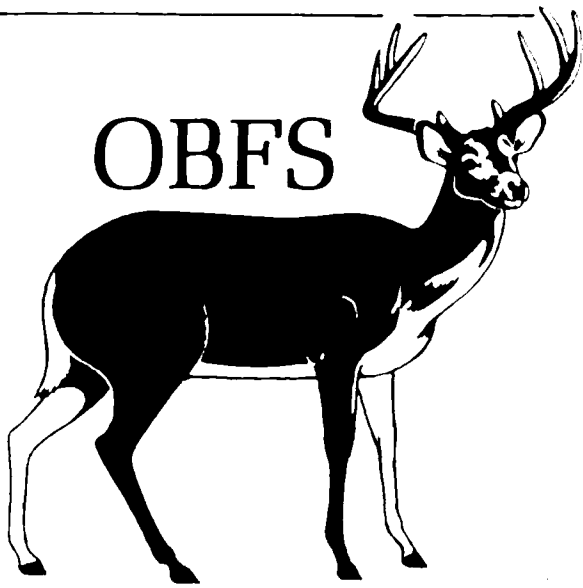


**Organization of
Biological Field Stations**

**Newsletter
No. 38
Spring 1984**

OBFS



Newsletter

NUMBER 38

SPRING 1984

Newsletter Editor

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I.

OBFS ANNUAL MEETING
September 27 - 30, 1984
Bamfield Marine Station

September 27th

Arrive BMS before 1800 (n.b. see travel notes enclosed)
Pre-dinner social hour (Director's Residence)
1900 - Dinner
2030 - Welcome address & slide show (Director)

September 28th

0730-0800 Breakfast
0830 - Tour of the station
0930 - Group I - Boat Trip on the M/V Alta
Group II - Beach Trip
1230 - Lunch
1400 - OBFS meeting
1730 - Pre-dinner beach social hour*
1830 - Beach dinner*
2030 - Evening OBFS meeting - slide shows by
participants.¹

September 29th

0730-0800 Breakfast
0830 - Group I - Beach Trip
Group II - Boat Trip on the M/V Alta
1230 - Lunch
1400 - OBFS meeting
1800 - Pre-dinner social hour*
1900 - Dinner*
2030 - OBFS meeting

September 30th

0730-0800 Breakfast
0830 - OBFS meeting
1200 - Lunch
1300 - Depart BMS (or stay on and enjoy a hike on the
West Coast Trail).

* Weather conditions permitting we will attempt a salmon BBQ on the beach preceded by a social hour. We would do this on the 28th or 29th.

1 Members are urged to bring their slides and talk informally about their field stations

TRAVEL NOTES

The Bamfield Marine Station is relatively remote and we would like to organize transportation around a reasonable time schedule. The enclosed brochure provides information on access, including a road map.

a) Private Car

All road access to Bamfield involves 54 miles of gravel road driving. These roads are heavily traveled and generally well maintained. You should experience little difficulty unless your car has very low ground clearance or we have experienced heavy rains (unlikely in September). As a precaution we recommend your calling us (728-3301) from the last town before the gravel road. Normal driving speed is 25 - 40 mph.

From Vancouver: take the Nanaimo ferry from Horseshoe Bay (\$18.00 for car & driver + \$4.00 per passenger), travel time 1.5 hours. From Nanaimo take the highway 19 north towards Parksville/Port Alberni. About 16 miles north of Nanaimo turn left on to highway 4 (to Port Alberni). Travel time to Port Alberni is about one hour (72 km). On the outskirts of Port Alberni you will see a highway sign for Bamfield (a left turn), follow the signs through town to the start of the gravel road. The gravel road is 54 miles long and we would strongly advise you to fill your gas tank and call the Marine Station (728-3301) from Port Alberni, travel time is 2 hours. In Bamfield there is one stop sign, at the sign proceed straight ahead up a short hill, the entrance to the station is about 0.25 miles from the stop sign.

From Victoria: Take the Island Highway (Canada 1) north towards Duncan (about 1 hour). You should plan to fill-up your gas tank in Duncan. Just north of Duncan turn left onto highway 18 to Youbou and Lake Cowichan (this intersection is marked and has an Esso station on the right-hand side of Highway 1). After about 20 minutes driving highway 18 splits and you have a choice of proceeding to Youbou (the preferred route) or Lake Cowichan - both routes are of equal distance and the road joins again at the other end of Lake Cowichan. It is recommended that you call the station (728-3301) from a pay phone in Youbou or Lake Cowichan. Drive through Youbou, past the pulp mill parking lot and onto a gravel road. Follow the signs for Bamfield (points passed on route: Nitinat, Franklin River). The road is about 65 miles long with a 8 mile section of pavement in the middle, near Franklin River. Allow at least 2 hours driving time and we do not recommend your driving it at night unless you are familiar with the route. At the far end of the paved section watch for the Bamfield sign (left turn).

b) Air Transportation

BMS will provide ground transportation for members arriving by air. If possible we would prefer to have everyone arrange air travel to Victoria. If this is not possible we could accommodate a second pick-up in Nanaimo. Travel advice for both options are included below.

The vehicle trip from Victoria to Bamfield takes about 4 hours which means that you should plan to arrive in Victoria no later than 1300 hours on the 27th. If this creates travel problems please advise us on the attached form and we will make alternate arrangements, hopefully this will not be necessary.

It is possible for individuals to rent cars in Victoria or Nanaimo to drive to Bamfield. However, please be advised that MOST CAR RENTAL AGENCIES DO NOT INSURE THE VEHICLE FOR TRAVEL ON GRAVEL ROADS. If you are considering this option we recommend you arrange for a vehicle from HOST RENT-A-CAR in Victoria (604-388-7874) whose insurance coverage includes gravel road travel.

VICTORIA CONNECTING FLIGHTS:

From VANCOUVER:	Canadian Pacific	#515	1205 - 1230
	Air Canada	#113	1240 - 1307
	Air B.C. skyshuttle		1045 - 1110
	"	"	1205 - 1230
	"	"	1330 - 1355
From SEATTLE:	San Juan Airlines	#174	0755 - 0900
	"	#176	0955 - 1100
To VANCOUVER:	Canadian Pacific	#522	1705 - 1730
		#524	1840 - 1905
	Air Canada	#216	1705 - 1730
	Pacific Western	#309	1700 - 1722
	Air B.C. Skyshuttle		1705 - 1730
	"	"	1840 - 1905
To SEATTLE"	San Juan Airlines	#187	1830 - 1950

NANAIMO CONNECTING FLIGHTS:

From Vancouver (main terminal):			
(main terminal) Air B. C.			1200 - 1225
"			1315 - 1340
(south terminal) Air B. C.			1000 - 1025
To Vancouver (main terminal):			
Air B. C.			1540 - 1605
"			1700 - 1725
"			1855 - 1920



BAMFIELD
Marine
Station
 BAMFIELD BRITISH COLUMBIA
 CANADA V0R 1B0, (604) 728-3301

RESERVATION REQUEST

Name _____

Address _____

Telephone Office: _____ Home: _____

Number in Party _____ Names _____

Travel Arrangements:

Private Vehicle? Yes ___ No ___

Expected Arrival Date and Time _____

Air - BMS provided ground transportation from Victoria ___ or Nanaimo ___

(please check one)

Arrival Date _____ Airline _____ Time _____

Departure Date _____ Airline _____ Time _____

Costs (in Canadian \$):

BMS Transportation from Victoria or Nanaimo \$30 /person

BMS Costs - all inclusive (\$25/day) \$75 /person

3-Day Total: \$105 /person

n.b. This is about \$85 U.S.

Western Canadian Universities Marine Biological Society

University of ALBERTA University of BRITISH COLUMBIA University of CALGARY SIMON FRASER University University of VICTORIA
 Edmonton, Alberta Vancouver, British Columbia Calgary, Alberta Burnaby, British Columbia Victoria, British Columbia

II. OBFS Committee activities

1. Workshop on the needs of Biological Field Stations

A meeting with NSF was held in November 1983 and another in April 1984. The purpose of these meetings was to discuss the above Workshop and the OBFS Directory. As planned by the OBFS steering committee, a proposal was prepared by Richard Coles (PI) and George Lauff (Co-PI) and submitted to NSF (Biological Research Resources) in February 1984. Peer review process commenced, but did not proceed with sufficient speed to allow for a June 1984 conference date as proposed. We await word from NSF in hopes that if proposal is funded the proposed group representing stations involved in research will assemble in fall 1984.

We regret that the original plan of holding the workshop in advance of the OBFS annual meeting can no longer be followed. It had been intended that a draft report resulting from the workshop would have had the benefit of input from OBFS members assembled at the annual meeting. Now it is necessary to employ some other mechanism to gather input from OBFS members for the workshop. We hope that NSF will respond to the report to be generated at the workshop by establishing a special competition for research facilities improvements at field stations.

2. OBFS Directory

During April 1984 the OBFS Directory committee (Hartman, Lauff, Parmalee) met with Robert E. Jenkins, Jr. (The Nature Conservancy) and James Tyler (NSF). The Directory is still in an embryonic stage, however, it was agreed that the Nature Conservancy would write a proposal to NSF requesting salaries, materials and publication costs for an OBFS Directory. The Nature Conservancy will provide the expertise to research and write the Directory.

III. ANNOUNCEMENTS

1. AIBS ANNUAL MEETING

"The Rockies: Evolution, Diversity, and Change" is the theme of the 35th Annual Meeting sponsored by the American Institute of Biological Sciences to be held August 5-9, 1984, at Colorado State University, Fort Collins. Dr. Ralph (Tex) Baker, Professor of Botany and Plant Pathology at CSU is serving as General Chairman.

Field trips, symposia, contributed paper and poster sessions, workshops, business meetings and social functions will be presented by the following national scientific societies:

American Bryological and Lichenological Society

American Fern Society

American Society of Plant Taxonomists

Association for Tropical Biology

Botanical Society of America

Ecological Society of America

International Society for Ecological Modelling

Mycological Society of America

Phi Sigma Biological Honor Society

Phycological Society of America

Registration fees before June 15: \$55.00 Regular or \$25.00 full-time students. To register and for more information see the February issue of BioScience or contact the Meetings Department, A.I.B.S., 1401 Wilson Boulevard, Arlington, VA 22209, Tel: 703/527-6776.

2. RESEARCH AT THE UNIVERSITY FIELD STATION (DELTA MARSH), 1983

by Robert Barclay, (Resident Biologist)

1983 was an extremely busy year at the University Field Station as a record number of researchers and assistants were in residence. From the end of April until the end of August, between 25 and 30 people were constantly at the station and during field courses we tended to bulge at the seams with close to 50 people at times. Part of this increase was due to increased use of the station facilities by researchers from outside the province. This resulted in a diversified and stimulating group and with several projects just beginning this year, the trend towards greater outside use should continue. It is evidence that the unique aspects of the Delta area offer excellent research possibilities.

The unusually cold, late spring affected numerous species in the area and insectivorous birds and bats were particularly hard hit due to the reduction in insect abundance. There was a large mortality among early arriving swallows, for example, and several projects had to contend with abnormal situations due to the weather.

Despite the weather, the research projects undertaken produced interesting, if at times unexpected, results. By far the largest group of researchers were the ornithologists. Dr. Spencer Sealy and his students continued their studies on the ecology and breeding behaviour of the birds which nest in such high densities in the dune-ridge. Dr. Sealy has banded over 6,000 yellow warblers over

the past nine years, for example, allowing him to undertake one of the few long term studies on the effects of age and experience on breeding success in birds. Gloria Pohajdak continued her study on the interrelationships and competition amongst the insectivorous birds nesting in the ridge and Heidi den Haan is currently completing the field work for her study of moult and migration in the various warblers that move through the Delta area in the fall. Madeline Sheridan also completed her study of host nest selection in the brown headed cowbird.

Percy Hebert began his Masters project on sibling rivalry in common terns using a small colony to the east of the station. A combination of high water levels and a very persistent and hungry great horned owl succeeded in eliminating every egg and chick in the colony thus altering the scope of the research but producing very interesting information. With the aid of an NSERC Undergraduate Summer Research Assistantship, Gaynette Friesen undertook a preliminary study of the nocturnal singing behaviour of marsh and sedge wrens and discovered that several other marsh nesting species sing when they "should" be asleep.

Dr. Pat Weatherhead from Carleton University began a study on the egg laying behaviour of brown headed cowbirds to determine whether the birds alter their behaviour in response to different host's nests. Marty Leonard and Andre Isabella

arrived from the University of Ottawa to begin graduate research on marsh wren and yellow headed blackbird behaviour, respectively. This was welcome since the marsh fauna has not been extensively used for research for the past few years. Dr. Bruce Falls (University of Toronto) continued his behavioural studies on vocal communication in western meadowlarks and combined with Dr. Peter MacGregor of Oxford University in playback experiments to the meadowlarks nesting in the Assiniboine diversion. Andrew Horn also from Toronto, completed the second year of his studies on the information content of meadowlark song.

Bridging the gap between ornithology and parasitology, P.L. Wong (Lakehead University) returned to collect nematodes from migrating shorebirds, although the high water levels in the spring reduced the number of birds in the area.

Other zoological projects investigated fish and bat behaviour. Iain Suthers finished off his Masters research on the means by which the fish in the marsh cope with the very low oxygen levels found there at night. Friedrike Schnieder (NSERC Undergraduate Summer Research Assistant) looked at the movement of fish in and out of the marsh. The marsh is generally very shallow and freezes to the bottom during the winter necessitating a hasty retreat by the fish during the fall. The study of the foraging and echolocation behaviour of bats at Delta (Robert Barclay)

continued although again the cold spring appeared to reduce the number of bats that were present.

On the botanical side, Gordon Goldsborough further investigated the effects of triazine herbicides on algae in the marsh and Tawfik Muhsin experimentally manipulated several environmental factors for his study of the fungi growing in the salt marsh plants of the area. Dr. Jennifer Shay continued her monitoring of the post fire regrowth of the giant reed, Phragmites.

As can be appreciated by this list of research projects, the station was well used this past summer and all indications are that we will be as busy in 1984. Still missing from the topics covered by the research, however are winter and entomological studies. Hopefully these gaps will be filled in the next few years as the facilities at the University Field Station become more widely known.

We welcome comments and suggestions for future articles.

Pat Pachol,
Dean's Office,
239 Machray Hall.

3. University of Minnesota-- some field station changes.

David Parmalee reports that there are some changes at the University of Minnesota operation. Field Biology has been split into two operations: Cedar Creek Biology Program with Dr. John Tester as its Program Director, and Itasca Biology Program with Dave Parmalee remaining as its Program Director.

4. Retirement of Dr. Loren Putnam--

Dick Coles received a note from Loren Putnam recently indicating, "Believe it or not I really retire from O.S.U. this June..." Loren asked if we could give his greeting to all the old timers and best wishes to all. Our best wishes for you Loren, we will surely miss you at the OBFS meetings.

5. Some nifty classes at the Center for Northern Studies for summer 1984

There will be some interesting short classes held at the Center for Northern Studies this summer. These include: Field Ornithology, Mountain Ecosystems, Mammals of the Green Mountains and Birds of the Northeast. Classes run for a period of three days to a week in length. For further information contact the Center for Northern Studies, Wolcott, Vermont 05680.

IV. FIELD STATION DESCRIPTION

411015 CD

1. JASPER RIDGE BIOLOGICAL PRESERVE 411015 CD

Numerous Coast Range communities

San Mateo 37°24' N 122°13'30" W

Palo Alto 7½' T6S R3W

525 ha. (1,300 a.) 66 - 209 m. (215 - 687 ft.)

Private

One of the oldest academic preserves in the country, Jasper Ridge offers unusual diversity of plant communities, as detailed below, plus a recorded natural history beginning in 1891 that includes more than 100 advanced degrees and numerous research publications.

Grasslands occupy 140 hectares (350 acres), of which 40 hectares (100 acres) are on serpentine soils supporting such native perennials as squirreltail, Sitanion jubatum, oat grass, Danthonia californica, speargrass, Stipa lepida, and purple needlegrass, S. pulchra, as well as serpentine endemics and an impressive array of wildflowers. Sharp boundaries separate the serpentine from surrounding greenstone/sandstone soils which support another 40 hectares of grassland dominated by exotic annuals. This 80-hectare (200-acre) ridgetop combination has been ungrazed since 1960 and is largely undisturbed. Along the base of the ridge are a separate, more disturbed 60 hectares (150 acres) of annual grasslands, half of which are still grazed.

A 60-hectare (150-acre) woodland/savannah of blue oak, Quercus douglasii, and mixed grasses adjoins the upper grassland, and a small mixed oak woodland has survived below. Chaparral occupies 100 hectares (250 acres) on southwest slopes and a few crest areas on serpentine soils. Chamise, Adenostoma fasciculatum, is the dominant plant, with the usual range of associates. Leather oak, Q. durata, occurs on the serpentine.

A mixed evergreen forest of 100 hectares (250 acres) covers the northern and eastern hillsides. It includes several stands of second-growth redwood, Sequoia sempervirens, and some Douglas fir, Pseudotsuga menziesii.

A system of intermittent streams, the upper portion of which was impounded in 1892 by a 20-meter (67-foot) dam, produced 120 hectares (300 acres) of related plant communities. By 1930 primary headwaters of the lake had silted in to form a 30-hectare (75-acre) swamp, with crown cover of red willow, Salix laevigata, and white alder, Alnus rhombifolia. Silting of secondary headwaters formed a 30-hectare marsh of cattail, Typha latifolia, and swamp knotweed, Polygonum coccinum. About 30 hectares of open lake still remain. Downstream there are about 30 hectares of riparian growth along 3 kilometers (2 miles) of preserved natural streambed carrying dam overflow plus water from a major tributary.

Over 130 species of birds and 25 species of mammals have been recorded in the Preserve, including resident coyote, Canis latrans, and bobcat, Lynx rufus. An intensive 18-year study still continues of the checkerspot butterfly, Euphydryas editha, three distinct populations of which are confined to the serpentine, and its close relative E. chalcedona in the chaparral.

Geologically complex, Jasper Ridge is underlain by Franciscan greenstone, chert, serpentine, and a little graywacke; by an Eocene sandstone, and by Santa Clara sandstone and conglomerates. The area overlaps the San Andreas Fault and has many faults and contacts.

Integrity: Cattle grazing took place from ca. 1833 to 1960 on the ridgetop and continues today at the base. Redwoods were logged ca. 1850. Sporadic mining took place from ca. 1875 to 1913. Lower grasslands have been manipulated in various ways. There have been no major fires, at least in the 20th century.

Use: Research, educational, observational. For information contact Adminis. Director, Jasper Ridge Biological Preserve, Dept. of Biological Sciences, Stanford University, Stanford, Cal., 94305; (415) 497-1589.

Ref: Ray, K., et al, 1972. A Guide to Jasper Ridge. Mimeo. 52 pp.

November 1979

Submitted by: Dr. James L. Wolfe, Director

MISSION DESCRIPTION

The MSU/NSTL Research Center shall pursue all activities in the fields of research, education, and advisory services beneficial to Mississippi State University and NSTL. It exists as a Research Unit of the Office of Graduate Studies and Research.

The staff of the MSU Research Center maintains an ongoing research program in the environmental sciences. It also provides administrative and logistical support for multidisciplinary research efforts which require sampling or experimental work in the coastal zone, or interaction with federal agencies at NSTL.

SIGNIFICANT STAFF CHANGES

There were no significant staff changes during FY 83. Dr. Carolyn French, employed by us under IPA contract to the U.S. Department of the Interior, U.S. Fish and Wildlife Service, National Coastal Ecosystems Team, was terminated during the year.

MAJOR ACCOMPLISHMENTS

Furbearer Research P.I. J.L. Wolfe

FY 83 is the final year of a five-year project on the ecology and status of the nutria (Myocastor coypus) in Mississippi. The funding level has been 12,500 per year from the Mississippi Department of Wildlife Conservation, using federal funds provided by the Federal Aid to Wildlife Restoration (Pittman-Robertson) act. At MSU, the project has been

administered through MAFES. A comprehensive report will be prepared between July 1 and September 30 dealing with distribution, movements, diet, population ecology and economic importance of the species in Mississippi. It will be published by MDWC.

Funding from the same source for a new project entitled "Biology of Furbearers in Mississippi Coastal Marshes" has been approved for initiation on July 1, 1983. Annual funding will be 24,000 per year for this five-year project. It will include research on nutria, muskrats, and alligators. Administration of the new project will be through OGSR.

DeLisle Forest Research P.I. J.L. Wolfe

Funding for an additional year (April 1983-March 1984) of research on vertebrate animals on their 2000 acre tract of forest and marshlands in Harrison County was provided by the DuPont corporation. The work involves assessing diversity and population levels of fishes, amphibians, reptiles, birds and mammals. Funding level is 25,000 per year. A proposal for continuation of the project through March 1988, involving an additional 121,663 in support has been approved by the local plant manager and awaits final approval from corporate headquarters in Delaware.

Evaluation of Shoreline Structures P.I. A.A. de la Cruz

This project, originally awarded to E.J. Harrison was assumed by A.A. de la Cruz in July, 1982. It terminates September 30, 1983. The work consists of comparing the ^{ec}efforts of different shapes of boat slips on physical, chemical and biological characteristics of the affected waterway. Funding level for FY 83 was 25,385.

Vampire Bats - Belize P.I. R.R. Lohofener

Support for this investigation of the ecology and feeding habits of vampire bats as related to sympatric humans was funded on February 1, 1983 by OGSR. Funding for the twelve-month project is 3919.

Forest Mammals - Michoacan Mexico P.I. J.L. Wolfe

An invitation was received by the Mexican Centro de Investigaciones Forestales de Occidente to Participate in a study of populations of small mammals characterizing four distinct forest types in the state of Michoacan. The Mexican agency is a regional research center of the Instituto National de Investigaciones Forestales. Lodging, local transportation, and some meals are provided by the Mexican government during visits for research. In addition, they supply much of the field work involved. A preliminary visit was made in May, 1983, during which a proposal was prepared and submitted to NSF and its Mexican counterpart CONACYT.

Breeding Bird Survey - Kansas P.I. R.R. Lohofener

This was a one-month study, conducted in June, 1983, of breeding birds in selected Kansas Habitats. It was funded by the Kansas Wildlife Department for 3000.

Bulletin - MSU Research Center

The first number of what we hope will be a series of scientific monographs was published in May, 1983. "Mississippi Herpetology" by Ren Lohofener and Ronald Altig, contains 66 pages. It was printed by Central Duplicating at a cost of 4,200 for 1000 copies.

V. NEW MEMBERS-- WELCOME TO OBFS ! !

1. John R. Tester, Cedar Creek Natural History Area, University of Minnesota.
2. Michael P. Yoder-Williams, Sagehen Creek Field Station
3. James L. Wolfe, Mississippi State University Research Center at the National Space Technology Laboratories.
4. Alan Grundman, Jasper Ridge Biological Preserve
5. Michael C. MacKay, McIntyre Medical Sciences, Montreal, P.Q.
6. Eugene H. Kaplan, Director, Hostra University Marine Laboratory