spooner Summit | 7260 | 1.6 | 1.81 | 489 | 39.62 | 152 |
| JC-Clear Creek | 5800 | | .99 | 550 | 21.68 | 118 |
| FT-Franktown, Cliff Ranch | 5250 | | | | | |
| 31-0.5 W Cliff Ranch | 5300 | | | | | |
| LV-Little Valley | 6540 | | 3.57 | 626 | 39.42 | 137 |
| DC-Davis Creek | 5160 | | | | | |
| HM-Hobart Mills | 5850 | | .58 | 176 | 41.02 | 143 |
| LT-Hennes Pass Jct. | 6410 | | .67 | 168 | 36.59 | 120 |
| AC-Alder Creek | 6960 | | 1.83 | 381 | 60.43 | 122 |
| BF-Bennett Flat | 6200 | | .88 | 166 | 48.01 | 134 |
| 4TA-Tahoe-Truckee Airport | 5900 | | .54 | 98 | 38.79 | 150 |
| NS-Northstar Fire Sta | 6320 | | .89 | 151 | 42.85 | 132 |
| BS-Brockway Summit | 7200 | | 1.01 | 122 | 48.67 | 134 |
| TP-Tahoe City | 6240 | | .73 | 146 | 47.36 | 138 |
| TC-Thundercliff | 6200 | | 1.15 | 135 | 58.85 | 143 |
| SV-Squaw Valley | 6240 | | 1.66 | 182 | 69.76 | 130 |
| CK-Cabin Creek | 6540 | | .82 | 146 | 50.48 | 134 |

 Percent of Normal

Total monthly snowfall and precipitation in inches.
 %N = Percent of Normal.

ORGANIZATION OF BIOLOGICAL FIELD STATIONS T-shirt offer



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This issue of the OBFS Newsletter includes a copy of "Careers in Ornithology," published by The American Ornithologists' Union. Multiple copies of this can be obtained, at not cost, by biological field stations for distribution to serious students of birds.

Write to: Marion A. Jenkinson, Assistant AOU Treasurer, Museum of Natural History, University of Kansas, Lawrence, KS 66045.

AMERICAN BIRDS SPECIAL REPORT

Career Opportunities in Ornithology

Prepared by
*The American Ornithologists' Union*¹

ORNITHOLOGY, THE SCIENTIFIC study of birds, encompasses both professional and amateur endeavors. All aspects of the biology of birds—ecology, behavior, anatomy, physiology, systematics and evolution, veterinary sciences, wildlife management, and conservation—are topics of interest. This broad field provides career opportunities in research, education, and administration, but there is intense competition for the limited number of positions available each year. At least a Bachelor's degree is necessary to be competitive at the entry level; more often a Master's degree is required, and a Ph.D. is essential for advanced positions. Aspiring ornithologists should understand the kinds of jobs available and carefully study the various degree programs offered at colleges and universities. This article introduces these opportunities and requirements.

Professional ornithologists are biologists who specialize in the study of birds. More than 2000 individuals in North America work in jobs involving ornithology. Most either teach in colleges or universities or are employed by federal or state agencies. Some work in university or public museums, and some work for private conservation and research organizations or consulting firms.

Most ornithologists divide their time between teaching and research or between teaching and administration. A museum curator also may teach at a university. In general, salaries for professional ornithologists are quite low compared with those available in the business and professional world, but personal fulfillment and intense interest in the work provides another aspect of compensation. Flexible work schedules, field work in ad-



Tracking released Burrowing Owls with radio receiver. Photograph/Ellen Lawler.

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