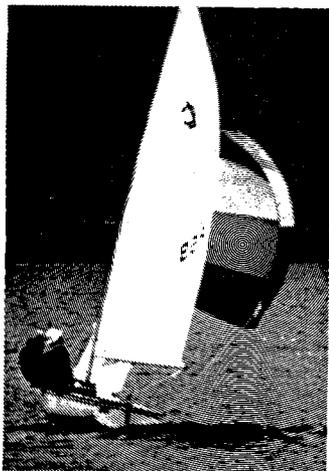
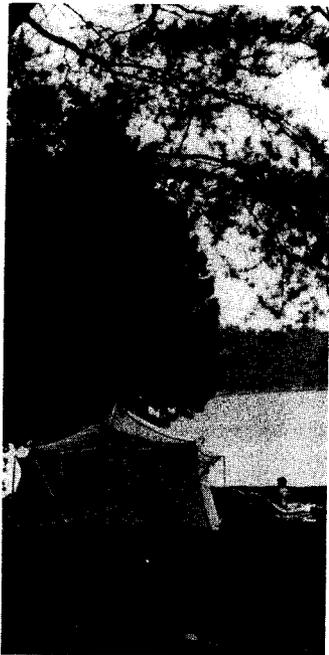




**US Army Corps
of Engineers**

Waterways Experiment
Station



RECNOTES

NATURAL
RESOURCES
RESEARCH
PROGRAM

VOL R-91-3

INFORMATION EXCHANGE BULLETIN

OCT 1991



Collecting Campground Receipt Study information at an entrance station

Recent Developments in Campground Receipt Study Data Collection

by

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US Army Engineer Waterways Experiment Station

The Campground Receipt Study, an ongoing longitudinal study, has gathered descriptive statistics on camping from representative Corps projects. This article discusses three areas of that effort: the Recreation Research and Demonstration System (RRDS), the study's procedural development, and innovations in the data analysis in the 1989 report and the Automated Use Permit System (AUPS) that were both efficient and useful for decision-making.

Recreation Research and Demonstration System

The Recreation Research and Demonstration System was established in 1978 to systematically gather information on recreation and resource aspects of lake management from permanently designated outdoor laboratories. In constructing a representative sample of sites, Title V Economic Development and physiographic regions were combined to

produce 30 physioeconomic regions. Twenty-four units were selected from these regions, representing approximately 5 percent of the then 450 Corps projects. The projects were chosen to characterize multipurpose reservoirs, locks and dams, and dry lakes. Specific criteria for selection included:

- Full range of activities.
- Spectrum of resource characteristics.
- Distribution of units nationwide.
- Range of conditions at multi-purpose projects.
- Typical planning, design, and management tasks.

The distribution of sites across the United States and more information about the RRDS units and their selection are given in Hart (1981).

Campground Receipt Study

One research effort that uses the RRDS is the Campground Receipt Study (CRS). Through the CRS, a data base has been developed on one of the Corps' most popular activities—camping. The CRS has undergone continual development and evolution since the study program began. Data gathered at the

demonstration units have undergone three distinct phases of development (Figure 1). Initially, the study's attention focused on the campground receipt in terms of defining how and what types of data were collected. Forms were improved and finalized during the early part of the study. Comparison of key variable across projects has provided an assessment of campground market behavior in the Corps. Variables that have been measured include parties with prior visits to the project; camping parties with the project as their primary destination; camping parties that have Golden Age passports; and camping parties with vans, cars, motorhomes, trucks, tents, pop-up trailers, pickup campers, travel trailer, and powerboats.

A second stage has been the documentation of general results over time, such as the types of camping equipment. Important trends are highlighted in a series of reports (for example, an increase in camping parties with tents and camping parties with powerboats during the years 1981 through 1984) (Lawrence and Fritschen 1986).

The third stage of CRS development had included the use of data for analyses beyond routine summaries and toward the specialized application of the CRS data. Occupancy rates have been used as key indicators of economic viability in the hotel-motel

1981 Report	Development of data collection procedures	--	--
1982 Report	Discussion of potential uses	--	--
1983 Report	Forms evaluated and improved	Key variables reported	--
1984 Report	Form finalized	Broad trends identified	Initial applications
1985 Report	--	Trends extended	Visitor origin
1986 Report	--	Trends extended and evaluated	Project user profiles
1988 Report	Develop AUPS/CRS interface	Trends extended including Golden Age variation	Microcomputer analysis packages developed
1989 Report	--	Trends reporting format changed	Revenue generated per site Occupancy rates and visitor origin (all sites) Revised summary report format

Figure 1. System development of the Campground Receipt Study

industry for some time. They were also used successfully to reveal a decline of 19 percent in average daily occupancy rates for nationwide camping during the 1978 fuel shortage (LaPage and Cormier 1979). This contrasted with prior studies stating that gas availability did not affect camping trip plans. This decline was greatest in the western region of the United States. Regional differences were also evident in response to gasoline shortages.

Innovative Data Analysis

The 1989 CRS report is the eighth in a series of reports which summarize the results of the CRS. A few changes have been made to enhance readability. This report will include all the analysis of key variables summaries and trend analysis of the previous reports through 1988 with the addition of some improved data analysis. The trend analysis charts have been rotated horizontally with the value of each bar printed to the right of the bar. Also, the individual campground reports (located in the Appendix of the

report) have been reformatted from two pages to a single page.

This report will now include the yearly occupancy rate for each project (broken down to describe each individual campground). A calendar format has been used to illustrate the daily occupancy rate for each specific campground. A calendar was produced for each campground, included in Appendix B of the report, for the month of July (Figure 2). The month of July was arbitrarily picked because of the 4th of July holiday. Also, the average revenue collected per campsite is reported for all campgrounds and can be compared to the occupancy rate (Figure 3). A zip code analysis for each project shows the origin of their visitors. These data can be used to prepare marketing information for their project (Figure 4).

CRS Data Entry and Output

The recent availability of computer technology at Corps projects has dramatically changed the possibilities regarding data entry and retrieval for analysis and reporting of campground information.

S	M	T	W	T	F	S
						1 44.80
2 24.89	3 19.00	4 5.88	5 3.62	6 2.71	7 1.81	8 1.36
9 0.90	10 0.90	11 1.81	12 1.36	13 1.81	14 3.62	15 8.14
16 22.17	17 42.08	18 41.18	19 39.82	20 46.15	21 69.68	22 75.11
23 27.15	24 27.15	25 32.58	26 35.75	27 43.89	28 83.71	29 80.09
30 4.52	31 7.69					
Occupancy rate for month						22.4
Occupancy rate for weekend during month						39.0
Occupancy rate for weekdays during month						15.3

Figure 2. Daily and monthly occupancy rate from the 1989 CRS report, July 1989; occupancy rate is calculated by the number of permits divided by (the number of nights times the number of sites)

Project	Average Fee Paid per site	Occupancy Rate
Barkley Lake	396.49	22.1
Greers Ferry Lake	160.26	17.4
Hartwell Lake	187.03	11.5
Mississippi Pool 16	247.06	26.4
Oahe Lake	67.01	21.1
Ouachita Lake	283.66	49.2
Shelbyville Lake	348.22	26.1
Shenango River Lake	163.96	16.5
West Point Lake	226.51	10.5

Figure 3. Revenue per site for 1989 CRS report; average fee paid is the total fee collected at each project divided by the number of sites at that project

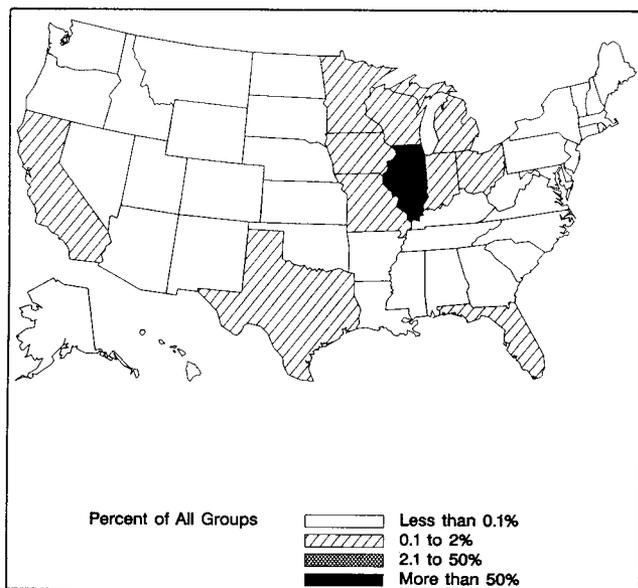


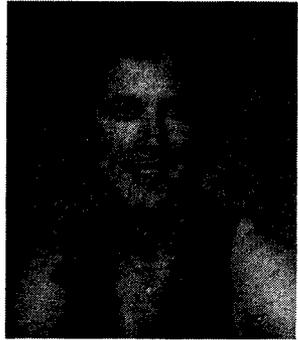
Figure 4. Percent of camping groups by state for Shelbyville Lake, 1989

The development of the Automated Use Permit System (AUPS) (Fritschen 1988) is an advancement in the direction of computer-aided management information systems. The AUPS was designed to incorporate the data requirements of the CRS so that any Corps project using AUPS can collect CRS data. CRS-related questions are displayed by AUPS according to whether a program “switch” is set. This capability eliminates the time spent in entering the data later and provides some onsite data analysis capability.

Currently, Corps project personnel can use dBase software to generate reports on variables such as site occupancy, average length of stay, zip codes, average group size, and number of Golden Age permit holders. AUPS provides data that managers can review to resolve problems in a timely manner.

Summary and Conclusions

Investment in the CRS effort is beginning to reap the dividends of continual development. Nearly 10 years of data collection have permitted the examination of relationships between variables such as user fees and the amount of use. Ongoing measurement of key variables to permit the interpretation of trends must remain the mainstay of the CRS effort. The campground information gathering system known as CRS, aided by information from AUPS, is approaching a situation in which project managers and District personnel can make decisions rapidly that reflect on-the-ground changes in the use of Corps areas. This AUPS/CRS combined system has been shown to improve overall efficiency and can benefit overall trend analysis by helping to produce reports on a more timely basis.



Tere DeMoss worked as a Statistician for the Information Technology Laboratory, US Army Engineer Waterways Experiment Station, before joining the Resource Analysis Group of the Environmental Laboratory in 1989. She is responsible for the analysis of the Campground Receipt Study. Tere received a Master of Science degree from the University of Wyoming.

Osprey Nesting Platforms - Southern Bell Style

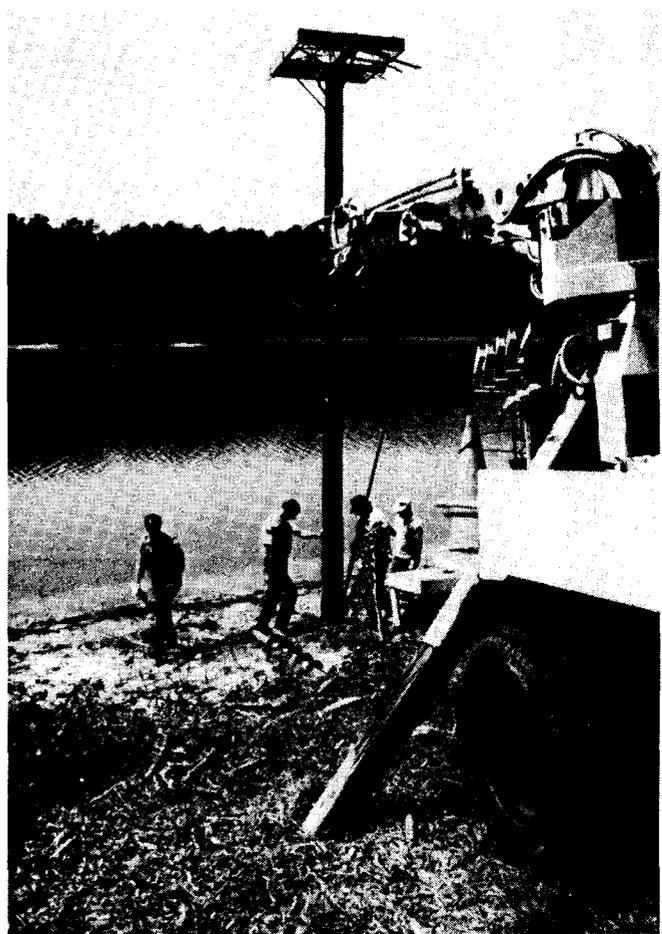
Last summer the Corps, the Georgia Department of Natural Resources, Southern Bell, and the Audubon Society cooperated in a project that included the construction and installation of three osprey nesting platforms on J. Strom Thurmond Lake and follow-up monitoring.

Osprey have been observed in the vicinity of J. Strom Thurmond Lake during the past several years, but no nesting activity had been reported on public land around the lake. The District Wildlife Biologist felt that part of the problem was a lack of suitable nesting habitat. Osprey prefer to build their nests in mature flooded timber, but most of that type of habitat has long since deteriorated on Thurmond Lake.

Nesting platforms had worked on other inland waterways but the majority of the successful platforms were constructed on poles 20 to 30 feet high and surrounded by water. Installation of platforms meeting that criteria would have been a major problem had the Corps Biologist not contacted Southern Bell public relations personnel from the Augusta, Georgia, office. Southern Bell agreed to supply and install surplus telephone poles free of charge, if the Corps would provide the nesting platforms.

Special installation trucks were used to erect the platforms several feet from the shoreline. The Georgia Department of Natural Resources assisted the Corps in platform construction and site selection. The platforms will be monitored for osprey nesting activity this spring.

For additional information, contact David Brady at (404) 283-8731.



Installation of osprey nesting platform, J. Strom Thurmond Lake

Computer Screen Problem for AUPS Use Solved

by
Kenneth Huddleston
Allatoona Lake

When Allatoona Lake began using the Automated User Permit System (AUPS) with Zenith laptop computers, problems were encountered with the built-in screen being visible to the Park Attendant under varying light conditions. Another problem was heat buildup caused by sunlight on the screen causing it to shut off. Several inexpensive monochrome monitors were found, but they were not compatible with the Zenith Z-180 series computers which cannot accommodate a TTL-compatible Monochrome Display Adapter (MDA) or a TTL-compatible Hercules monitor.

Our local Zenith dealer found an amber monochrome CGA monitor which works well with the laptop computers. This monitor is manufactured by Samsung as model No. MZ4575 and is also sold as a Vendex Headstart

M-14-MA. The monitor is also available in green. The monitor has a nonglare 14-inch flat screen and weighs approximately 15 pounds. DIP switch 6, located under a cover on the bottom side of the computer, must be turned off to disable the built-in screen and direct output to the monitor. When the monitor is in use, battery power cannot be used because the battery pack blocks access to the video connector.

The monitor is available from Z-Tec Computer Systems, 2221 Peachtree Road, Atlanta, GA 30309, telephone: (404) 351-2877. This cost is currently \$159.00.

Note: Citation of trade names does not constitute an official endorsement or approval of the use of such products.

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**NATURAL
RESOURCES
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This bulletin is published in accordance with AR 25-30. It has been prepared and distributed as one of the information dissemination functions of the Environmental Laboratory of the Waterways Experiment Station. It is primarily intended to be a forum whereby information pertaining to and resulting from the Corps of Engineers' nationwide Natural Resources Research Program can be rapidly and widely disseminated to Headquarters, and Division, District, and project offices as well as to other Federal agencies concerned with outdoor recreation. Local reproduction is authorized to satisfy additional requirements. Contributions of notes, news, reviews, or any other types of information are solicited from all sources and will be considered for publication so long as they are relevant to the theme of the Natural Resources Research Program, i.e., to improve the effectiveness and efficiency of the Corps in managing the natural resources while providing recreation opportunities at its water resources development projects. This bulletin will be issued on an irregular basis as dictated by the quantity and importance of information to be disseminated. The contents of this bulletin are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official endorsement or approval of the use of such commercial products. Communications are welcomed and should be addressed to the Environmental Laboratory, ATTN: J. L. Decell, U.S. Army Engineer Waterways Experiment Station, (CEWES-EP-L), 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, or call AC (601) 634-3494.

LARRY B. FULTON
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HQUSACE Natural Resources Management Perspective

NRM Careers

I'd like to discuss a topic that all of us in the Natural Resources Management (NRM) family have in common—our careers. Elsewhere in this issue, you'll see a matrix of activities from the NRM Career Development Committee. This committee is working hard for all of us.

This article is my attempt to describe their work in the perspective of this NRM career employee.

First, we can all be proud to be involved in the Corps NRM program. It involves the stewardship of more than 11 million acres of land and water scattered through 43 states. These lands are all too frequently the last remnant of natural land in an area. Their characteristics of providing the valuable wildlife habitat elements, water and cover, are often taken for granted. Recently, we surveyed Corps lands and waters to determine the extent of Corps holdings in the Habitat Areas of Major Concern as defined by the North American Waterfowl Management Plan. The preliminary results show almost a million acres located in 6 of the 32 identified areas. With waterfowl populations at record lows, our public land holdings are obviously valuable National assets.

As access to private lands becomes increasingly difficult, Corps lands take on greater importance to the public as places to escape to. While we administer only 2 percent of the Federal land base, we accommodate over 30 percent of recreation visitation to all Federal lands. The Corps played host to more than 650 million recreation visitors last year. We rank a close second to the Forest Service in recreation visitation. Over 10 percent of this nation's population visited a Corps lake at least once last year! Based on recent research, we estimate over 300,000 full- or part-time jobs are dependent on recreation activities at Corps lakes. As managers and stewards of these lands, these are Gee Whiz figures that we can be proud of.

Natural Resources Management people are the most visible element of the Corps. We continue to earn the label "The Corps' Face to the Nation." We have a lot to do with the image that a large segment of the public has of the Corps. And . . . we've done a great job! The high level of professionalism in the NRM program throughout the Corps continues to be a major inspiration to me—to do the best that I can at all times.

Most of us in the NRM program wouldn't trade careers with anyone. While the pay may not always be as competitive as we'd like, we planned for this career when we selected the various natural resources educational programs in college. I don't know about you, but I'm doing exactly what I set out to do when I left the University of Michigan's School of Natural Resources back in 1965.

There are over 2,000 NRM jobs in the Corps. They range from the individual ranger position at a project to the Headquarters staff here in Washington, DC. The options are there to select from. Some of us focus on a particular geographic location; others look for the right combination of resource, supportive leadership and vision that make for a quality program. But all of us need to be able to see what the options are and then to make our own decisions on career goals. We need to be able to recognize the "NRM career ladder." We need to understand the advantages and disadvantages of each rung. And, more importantly, we need to know just what it takes to move from one rung to the next. It goes without saying that access to each and every rung must be open to all.

A number of years ago, as a task force assigned to developing a systematic NRM training program struggled with the assignment, it became apparent that we had the cart before the horse. How can you define a systematic training program without first identifying the various jobs involved in a systematic way? So, we backed off of that effort and created the NRM Career Development Committee that hopefully you've heard about before. This committee represents all Divisions and multiple levels in the NRM program. Its charter focuses on identifying the NRM career ladders, identifying the training and experience needed to access each rung on the ladders and developing a systematic program for facilitating movement on the ladders by the individual. I have repeatedly said that this committee's task is my number one priority.

The committee has been working on this substantial task for several years and, as you can see in the matrix, products are beginning to emerge. I'd like to highlight some of the recent accomplishments and draw your attention to the entire matrix.

Outside Consultant. At long last, we have acquired the services of a professional who can devote a significant portion of his time to the work of the committee. Through a cooperative arrangement with

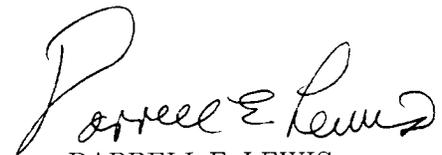
the Forest Service and Ohio State University, we now have the services of Dr. John Hanna. Dr. Hanna brings to this job a solid Natural Resources Management background. But, more importantly to me, he brings the kind of enthusiasm for the task that we need to be successful. I am personally excited to have John on our team!

Career Ladders. Several subcommittees have been hard at work in identifying the several NRM career ladders. As you can see in the matrix, we are nearing the completion of a draft NRM Career Development Plan which will be the first document to delineate the career ladders in the NRM program. This is a first step in identifying the elements of NRM careers. There are numerous other steps necessary to accomplish our goals, but this one is critical.

Professional Series. We have been looking at the possibility of creating a professional series for the NRM program for a number of years. The most recent effort involved an interagency endeavor led by the Forest Service to create a professional series focused on outdoor recreation management. That effort continues, but in all candor, I do not expect results in the near term. So . . . as you can see in the matrix, we are pursuing the option of conversion of the presently non-professional Park Ranger/Park Manager Series (GS-025) to the General Biologist (GS-401) professional series. A major concern that I have is that this

conversion be comprehensive, with no remnant group of NRM personnel left out in the cold. We will not proceed with this effort if we cannot move the NRM family in its entirety to the new series. All NRM personnel should receive an inquiry on their qualifications in the near future. Please take the time to respond. We can't get this job done if you don't do your part.

In summary, I'd like to say that while there are lots of unsettling things going on around us, NRM careers in the Corps are good careers, and we're working together to make it even better. Please do your part; if you are not satisfied with NRM career opportunities in the Corps, do something about it! Take a close look at the matrix. Make sure you understand what the committee is trying to do. Contact your Division's representative to the Career Development Committee. Let them know your concerns, and . . . better yet, volunteer to get involved in the solution. After all, this is a family affair . . . NRM family!



DARRELL E. LEWIS
 Chief, Natural Resources
 Management Branch, HQUSACE

Natural Resources Management Career Development Committee

Dr. Michael Loesch, Chairman . . .	North Central Division
Sherman Gee	Ohio River Division
Susan Whittington	South Atlantic Division
Paul Peloquin	North Pacific Division
Deborah Chenoweth	Missouri River Division
Bob Heald	New England Division
Earl Groves	Tulsa District
George Hardison	Rock Island District
Nancy Rogers	Bay Model Visitor Center
Dwight Beall	Raystown Lake
Brenda Meeks	Lake Ouachita

Natural Resources Management Career Development Steering Committee

FY 92 Task Matrix

Task Description	Product	POC	Status	Date Due In CECW-ON
Establish reimbursable work order with Ohio State University & Forest Service to utilize the services of John Hanna	Co-op Agreement	Loesch	Agreement signed, Hanna on board	Completed
Establish NRM Professional Job Series within the Corps Human Resources Directorate	GS-401 NRM Series	Gee/ Austin	Draft Position Descriptions and OPM Job Series Proposal Package under review	Begin Series Conversion 1 Oct 1992
NRM Career Development Plan to cover pertinent career information and Career Ladder Documents Plan Introduction ACTEDS Section Career Ladders: Rangers/Specialists Managers/Staffers Maintenance Clerical	NRM Career Development Plan	Loesch Whittington Peloquin Hardison Beale Groves	Draft Done Draft Done Draft Done Draft Due Draft Done Draft Due	Draft Plan 1 Jan 1992
Identify training needs using existing surveys and other available data	Training Needs Assessment Document	Whittington	On schedule	1 Jan 1992
Establish capability to post Training Opportunities on Corps-Mail or other central data base	Training Announcement E-Mail Bulletin Bd	Loesch/ Hanna	Determining Corps-Mail Capability	30 Sep 1992
Establish capability to post NRM Job Vacancies on Corps-Mail or other central data base	Job Vacancy E-Mail Bulletin Bd	Loesch/ Hanna/ Chenoweth	Determining Corps-Mail Capability	30 Sep 1992
Establish capability to post Important Meetings on Corps-Mail or other central data base	Important Meetings E-Mail Bulletin Bd	Loesch/ Hanna/ Chenoweth	Determining Corps-Mail Capability	30 Sep 1992
Submit NRM Program Fact Sheet to Commander's Training Course Coordinator	NRM Fact Sheet	Austin/ Chenoweth	Begin work 15 Jan 1992	Submit to Course Coordinator 1 Jun 1992
Publish Continuing Education Unit White Paper	CEU White Paper	Hardison	Draft Complete. To be published in next Career Notes Newsletter	1 Jan 1991
Coordinate with NPS to develop inter-agency Interpretive Services Training Course	Training Course	Chenoweth	Commence work in November 1991	Written progress report due 1 Jan 1992
Coordinate with HQ in outlining ERGO Training needs	ERGO Training Needs Outline	Whittington	Nearly complete. To be published in Career Notes Newsletter	1 Mar 1992
Establish list of approved environmental training courses	Environmental Training Course List	Chenoweth	On schedule	1 Mar 1992