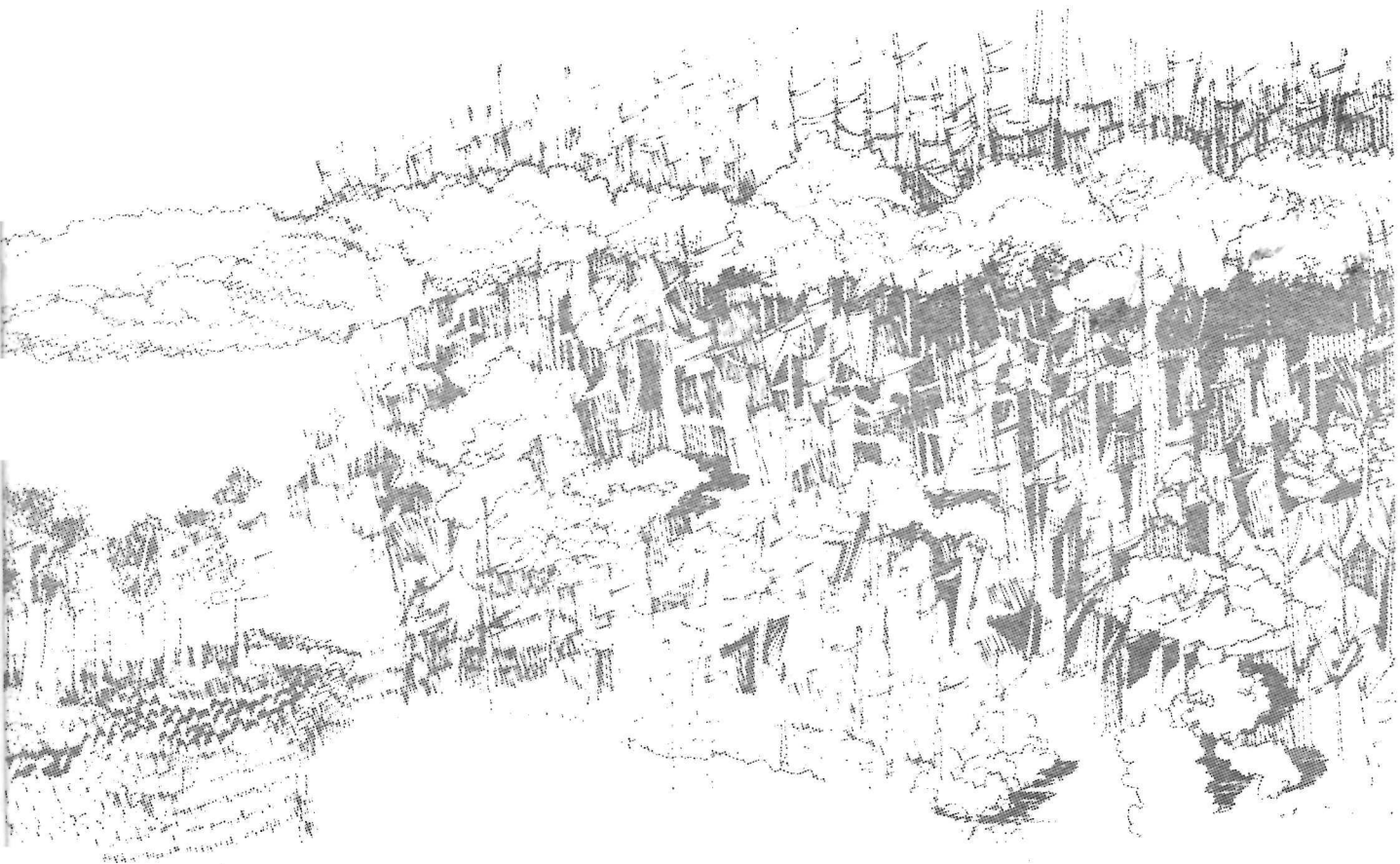


# Natural Resources Programs

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JULY 1985



NATURAL RESOURCE TRAINING:  
A PROPOSED PROGRAM FOR FY '86

## INTRODUCTION

A one-page questionnaire recently was distributed to parks and regional offices on the future training needs of NPS natural resource personnel. The questionnaire was sent to 471 individuals that the regions currently are carrying on their rolls as either a full-time or a collateral-duty natural resource professional; the questionnaire was not sent to secretarial or wage-grade support staff.

The responses from the questionnaire were used to develop a proposed training agenda for next year's Servicewide natural resource training program; accordingly, this information is of considerable importance, and I want to thank each of the respondents, not only for filling out the questionnaire, but also for your many constructive suggestions and comments. We now have a better appreciation and understanding of future training needs.

In this regard, you may be interested in knowing that funding committed to NPS natural resource training activities has grown significantly over the last four years. During this period, we have added new training segments in natural resource law, water resources, pest management, and air quality. We have also made a concerted effort to provide expanded natural resource training opportunities for Superintendents and mid-level park managers. However, what is becoming increasingly clear is that we have not responded adequately to the training needs of practicing in-park natural resource personnel, both those who perform as full-time specialists and those who support the natural resource program on a collateral-duty basis. Meeting this important training need is a top priority consideration for the year immediately ahead.

## SUMMARY OF QUESTIONNAIRE RESULTS

The following information summarizes the results of the training questionnaire:

The response rate to the questionnaire was approximately 44 percent. This is sufficient to make the results reasonably representative of the group as a whole. Figure 1 indicates the number of questionnaires sent and the number of responses from each region.

Approximately 56 percent of NPS natural resource personnel have a B.S. or a B.A. degree; another 26 percent have an advanced degree. Approximately 18 percent have no college degree. Figure 2 shows the educational level of field personnel who work in the natural resources program.

About 70 percent of those natural resource personnel with college degrees specialized in the natural sciences (biology, forestry, wildlife, etc.) and 13 percent in the physical sciences (geology, geography, chemistry, etc.). The distribution by area of specialization is shown in figure 3.

About two-thirds of the NPS natural resources staff completed their college training more than 10 years ago; nearly 90 percent completed their college work at least 5 years ago (see figure 4). Present NPS natural resource personnel on the average have about 7.5 years of experience in natural resource work (see figure 5).

Approximately 65 percent of the natural resources staff spend at least 75 percent of their time working on natural resource matters; they can be classified as essentially full-time natural resources staff (see figure 6). The remaining collateral-duty staff average approximately 35-40 percent of their time on natural resource matters.

As shown in figure 7, approximately two-thirds of the natural resources staff are in the 025 Ranger series, 15 percent are in the 0401 Natural Resource Management series, and the remainder are primarily in either the Natural or Physical Sciences series. (These data were derived from information submitted by the regions for the FY 86 appropriations hearings and are included here to more fully describe the profile of the NPS natural resources staff.)

Figure 8 shows the frequency with which natural resource personnel have taken natural resource training courses under the Servicewide training program. During the last 10 years, full-time personnel (those working more than 75 percent of their time on natural resources) have averaged one natural resource training course about every 3.3 years under the Servicewide program. During this same time period, collateral-duty personnel (those working less than 75 percent of their time on natural resources) have averaged one natural resource training course about every 7.5 years under the Servicewide training program.

Approximately 24 percent of the NPS's full-time natural resources staff have taken no natural resource training courses under the Servicewide program; 46 percent of the collateral-duty staff have taken no Servicewide natural resource training courses (see figure 9).

The frequency of natural resource training under the Servicewide training program has improved during the last 10 years (see figure 10). During 1974-77, personnel working in the natural resources program averaged one natural resource training course about every 6 years. During 1978-81, this statistic was improved to an average of one course every 5 years. During 1982-85, the frequency of training improved further to an average of one natural resource course approximately every 3.5 years.

Table 1 shows how the questionnaire respondents ranked their natural resource training needs. For example, 38 individuals ranked vegetation management as their #1 priority training need, 16 ranked wildlife management as their #1 need. Data management and computers were mentioned most often in the "other" category. Analyses of the table 1 data indicate the following training interests for in-park natural resource staff, ranked in priority order:

1. Vegetation Management
2. Water Resources
3. Wildlife Management
4. Natural Resources Law
5. Integrated Pest Management
6. Air Quality
7. Natural Resources General Survey
8. Natural Resources Budgeting/Contracts Management
9. Geographic Information Systems (GIS)
10. Fishery and Aquatic Systems Management
11. Mining and Minerals
12. Coastal Systems and Processes

## CONCLUSIONS

The following conclusions were drawn from the questionnaire responses and the comments that were submitted:

- The questionnaire data indicate that NPS natural resource personnel have received little natural resource training since completing their formal college work. For example, the two-thirds of the staff who finished college more than 10 years ago have on the average taken only about two natural resource training courses during the last 10 years. This would appear to be insufficient to maintain an acceptable level of proficiency in the highly technical and rapidly changing field of natural resource management.
- The number and the diversity of training opportunities available to NPS natural resource field personnel have been very limited. This is true both for full-time and for collateral-duty natural resource staff.
- Although the training agenda and the frequency of natural resource training courses have improved over the last three years, we have failed to provide training in a number of subject areas ranked as a high priority need by field personnel, such as in the important core areas of vegetation management and wildlife management.
- Park natural resource personnel want an increased opportunity to take training courses that are directly relevant to their duties.

## RECOMMENDATIONS

We need to give increased attention to the training needs of in-park natural resource personnel. A program strategy for accomplishing this objective might consist of the following:

Increase the level of funding available for the natural resource component of the Servicewide training program to a minimum of \$400,000 in FY 86 and thereafter.

Commit at least 90 percent of the Servicewide natural resource training monies over the next three-five years to provide new train-

ing opportunities for practicing in-park natural resource personnel, both full-time and collateral-duty staff.

Develop and offer a series of beginning level to advanced level training courses in vegetation management and wildlife management. A sequence of three courses in each of these two areas could be offered over a two-year period. These courses probably would be provided by universities, perhaps following the curriculum used in the Natural Resource Trainee Program.

Ensure that the natural resource training curriculum reflects careful attention to field-oriented, practical, hands-on natural resource management skills and techniques, for example, data collection, sampling techniques, experiment design, and basic statistics.

Target specialty courses such as water resources, fishery management, mining and minerals, air quality, and coastal processes to those individuals who have particular need for such training. With the exception of water resources, these Servicewide training courses would be offered on a less frequent basis--say once every two years, with supplemental training provided at a regional level as required.

Aggregate certain of the general training topics that are of broad interest, but that were ranked on the questionnaire to be somewhat lower in priority, into a consolidated course....for example, natural resource law, natural resource budgeting/contracts management, geographic information systems, and natural resource automated data systems. These four components could be made areas of particular emphasis within a two-week natural resource general survey course.

Work with the regions to further consolidate pest management training under regional training activities; expand the number and the diversity of pesticide training manuals, and augment this with video training materials.

Continue to develop introductory video training tapes on selected topics. Such videotapes will be available later this year for geographic information systems, mining and minerals, and integrated pest management, and available next year for air quality and general natural resource protection concepts.

If we were to restructure the natural resource training program as proposed above, most in-park natural resource professionals (i.e., all full-time staff and all over 25 percent collateral-duty staff) would have the opportunity to attend at least one natural resource training course each year. Under this proposal, the Servicewide FY 86 training agenda might consist of the following courses:

## Proposed FY 86 Natural Resource Training Agenda

Courses	Number of Courses	Duration (Weeks)
Vegetation Management, basic	2	3
Vegetation Management, intermediate	1	3
Wildlife Management, basic	2	3
Wildlife Management, intermediate	1	3
Natural Resources General Survey (with Law, Budgeting/Contracts, GIS, and ADP modules)	1	2
Water Resources	2	1
Air Quality	1	1
Integrated Pest Management	2	1
Mining and Minerals, Alaska Region	1	1
Mining and Minerals	1	2

### FINAL COMMENT

I have learned a great deal from the questionnaire responses about how you view the Servicewide training program and about your interest in future natural resources training opportunities. After you have reviewed the proposed FY 86 natural resource training agenda, I would welcome any additional comments or suggestions you might care to make. Please remember that what is being recommended to the Training Office is a substantive departure from past training agendas. To successfully implement this program will require a large commitment of monies and a great deal of planning. I feel personally that this initiative is well worth the effort. Again, thank you for your participation and interest in the natural resources training program.

Dick Briceland  
Associate Director,  
Natural Resources

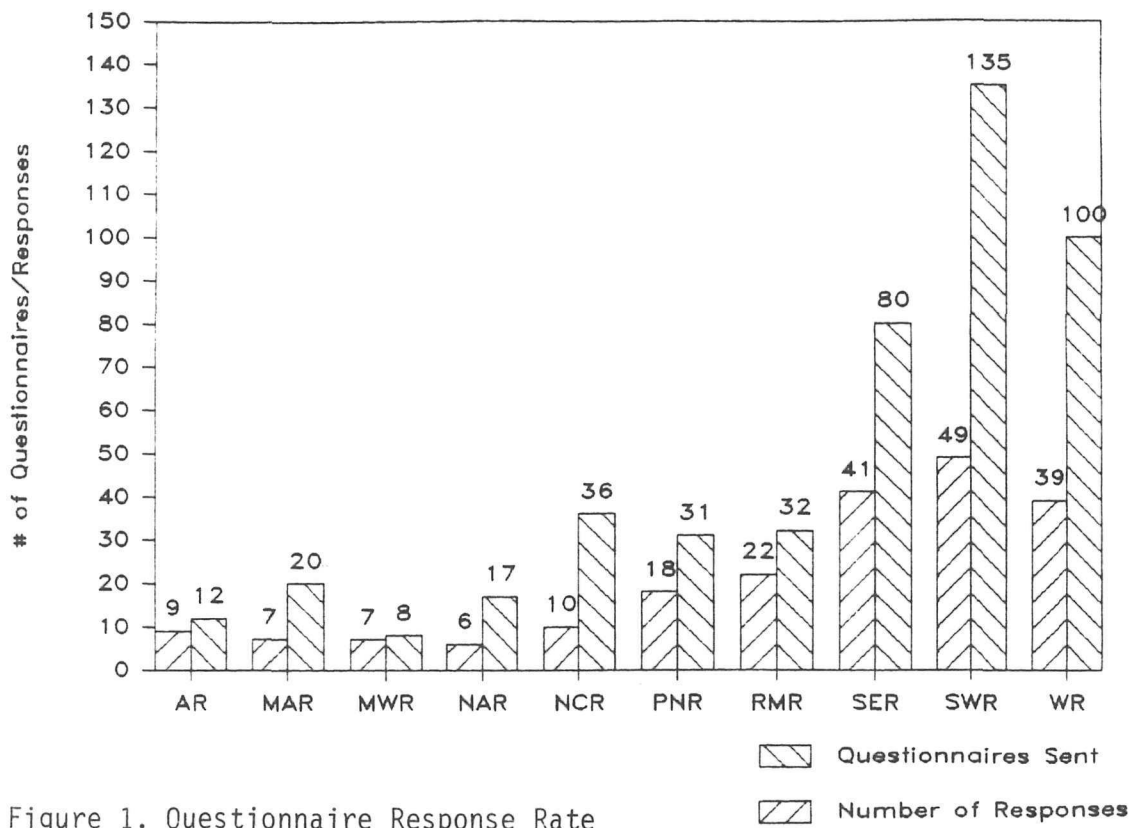


Figure 1. Questionnaire Response Rate

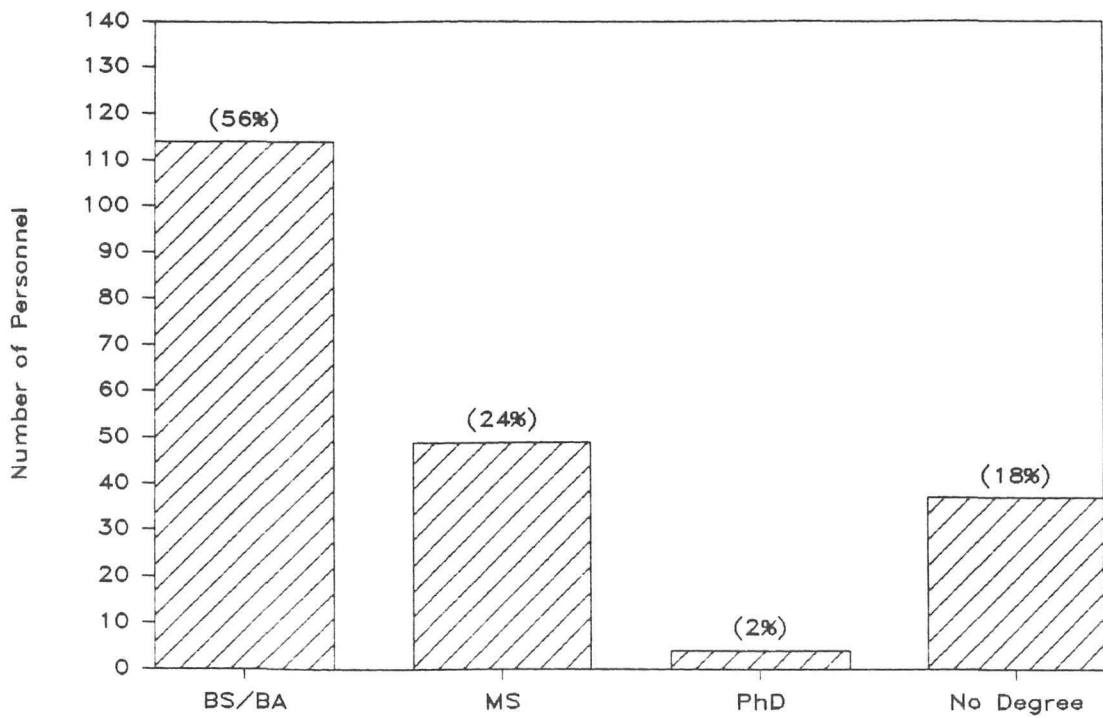


Figure 2. Education Level



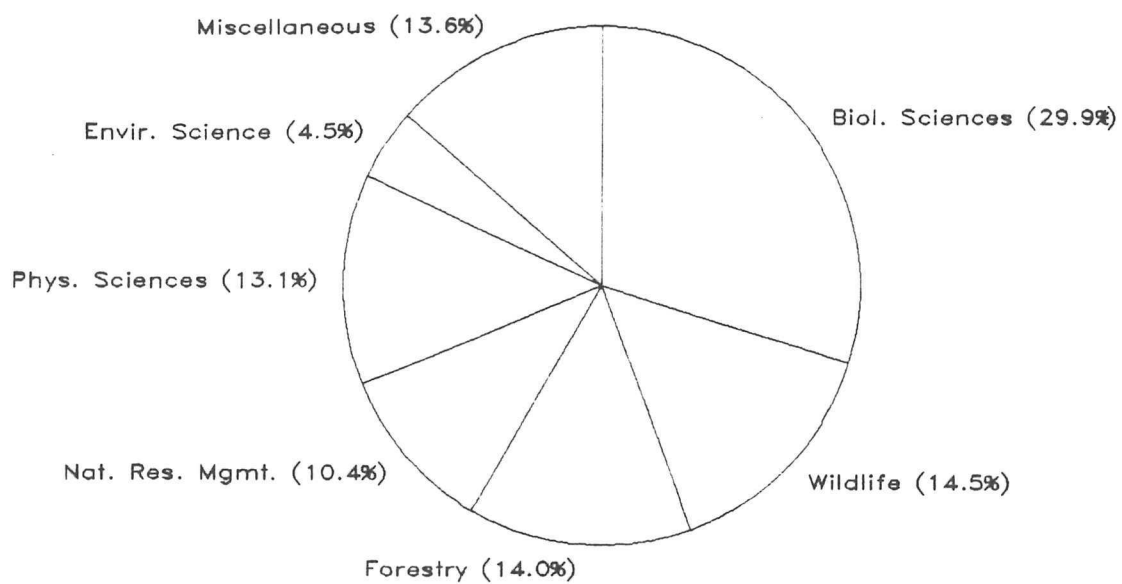


Figure 3. College Specialization

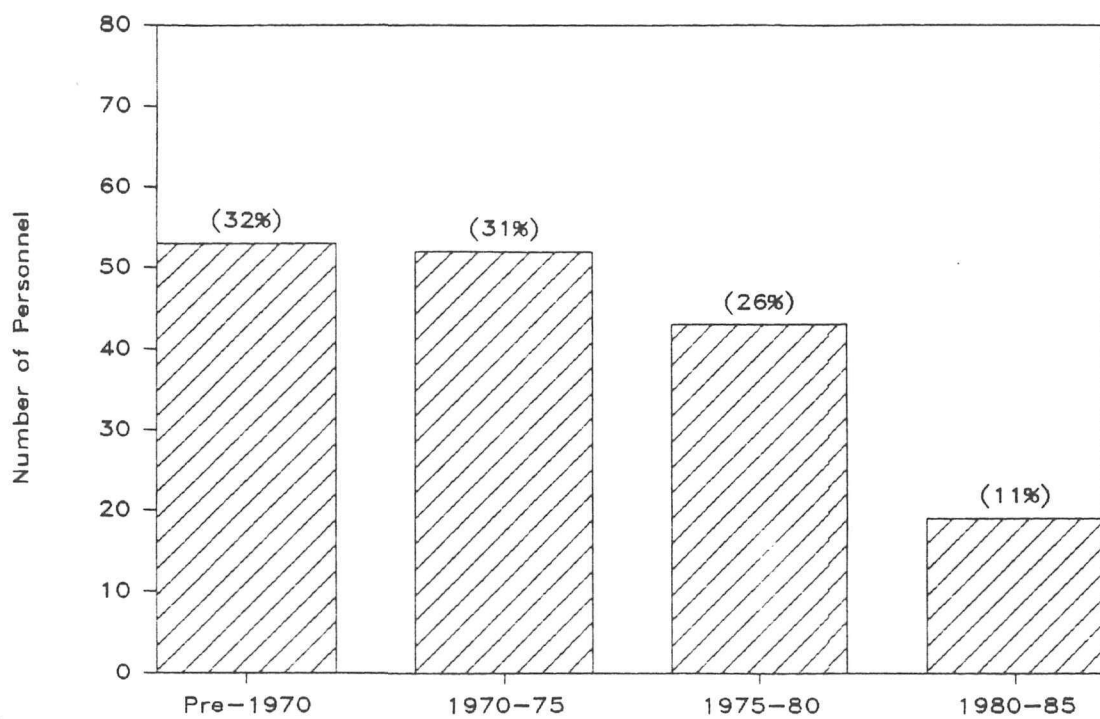


Figure 4. Date Degrees Conferred



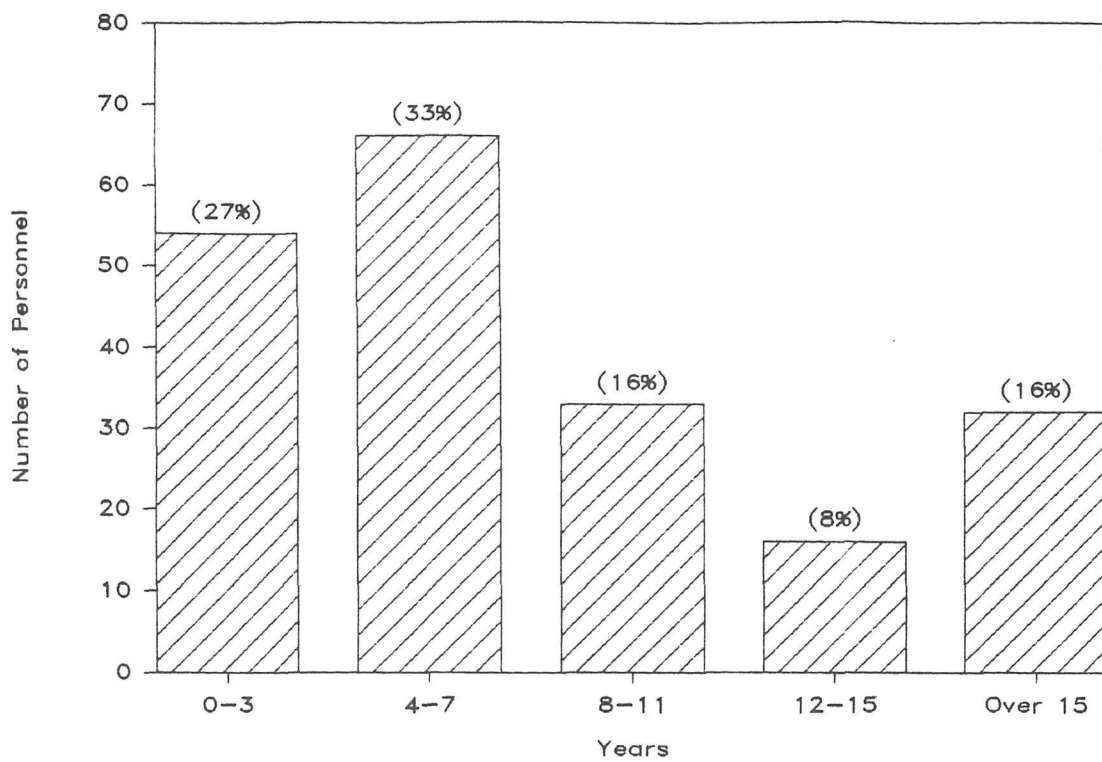


Figure 5. Years Working in Natural Resources

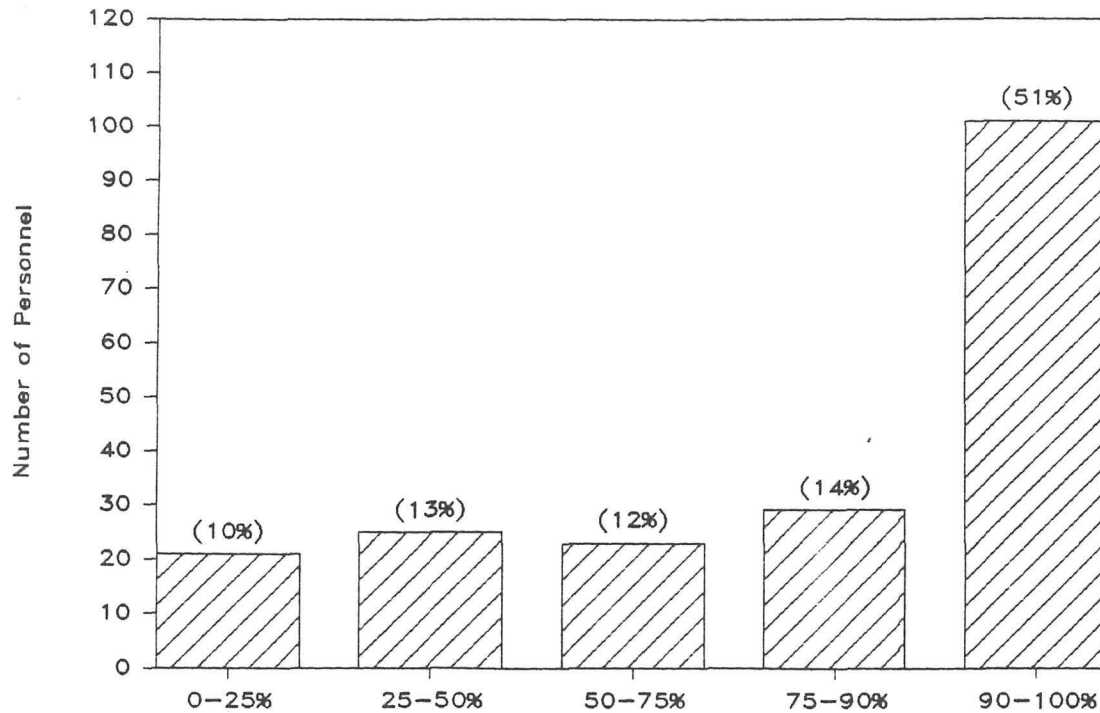


Figure 6. Percent Time Working in Natural Resources

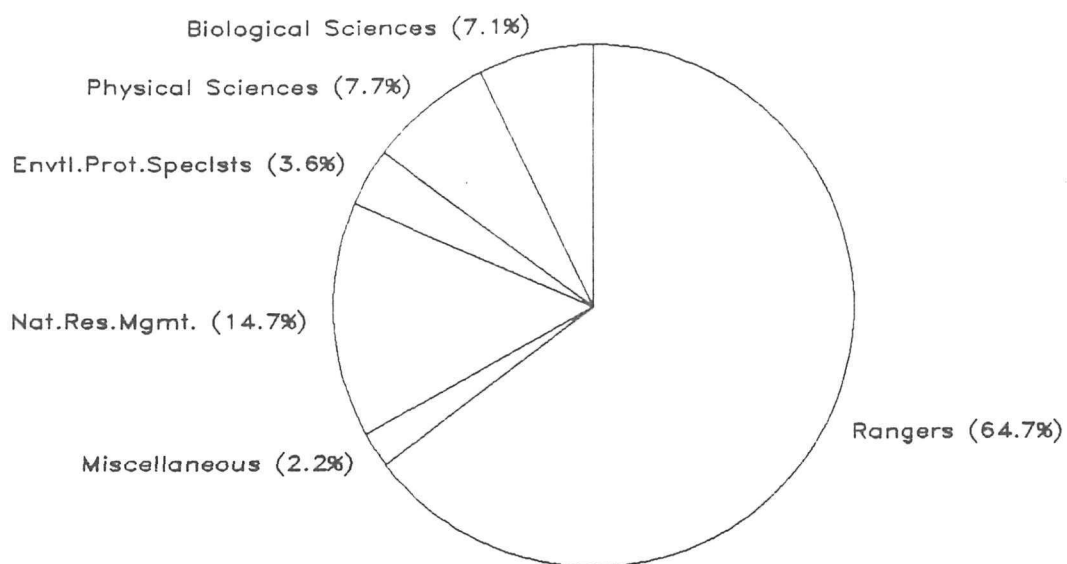


Figure 7. Job Classification Series

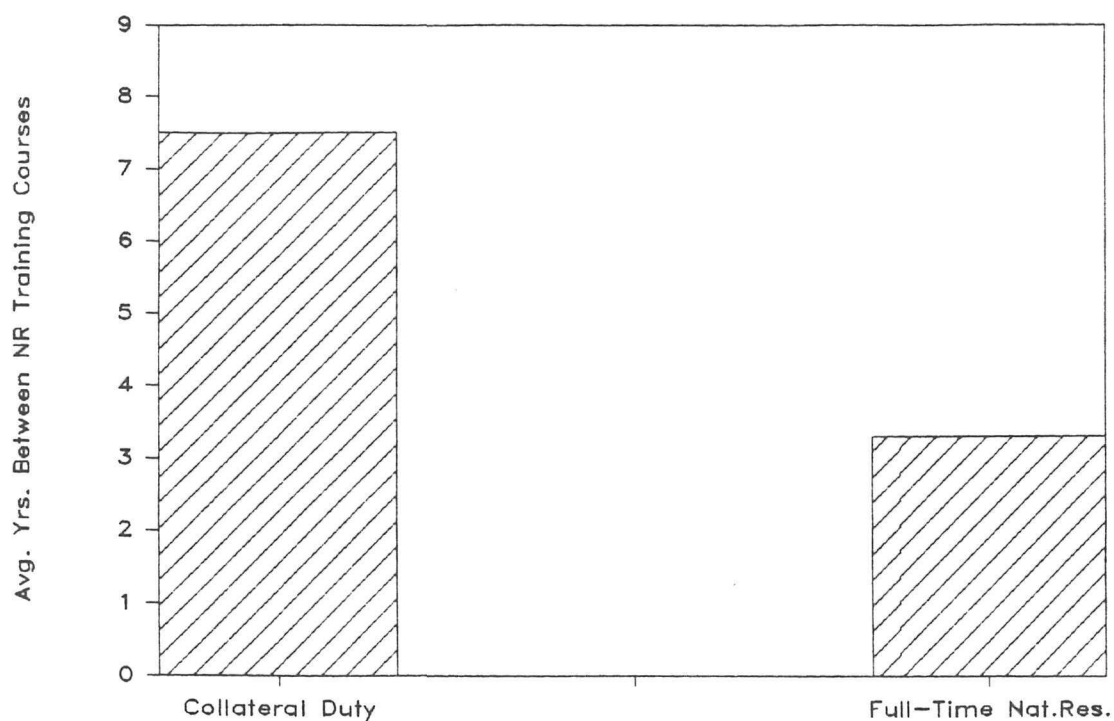


Figure 8. Frequency of Natural Resource Training  
Collateral Duty vs. Full Time

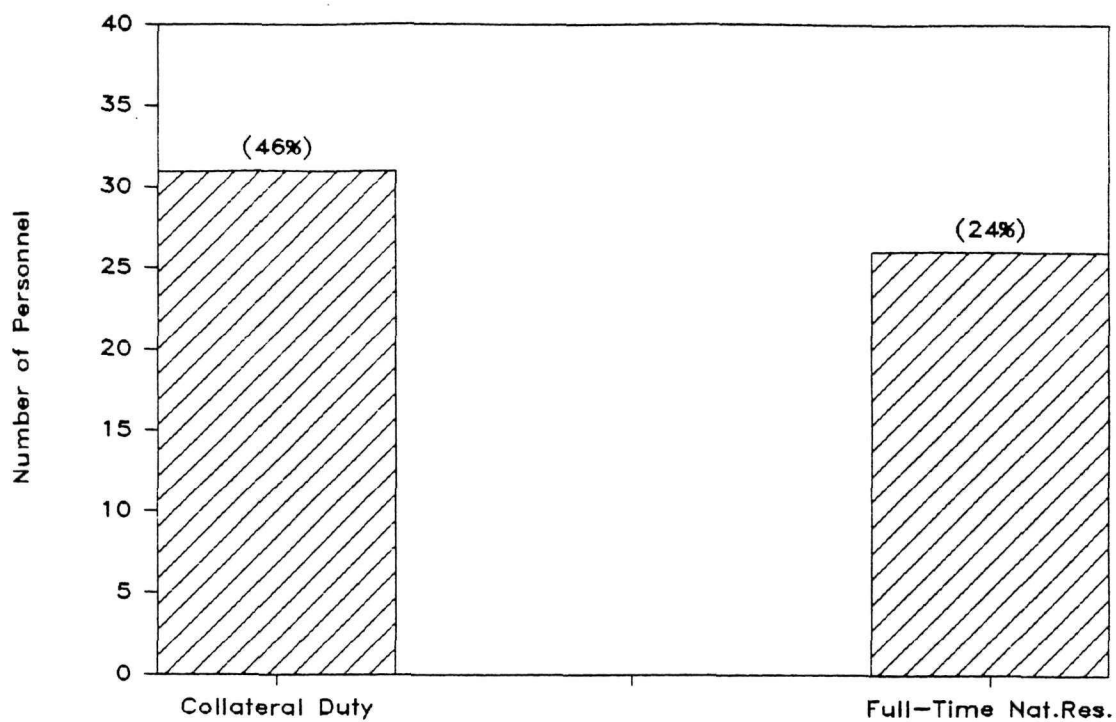


Figure 9. Natural Resource Staff Who Have Taken No Servicewide Natural Resource Training Courses

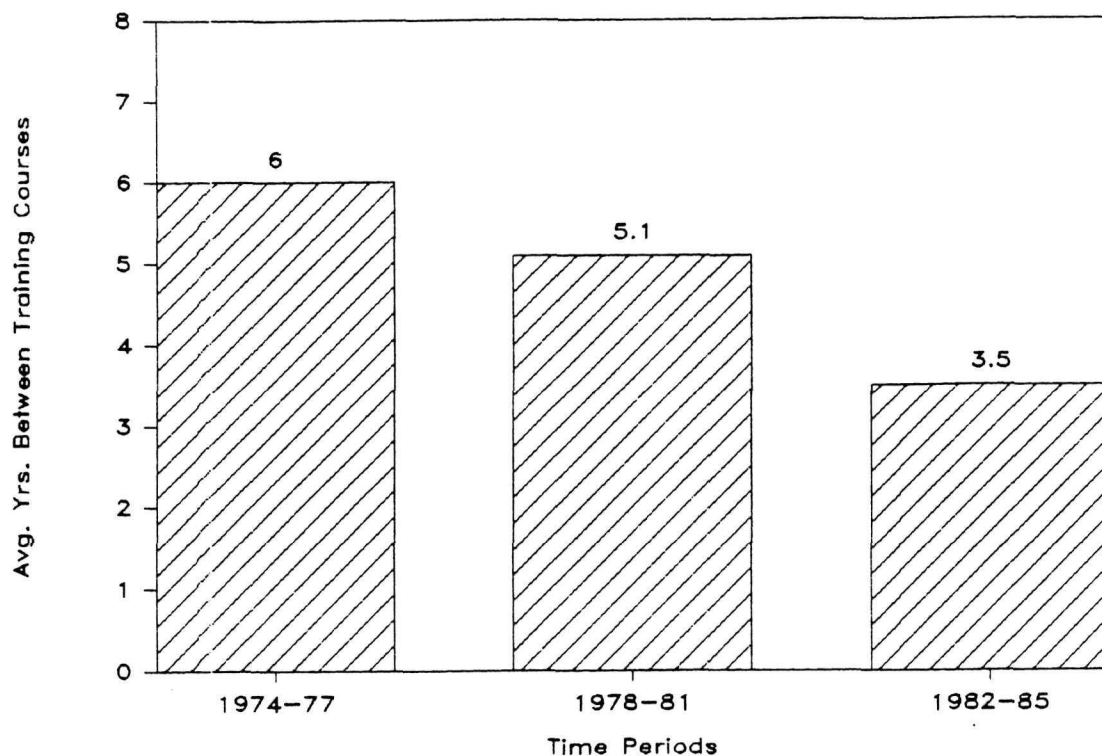
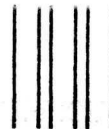


Figure 10. Frequency of Natural Resource Training

Table 1: Ranking of NPS Natural Resource Training Courses

Courses	Ranking (Priority Order)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	0	
1. Vegetation Management	38	38	23	17	17	11	6	5	4	2	2	1	0	38	
2. Wildlife Management	16	25	24	21	13	17	15	8	6	5	4	0	0	41	
3. Fishery & Aquatic Systems Management	2	10	10	12	15	20	14	11	20	11	10	3	2	58	
4. Coastal Systems & Processes	0	4	3	8	4	3	7	10	14	13	20	20	5	84	
5. Integrated Pest Management (IPM)	13	14	19	10	18	9	18	9	4	14	7	7	0	55	
6. Water Resources	19	18	13	27	29	11	8	8	7	3	3	0	1	47	
7. Air Quality	7	15	14	17	17	14	10	14	14	6	7	4	0	56	
8. Mining & Minerals	2	2	5	6	7	8	8	10	12	13	17	26	3	75	
9. Geographic Information Systems (GIS)	9	6	15	8	11	18	9	15	15	11	11	4	0	64	
10. Natural Resource Law	21	13	12	17	8	20	7	13	12	11	4	7	0	52	
11. Natural Resource Budgeting/Contracts Management	11	14	8	10	13	7	15	13	5	5	15	8	4	72	
12. Natural Resource General Survey	15	12	10	9	10	6	9	10	5	13	3	15	4	72	
13. Others	9	5	8	3	3	1	4	1	0	2	3	1	0	152	





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