



Ecological Restoration Institute Forest Restoration Training Survey

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*Annotated Questionnaire Appendices **

Appendix A – Other schools where respondents received ecological restoration training

Appendix B – Other types of ecological restoration training programs respondent has participated in

Appendix C – Best location to attend a classroom-based educational workshop

Appendix D – Most desirable location for field-based training programs

Appendix E – Reason for selection of site as most desirable for field-based training programs

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Appendices of Related Materials

Appendix I – Telephone Recruitment Protocol

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Appendix L - Phone Survey (two versions)

Appendix M - Definitions of Topic Areas

Appendix N - Data Entry Protocol

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*Appendices are not page numbered.

I. METHODOLOGY

Survey Content

The Ecological Restoration Institute (ERI) at Northern Arizona University commissioned the Social Research Laboratory (SRL) to create and administer a telephone survey of land managers in the Southwest, primarily in Arizona and New Mexico. The purpose of the study was to gauge the demand for training and education of land managers in ecological restoration of forested lands in the region. The SRL and the ERI collaboratively designed a survey instrument. In addition to determining the level of interest in further ecological restoration education, the survey also investigated preferred types of education, delivery methods (web-based, classroom or field-based), the access respondents have to technology, the best timing for educational programs, the preferred location for classroom-based workshops or field-based sessions, the preferred length of workshops, perceived employer support for the programs, and levels of interest in particular subject areas for future ecological restoration education and training.

The target respondent for this study is a land manager or administrator currently involved in ecological restoration and interested in professional development opportunities in this field. Two initial screening questions determined whether respondents met these criteria. The land managers work in areas that include both ponderosa pine and other types of forests and ecosystems common to the Southwest.

Data Base Construction

The SRL created a database of land managers affiliated with the National Park Service (NPS), Arizona and New Mexico State Land Departments (AZSLD and NMSLD respectively), Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), Arizona Game and Fish Department (AZGFD) and the New Mexico Forestry Division (NMFDD). From each agency, the SRL requested contact information for land managers within New Mexico and Arizona. Also included in the database were a small number of land managers located in southern Colorado, Utah and Texas.

In order to compile a comprehensive database, the SRL included land managers from various agencies involved in forest restoration. A "snowball" sampling methodology was employed using known contacts to identify other potential contacts. A telephone protocol was developed for use in explaining the project to perspective respondents (see Appendix I). Regional and state offices were initially contacted to determine the best method of obtaining prospective respondents' contact information. If agencies requested written validation, the following documents were sent: 1) a letter outlining the purpose of the survey and how information would be used; and, 2) a copy of the survey instrument. This correspondence was sent upon request to the United States Forest Service, Bureau of Land Management, New Mexico State Land Department and New Mexico Game and Fish Department. The SRL relied on various methods to compile an extensive database

of contact information. In some instances, a complete list of contacts was sent to the SRL from a central location such as a regional office. In other cases, the SRL was provided with lists of supervisors who oversee land managers in specific regions. These supervisors were contacted and asked to provide contact information for land managers from each office. A total of 268 names with contact information were submitted by cooperating agencies.

Agencies cooperated with the request for contact information, with the exception of the New Mexico Fish and Game Department (NMFGD) and the U. S. Forest Service (USFS). The NMDFG and the USFS declined to participate in the study for similar reasons -- both agencies felt that completing a telephone survey would be too time-consuming for their employees. Although the USFS declined to participate in a telephone survey, the agency did agree to allow its employees to complete an e-mail or Internet-based version of the survey.

Initially, staff at the SRL designed an e-mail survey in .pdf format, enabling respondents to access and complete the survey on their personal computer and submit their responses directly to the SRL (see Appendix J). After reviewing the final .pdf instrument, staff at the SRL decided this format would be too complicated and decided to use a web survey format that would be accessible through a web link. Respondents could access the survey and submit their responses through the web (see Appendix K). Ultimately, the USFS revoked its participation in the project and the web surveys were not utilized. This resulted in the loss of potential data from surveys of 80 land managers.

Individual National Park Service parks in Arizona and New Mexico were contacted by the SRL in order to reach land managers involved in ecological restoration. The NPS had relatively few land managers within Arizona and New Mexico involved in ecological restoration, due to the small number of employees in each park and its geographic location. Many of the parks had only one or two land managers involved in ecological restoration. Additionally, some parks were located in areas that are not conducive to ecological restoration practices and principles. The National Park Service submitted contacts for 24 land managers.

The Bureau of Indian Affairs and Bureau of Land Management sent lists to the SRL from a regional office and a field office, respectively. The BIA faxed the most comprehensive list of all of their employees in the Southwest Region. The BLM submitted a list of employees primarily located in the Arizona Strip, Lake Mead National Recreation Area and parts of southern Utah. The Bureau of Land Management submitted 58 contacts, and the Bureau of Indian Affairs provided 95. Upon receipt of both lists, contacts from BIA and BLM were entered and included in the database.

The SRL contacted the head supervisor at the Arizona Game and Fish Department by telephone and informed him of the project. He sent a list of e-mail addresses of six main supervisors of Arizona offices to the SRL. The SRL e-mailed a request to each supervisor, who then replied with names and phone numbers of the land managers who worked in their divisions. The Arizona Game and Fish Department submitted contacts

for 34 employees.

The main supervisors from the New Mexico State Land Department offices were reached via telephone. Through e-mail, the New Mexico State Land Department provided contact information for 20 land managers to the SRL.

The Arizona State Land Department submitted their contacts to ERI, which was forwarded to the SRL. The AZSLD submitted contacts for seven managers.

After receiving a letter of request from the ERI, The New Mexico Forestry Division sent a letter with the names of its land managers. This list was forwarded to the SRL and entered into the database. The New Mexico Forestry Division provided contact information for 30 land managers.

Fielding the Survey

At the initiation of this study and before the fielding of the survey, the project was submitted to the Institutional Review Board (IRB) at NAU and approved through the IRB process. Once fielding of the survey had begun, the SRL regularly submitted progress reports to the Ecological Restoration Institute. After receiving the first set of progress reports, ERI requested that additional questions be added to the survey to clarify a few of questions that emerged during survey fielding. After 34 surveys had been completed, the SRL added four questions, developed by ERI (7b1, 7c1, 7d1 and 32a) to the survey and used the new version for the subsequent 58 completed surveys [Both versions of the survey are found in Appendix L].

The surveys were conducted over the telephone by a group of trained and experienced interviewers. In general, respondents were willing to take the survey and share information with the interviewers. At the beginning of the phone call, respondents were informed of the purpose of the study and the sponsor. They were assured that all of their answers were voluntary and confidential and would only be reported as a group response. Respondents were screened to determine whether they qualified for the survey as a land manager or an administrator involved in ecological restoration with an interest in professional development opportunities in ecological restoration. If the respondent requested more information regarding ERI, the interviewers were trained to give the respondent a scripted synopsis of ERI's mission and goals. [See Appendix L, p. 1]. At the end of the survey, respondents were asked whether they were interested in learning more about a variety of restoration topics. If the respondent did not understand the meaning or context of the topic areas, interviewers read definitions of the topic areas provided by ERI [See Appendix M].

In order to gather an adequate data set and complete the study, a goal was set to administer 172 surveys. Although 172 surveys was the initial target, the lack of participation by the USFS and the subsequent omission of 80 completes resulted in a smaller final "n" size. At the completion of fielding, 92 surveys had been administered. Seventeen completes were obtained from the National Park Service; Arizona and New

Mexico State Land Departments produced two and six completes, respectively; 16 surveys were completed by the Bureau of Land Management; 24 completes were obtained from the Bureau of Indian Affairs; 11 surveys were administered to Arizona Department of Fish and Game land managers; and lastly, 16 surveys were completed by the New Mexico Forestry Division.

Report Layout

Appendices A-H contain verbatim responses to open-ended questions on the survey. For ease of use, appendices are arranged in one or more of the following ways: 1) top choices, 2) region, and 3) alphabetically. Appendices I-N contain telephone recruitment protocol, surveys in multiple formats, definitions of the topic areas and data entry protocol. Also, Appendix O includes additional comments that were captured by the interviewers. These are comments made by the respondents in addition to answering a question and include the question number for reference.

Data Analysis

Survey question responses were recorded on paper and the data was entered into a Filemaker database file, designed to maximize accuracy and ease of entry of survey data into a database format. A protocol for data entry was developed and monitored to assure the accuracy and consistency of data entry [see Appendix N]. Trained and experienced coders entered the survey data. In order to assure coder accuracy and reliability, all entries were double-checked by a different coder. Once the information was entered into Filemaker, the data was imported into a statistical software package (SPSS) for further analysis.

This report includes an annotated questionnaire that presents the survey questions, as well as descriptive statistics that relate the number of responses to each question. Due to rounding, percentages may not always total 100 percent. Additionally, if the respondent declined to answer a question, responses were coded as “missing” in the data set and omitted from calculations for valid percentages.

Study Limitations

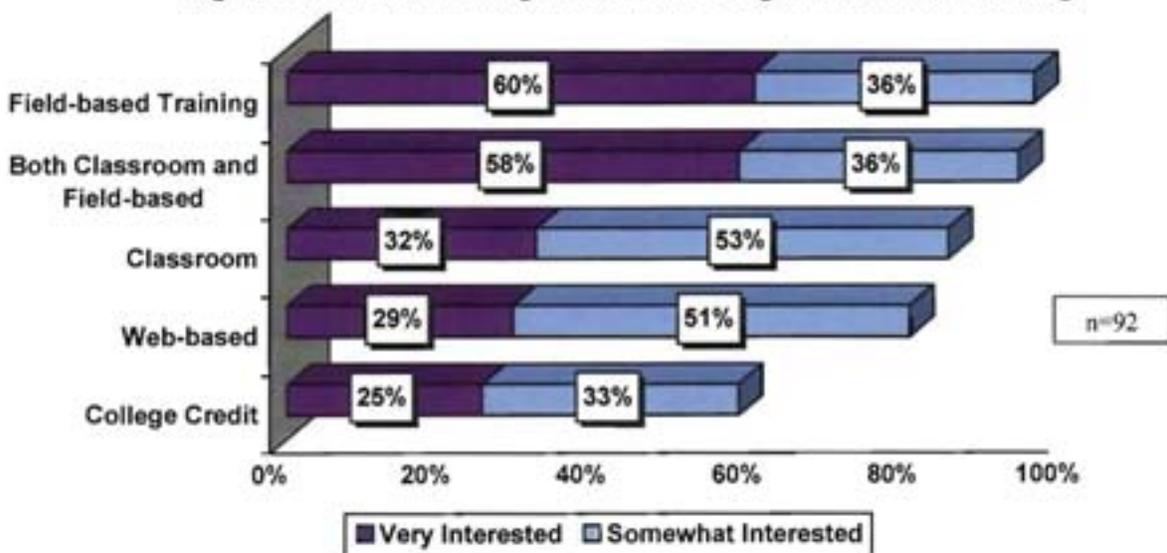
In order for the results to be representative of the population and statistically valid, all land managers from the various agencies would have to be represented within the sample with an equal chance of being selected for the study. A “snowball” sampling methodology is not inclusive of all of the land managers from the various agencies in the Southwest. Therefore, the information in this report can be used for descriptive purposes only. The results cannot be inferred to the general population of land managers in the Southwest.

II. EXECUTIVE SUMMARY

EDUCATIONAL PROGRAM PREFERENCE

Respondents are most interested in participating in field-based training workshops (96%) (see Figure 1). Respondents also showed a high level of interest for a combination of classroom and field-based programs (94%) and classroom based workshops (85%). Eighty percent of respondents are interested in web-based programs. Over half (58%) of respondents expressed interest in earning college credit for participation in educational programs.

Figure 1: Interest in Training Formats for Ecological Restoration Training

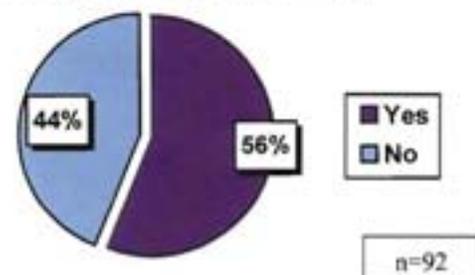


TRAINING AND EDUCATION

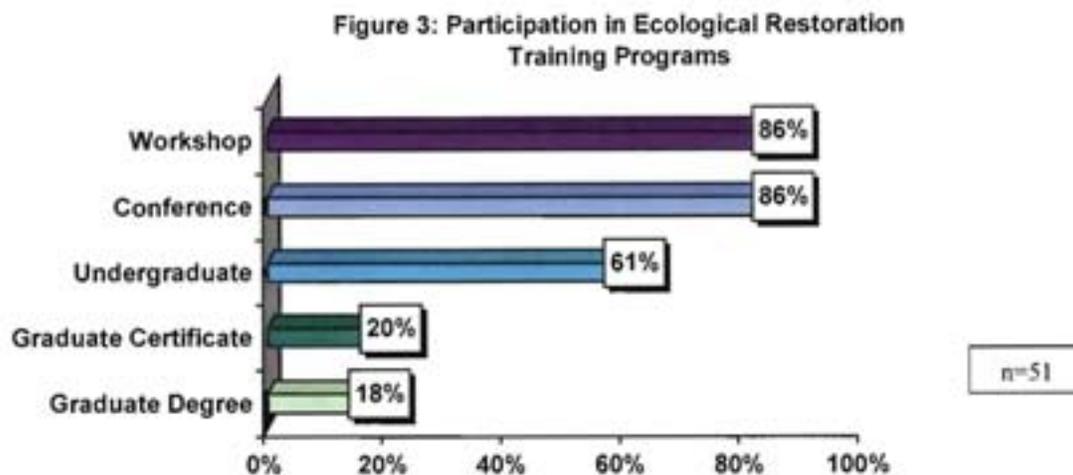
Experience with Previous Training Programs

Most respondents (82%) have both a personal and professional interest in ecological restoration training programs. A majority of respondents (56%) have had formal training in ecological restoration (see Figure 2).

Figure 2: Participation in Formal Ecological Restoration Training



Among those that had attended training programs, most (86%) reported participated in a training workshop format and/or at conferences (see Figure 3). Sixty-one percent received training in an undergraduate program. Twenty percent received ecological restoration training in a post-degree graduate certificate program and 18 percent received training through a graduate degree program.



[See the Annotated Questionnaire (Q7b1 and Q7d1) and Appendix A for a list of colleges or universities that respondents attended and received ecological restoration training. See Appendix B for a list of other types of training land managers have participated in.]

TRAINING FORMATS

Web-based Education and Training

A majority (80%) of all respondents are interested in web-based education or training programs. Among those interested in web-based educational or training programs, 84 percent prefer a short-term (2-4 week) training program.

Among those interested in a short-term web-based training program, most (66%) prefer a short-term program offered "two to three times per year." Nineteen percent prefer a short-term program offered only "one time per year," and 15 percent would like programs offered "four or more times per year" [See Executive Summary Addendum for additional graphic display of data, Figure A1, pg.16].¹

¹ Additional graphics were created to assist the reader in better understanding of the various training format data combined. In an effort to keep the Executive Summary brief, these were not included in the body of the Executive Summary.

According to respondents interested in short-term training, the best time of year to complete the program is in the “winter” (51%), followed by “fall” (29%), “summer” (14%) and lastly, “spring” (7%) [see Executive Summary Addendum, Figure A2, p. 16].

Respondents interested in web-based training programs were asked how likely they would be to use “up-to-date, web-based information and downloads.” The majority (91%) said they were likely to utilize web-based information, and 92% said they would be likely to utilize “up-to-date web-based tutorials, one to two hours in length” (see Figure 4). Eighty-five percent of respondents said it is important that web delivered programs be interactive (see Figure 5).

Figure 4: Use of Web-based Tutorials and Downloads

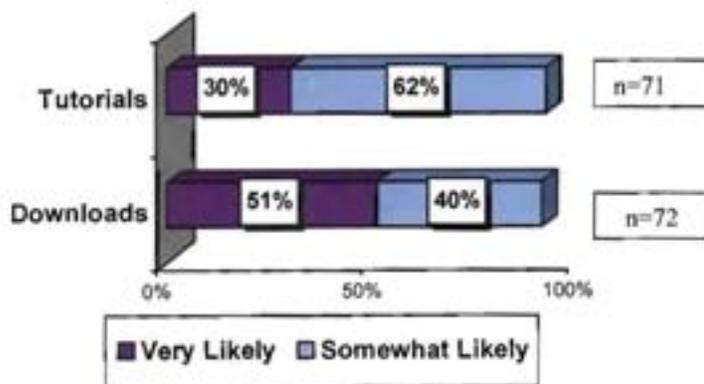
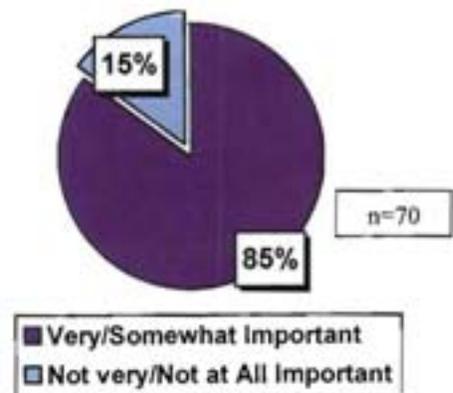
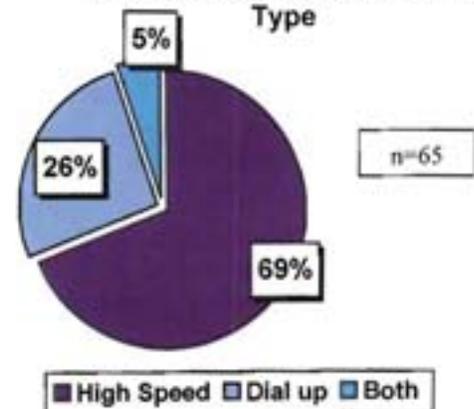


Figure 5: Importance of Interactive Web Programs



All respondents were asked whether they have a computer where they could complete web-delivered training programs. Most (92%) said they do have a computer where they could complete the training. Of those that have access to a computer, 69% have a “high-speed connection, such as DSL or cable modem;” approximately one-quarter (26%) have a “dial-up connection” and five percent report that “both are available (DSL/cable and dial up)” (see Figure 6).

Figure 6: Internet Connection Type



Classroom-based Education and Training

Eighty-five percent of respondents are interested in classroom-based educational workshops. Those interested in classroom programs were asked about the ideal location to conduct a workshop. Just over half of this group (56%) would like to attend the classroom workshop at “a location that is not close to Northern Arizona University (NAU);” 41 percent said “an area near NAU and Flagstaff” would be the best location [Refer to Appendix C for a list of locations that are not near NAU and Flagstaff. See Executive Summary Addendum, Figure A3, p. 17].

A majority of all land managers or administrators (62%) said they would like to see a classroom-based workshop offered “two to three times a year.” Twenty-eight percent of land managers and administrators would only like to see it offered “one time per year,” and 10 percent of respondents are in favor of the workshop being offered “four or more times a year” [See Executive Summary Addendum, Figure A1, p. 16].

A majority (89%) of those interested in a classroom-based program believe the ideal length of classroom-based training should be between “two to four days.” Six percent said they preferred it to last “five to seven days” and three percent said an ideal length would be “one day or less” [see Executive Summary Addendum, Figure A4, p. 17]. Respondents prefer participating in classroom workshops in the “winter” (37%), and the “fall” (32%) [see Executive Summary Addendum, Figure A2, p. 16].

Field-based Education and Training

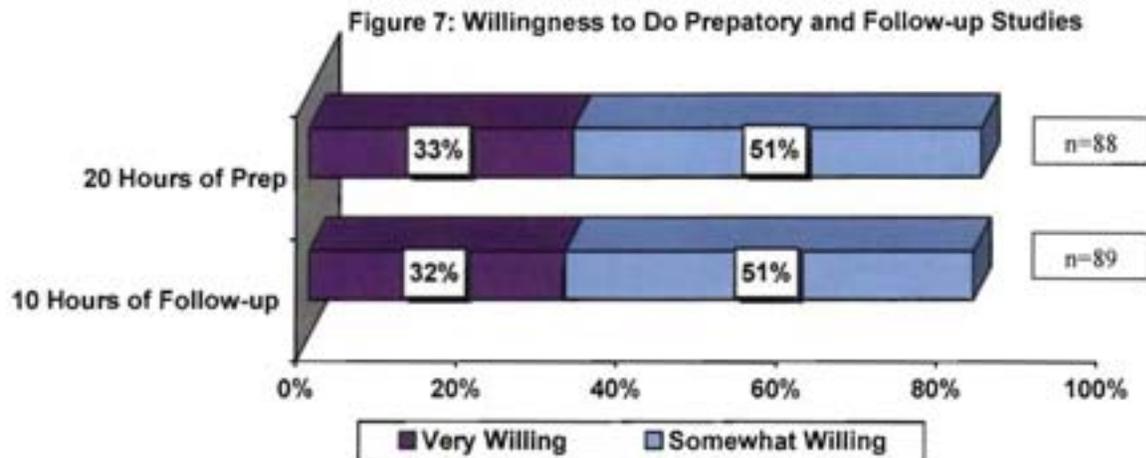
Most respondents (96%) are interested in participating in field-based training and education workshops. Respondents interested in field-based training and education workshops were asked about the ideal location for these trainings. A majority (57%) of this group prefers “a location that is not close to NAU.” Thirty-nine percent prefer an “area near NAU and Flagstaff” and the remaining five percent have no preference. [A list of field-based training sites can be found in Appendix D. Refer to Appendix E for a list of reasons why respondents selected these locations as ideal field-based training sites. See Executive Summary Addendum, Figure A3, p. 17].

The majority (84%) of respondents interested in field-base training and education programs would like to see the training programs last “two to four days.” A much small number of respondents (8%) thought field-based training should last “one day or less” and 5 percent said a “five to seven day” program would be ideal [see Executive Summary Addendum, Figure A4, p. 17].

Almost half (49%) of respondents interested in field-based training would like to see trainings take place in the “fall.” Twenty-nine percent prefer to have the training in the “spring” [see Executive Summary Addendum, Figure A2, p. 16].

Preparation for Classroom or Field-based Training

Most respondents (94%) are interested in the combination of classroom and field-based training programs. Respondents interested in classroom or field-based trainings were asked how willing they would be to complete 20 hours of self-paced preparatory work before participating in the programs. Thirty-three percent said they would be “very willing” and 51 percent said they would be “somewhat willing” to complete the preparatory studies (see Figure 7). Fifteen percent said they were “somewhat unwilling” and only one percent said they would be “very unwilling” to engage in 20 hours of preparatory studies.

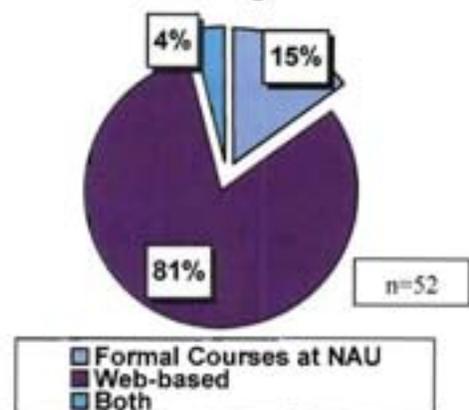


The same group of respondents was asked about completing 10 hours of self-paced follow-up studies after attending a classroom or field-based program. Almost one-third (32%) said they would be “very willing” and just over half (51%) said they would be “somewhat willing” to complete the 10 hours of post-work (see Figure 7). Sixteen percent of respondents said they would be “somewhat unwilling,” while two percent would be “very unwilling” to complete 10 hours of studies after attending a field-based training program.

College Credit for Training and Education Programs

Over half (58%) of all land managers and administrators expressed interest in receiving college credit for attending educational programs while 41 percent said they were not interested in this option. Of the respondents who said they were interested in college credit, most (81%) would like to receive credit for taking web-based formal courses (see Figure 8). Fifteen percent are interested in taking formal courses at NAU, and four percent of the respondents are willing to participate in both types of courses.

Figure 8: Preferred Courses for College Credit

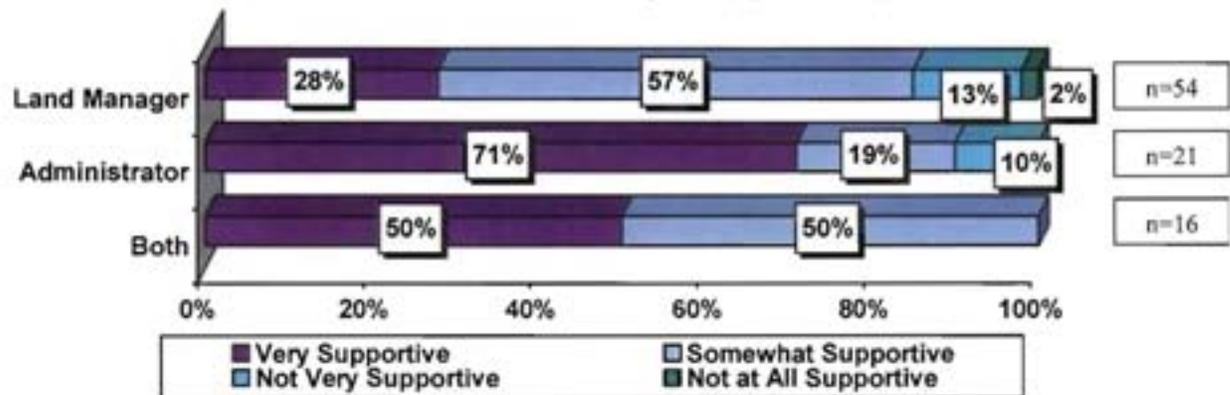


EMPLOYER SUPPORT

Land managers were asked how supportive their employers would be of taking time off to attend restoration-training programs. Fifty-seven percent said their employer would be “somewhat supportive” and 28 percent stated that their employer would be “very supportive” (see Figure 9).

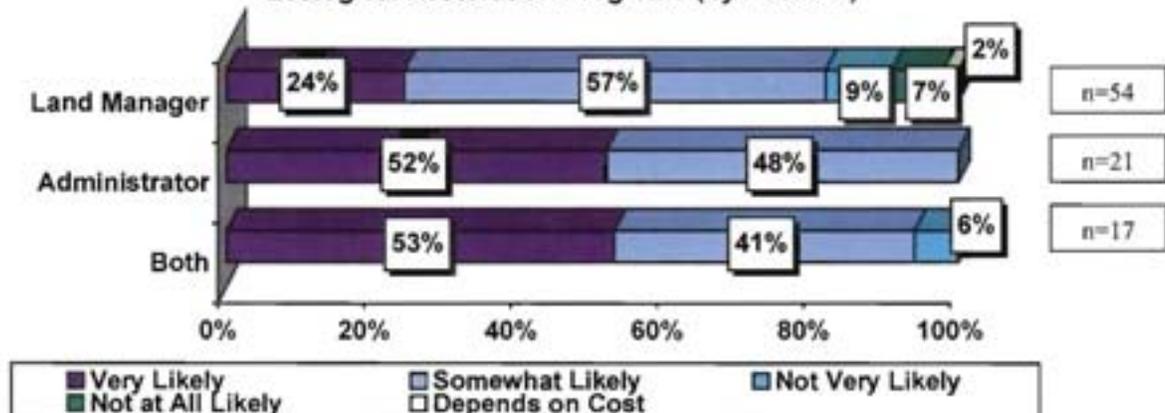
Fifteen percent of this group said their employers are not supportive of them taking time off to attend training and educational programs. Among administrators, the majority (71%) said they would be “very supportive” and 19 percent “somewhat supportive” of their employees taking time off of work to participate in these programs. The remaining 10 percent are “not very supportive.”

Figure 9: Support for Land Managers to Take Time Off to Attend Ecological Restoration Education Programs (by Position)



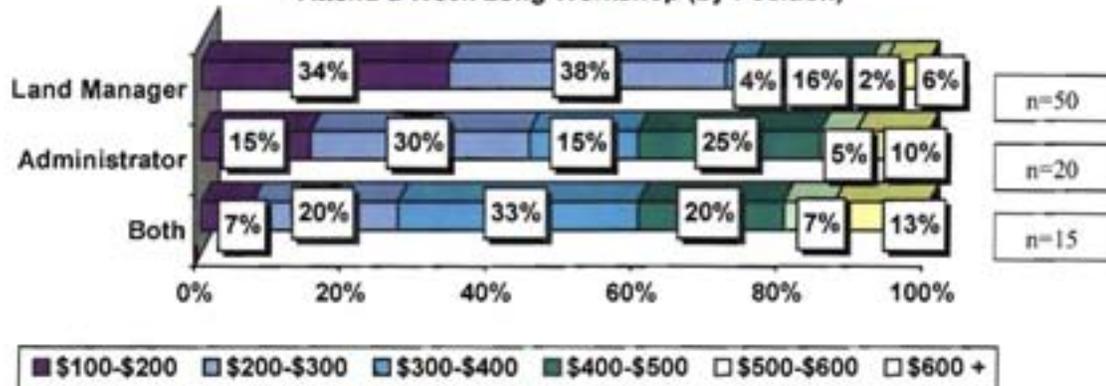
Land managers were asked about the likelihood of receiving financial support from their employers to attend restoration-training programs. Eighty-one percent said they would be “very likely” or “somewhat likely” to receive support (see Figure 10). When administrators were asked the same question, all replied that they would financially support their employees. Respondents who were both land managers and administrators answered similarly to the administrators, with 94 percent likely to offer financial support to their employees. A small portion of this group (6%) stated they would be “not very likely” to financially support their employees.

Figure 10: How Likely Land Managers are to Receive Financial Support to Attend Ecological Restoration Programs (by Position)



Land managers estimated their employers would be willing to pay between “\$100-\$200” (34%) and “\$200-\$300” (38%) to attend an ecological restoration workshop (see Figure 11). Administrators selected either the “\$200-\$300” (30%) or the “\$400-\$500” (25%) range as monetary support for their employees to attend these programs. The majority of respondents, who are both administrators and land managers, chose “\$200-\$300” (20%), “\$300-\$400” (33%), and “\$400-\$500” (20%) categories.

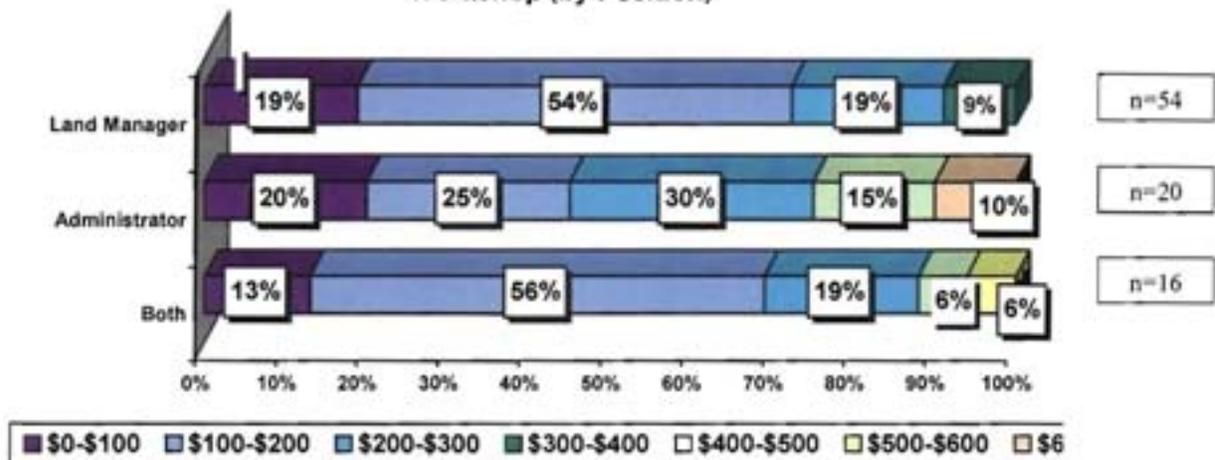
Figure 11: Amount Employer is Willing to Pay for Land Managers to Attend a Week Long Workshop (by Position)



PERSONAL FINANCIAL COMMITMENT

The same three groups were asked how much they would be personally willing to pay to attend the same weeklong program. The majority of land managers said they are personally willing to pay “\$100-\$200” (54%) (see Figure 12). Administrators are most likely to pay between “\$100-\$200” (25%) and “\$200-\$300” (30%). Among those who are both land managers and administrators, most (56%) selected “\$100-\$200” as the range they would personally be willing to pay to attend a weeklong training session.

Figure 12: Amount Respondent is Willing to Pay for a Weekend Long Workshop (by Position)

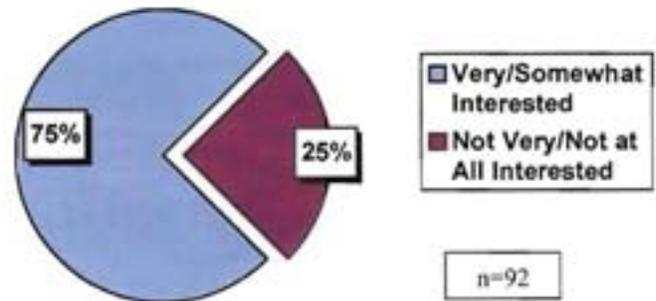


In examining the effect of total family income in 2002 on the amount respondents are personally willing to pay to attend workshops, the majority of respondents in all of the income brackets selected the "\$100-\$200" range.

SCHOLARSHIP PROGRAM

Land managers and administrators were asked whether they would be interested in applying for a scholarship program if they were not able to attend ecological restoration education programs due to a lack of funding. The majority (75%) stated that they are "very" or "somewhat interested" in applying for a scholarship that would provide a partial amount of the funding to attend these programs (see Figure 13).

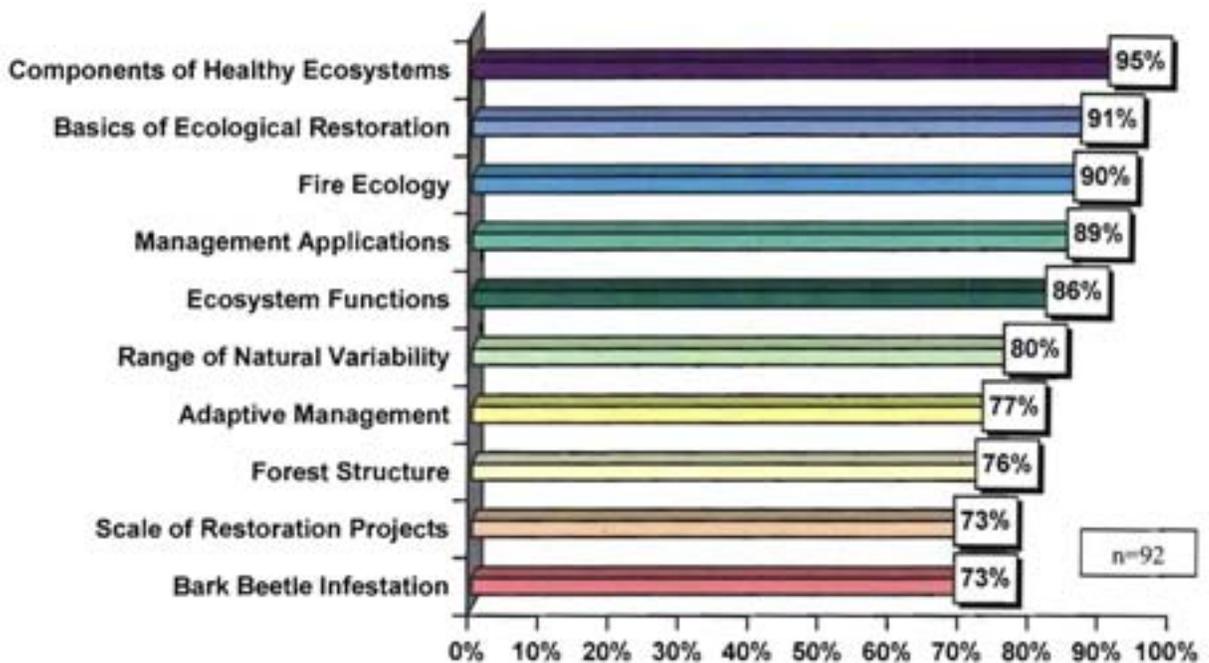
Figure 13: Interest in a Scholarship Program



INTEREST IN TOPICS FOR FUTURE RESTORATION EDUCATION

In general, land managers and administrators expressed interest in learning more about various ecological restoration subject areas. Of the ten topic areas offered to respondents, most are interested in learning more about “Components of Healthy Ecosystems” (95%), “Basics of Ecological Restoration” (91%), “Fire Ecology” (90%) and “Management Applications” (89%) (see Figure 14).

Figure 14: Interest in Ecological Restoration Topics

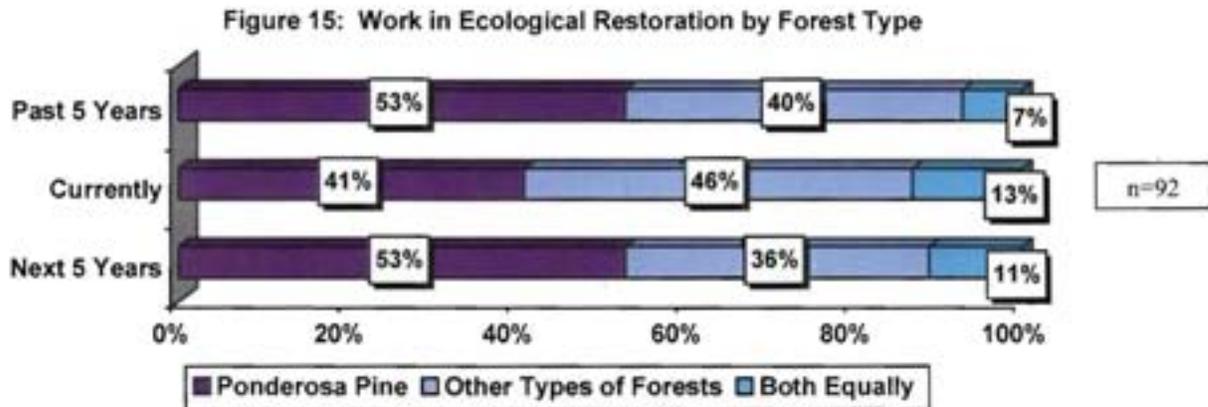


Subjects that received a relatively moderate amount of interest are “Ecosystem Functions” (86%), “Range of Natural Variability” (80%), “Adaptive Management” (77%), “Forests Structure” (76%), “The Scale of Restoration Projects” (73%) and “Bark Beetle Infestation” (73%). Respondents also had the opportunity to state any other ecological restoration topics that interests them for future education and training programs [see Appendix F for other topics of interest].

DEMOGRAPHICS OF RESPONDENTS

Forest Type

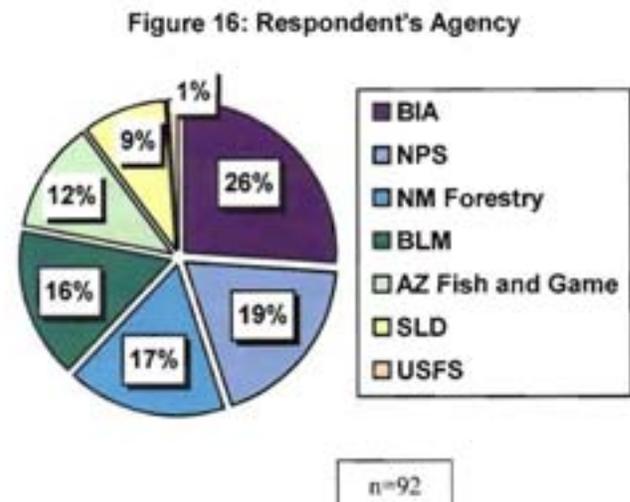
Slightly more than half (54%) of the 92 land managers and administrators reported currently working in primarily “ponderosa pine forests” or “both ponderosa pine forests and other types of forests equally” (see Figure 15).



The remaining 46 percent reported working in “other types of forests.” In the last five years, a slightly larger percentage (60%) of respondents primarily worked in “ponderosa pine forests” or “both ponderosa pine forests and other types of forests equally.” Forty percent of the remaining respondents said that they primarily worked in other types of forest types in the last five years. In the next five years, 64 percent plan on primarily working in either “ponderosa pine forests” or “both ponderosa pine forests and other types of forests equally.” Thirty-six percent of the respondents reported that they plan on working in “other types of forests” in the next five years.

Employment profile

Respondents work for a variety of land management agencies including the Bureau of Indian Affairs (26%); National Park Service (19%); Bureau of Land Management (16%); Arizona Game and Fish Department (12%); Arizona and New Mexico State Land Departments (9%); and the United States Forest Service (1%) (see Figure 16). [Refer to Appendix G for respondent’s job title or position.]



Over half (52%) of the land managers and administrators have worked in ecological restoration for “more than 10 years.” Only 7 percent of respondents have worked in restoration for “less than one year” [Refer to Appendix H for the respondent’s primary work location].

Age

Respondents ranged in age from 24 to 63 years old. Thirteen percent of respondents were 24-33 years of age; 29 percent were 34-43 years old. Most respondents (45%) were 44-53 years of age. Similar to the youngest age range, 13 percent were 54-63 years of age.

Education

Almost all of land managers and administrators have a bachelor’s degree (99%) and 30 percent have a post-bachelor’s degree.

Income

Fifty-eight percent of respondents earn between “\$30,000 and \$75,000.” Thirty-nine percent of land managers and administrators earn “more than \$75,000.” Only four percent of respondents earned “less than \$30,000.”

IV. Annotated Questionnaire

Hello, may I speak with _____? *(state first and last name of person on the list)*

If the person does not work there any longer...

- May I speak with the person in the position of _____? -or-
- Can I speak with a person in your office that is a land manager and is involved in ecological restoration?

Introduction:

Hello, my name is *(state your first name and last name)* and I'm calling from Northern Arizona University on behalf of the Ecological Restoration Institute. I am not selling anything. As you may know, the Ecological Restoration Institute, known as ERI, at Northern Arizona University, works to restore degraded forests in dry, fire adapted ecosystems in the western United States. ERI is interested in efficiently providing information to land managers or administrators involved in forest restoration. Your feedback will assist them in creating an effective training and education program. These questions will only take about ten minutes to complete. All of your answers are voluntary and confidential and will only be reported as part of a group response. Is now a good time to answer some questions?

If yes → Continue with screening question #1

If no → When would be a more convenient time to call you back?

Interviewer: Land managers might include line officers, foresters, range conservationists, biologists, fuel specialists, fire management personnel, NEPA coordinators, and silviculturists.

(Interviewer note: read only if respondent needs more information about ERI)

The goal of the Ecological Restoration Institute is to provide the best-applied restoration knowledge in both ecological and socioeconomic disciplines to the public, nongovernmental organizations, state and federal agencies, academic researchers and students. The ERI works closely with agencies, communities, and members of the public in assisting with the design, implementation and monitoring of science-based treatments that restore forests while simultaneously reducing the threat of unnatural wildfire.

Screening Questions

1. In your current position are you a land manager or an administrator who works, in some capacity, in ecological restoration of forested lands?

Interviewer: a land manager actually works in the field with the forest.

Administrators supervise land managers but do not work in the field directly with forests.

	<i>Percent</i>	<i>Count</i>
Land manager	59%	54
Administrator	23%	21
Both administrator and land manager	19%	17
Total	101%	92

* If both, for Q33-35, administrator Q's are given.

2. How interested are you in professional development opportunities for learning more about ecological restoration of forested lands?

	<i>Percent</i>	<i>Count</i>
Very interested	66%	61
Somewhat interested	34%	31
Total	100%	92

Forest Type

3. In your current position, do you mostly work with ponderosa pine forests or with other types of forests?

	<i>Percent</i>	<i>Count</i>
Ponderosa pine	41%	37
Other types of forests	46%	42
Both equally	13%	12
Total	100%	91

4. In the last five years, have you worked in ecological restoration in primarily ponderosa pine forests?

	<i>Percent</i>	<i>Count</i>
Ponderosa pine	53%	49
Other types of forests	40%	37
Both equally	7%	6
Total	100%	92

5. In the next five years, do you plan on working in ecological restoration in forest comprised of mostly ponderosa pine?

	<i>Percent</i>	<i>Count</i>
Ponderosa pine	53%	48
Other types of forests	36%	32
Both equally	11%	10
Total	100%	92

Training and Education Experience

6. Is your interest in continued education concerning ecological restoration a personal interest, a professional interest or both?

	<i>Percent</i>	<i>Count</i>
Personal interest	2%	2
Professional interest	16%	15
Both personal and professional	82%	75
Total	100%	92

7. Have you ever received formal training in the area of ecological restoration?

	<i>Percent</i>	<i>Count</i>
Yes	56%	51
No → Skip to Q8	44%	40
Total	100%	92

As I read the following list, please tell me if you have already received training in the area of ecological restoration by the following methods. (Q7a-7e)

- 7a. Have you received training in a workshop?

	<i>Percent</i>	<i>Count</i>
Yes	86%	44
No	14%	7
Total	100%	51

- 7b. A post-degree graduate certificate program?

	<i>Percent</i>	<i>Count</i>
Yes → Q7b-1	20%	10
No → Skip to Q7c	80%	41
Total	100%	51

7b-1. What school did you receive the certificate from?

- (1) Colorado State University
- (1) Oregon State University
- (3) Utah State University, Colorado State University, and Northern Arizona University

7c. An undergraduate major program?

	<i>Percent</i>	<i>Count</i>
Yes→ Q7c-1	61%	31
No→ Skip to Q7d	39%	20
Total	100%	51

7c-1. For the training received as an undergraduate, what is the name of the school?

See Appendix A

7d. A graduate degree program?

	<i>Percent</i>	<i>Count</i>
Yes→ Q7d-1	18%	9
No→ Skip to Q7e	82%	42
Total	100%	51

7d-1. For the training received as a graduate, what is the name of the school?

- Humboldt State
- New Mexico State University
- University of Arizona
- Vermont Law School

7e. Training or courses at conferences?

	<i>Percent</i>	<i>Count</i>
Yes	86%	44
No	14%	7
Total	100%	51

7f. Have you attended any other types of ecological restoration training programs?

See Appendix B

Training Formats – Web/Internet Based

8. How interested are you in participating in web-based or Internet delivered education programs dealing with ecological restoration of forested lands?

	<i>Percent</i>	<i>Count</i>
Very interested	29%	26
Somewhat interested	51%	46
Not very interested → Skip to Q19	20%	18
Not at all interested → Skip to Q19	1%	1
Total	101%	91

9. Would you prefer to participate in a short web-based program consisting of two to four weeks or a longer, semester-long web-based program of three to four months?

	<i>Percent</i>	<i>Count</i>
Short program → Skip to Q14	84%	56
Long program → Skip to Q12	10%	7
Both short and long-term → Continue with Q10-Q13	6%	4
Total	100%	67

10. How many times during the year would you like to see a short (two to four weeks) web-based or Internet delivered course offered?

	<i>Percent</i>	<i>Count</i>
1 time per year	19%	11
2-3 times per year	66%	39
4 or more times per year	15%	9
Total	100%	59

11. If you could choose the best time of the year to take a short, web-based course, would it be during the fall, spring, summer or winter?

	<i>Percent</i>	<i>Count</i>
Fall	29%	17
Spring	7%	4
Summer	14%	8
Winter	51%	30
Total	101%	59

* Q12-13 only given to Respondents who preferred semester-based courses.

12. How many times during the year would you like to see a semester-long (three to four months) web-based or Internet delivered course offered?

	<i>Percent</i>	<i>Count</i>
1 time per year	64%	7
2-3 times per year	36%	4
Total	100%	11

13. If you could choose the best time of the year to take a semester long (three to four months) web-delivered course, would it be during the fall, spring, summer, or winter?

	<i>Percent</i>	<i>Count</i>
Fall	36%	4
Spring	18%	2
Summer	18%	2
Winter	27%	3
Total	99%	11

Web-based Training and Information

14. How likely would you be to use up-to-date, web-based, information and downloads concerning ecological restoration of forested lands available for use at any time?

If the Respondent asked for examples of the information and downloads that will be available, the following were provided:

- Protecting old-growth trees from prescribed fire
- Understory plant community restoration
- Limiting damage to forest soils during restoration

	<i>Percent</i>	<i>Count</i>
Very likely	51%	37
Somewhat likely	40%	29
Not very likely	7%	5
Not at all likely	1%	1
Total	99%	72

15. How likely would you be to use up-to-date web-based tutorials, one to two hours in length, available for use at any time?

	<i>Percent</i>	<i>Count</i>
Very likely	30%	21
Somewhat likely	62%	44
Not very likely	9%	6
Not at all likely	0%	0
Total	101%	72

16. How important is it to you that a web-delivered program be interactive? By interactive I mean web-delivered training that involves a chat room, a list-serve and opportunities to communicate with a lead instructor?

	<i>Percent</i>	<i>Count</i>
Very important	36%	25
Somewhat important	49%	34
Not very important	16%	11
Not at all important	0%	0
Total	101%	70

17. Do you have regular access to a computer that would be available for you to complete web-delivered training programs?

	<i>Percent</i>	<i>Count</i>
Yes	92%	66
No → Skip to Q19	8%	6
Total	100%	72

18. Is the Internet connection on that computer a high-speed connection such as DSL and cable modem or a dial-up connection?

	<i>Percent</i>	<i>Count</i>
High speed connection	69%	45
Dial up connection	26%	17
Both are available	5%	3
Total	100%	65

Classroom Education and Training

19. How interested are you in classroom-based educational workshops relating to ecological restoration of forested lands?

	<i>Percent</i>	<i>Count</i>
Very interested	32%	29
Somewhat interested	53%	49
Not very interested → Skip to Q24	15%	14
Not at all interested → Skip to Q24	0%	0
Total	100%	92

20. Which of the following describes the best location for you to attend a classroom-based educational workshop?

	<i>Percent</i>	<i>Count</i>
Northern Arizona University in Flagstaff → Skip to Q21	41%	32
A location other than Northern Arizona University → Q20a	56%	44
No preference → Skip to Q21	3%	2
Total	100%	78

- 20a. Please specify what other location other than N.A.U. in Flagstaff would be most desirable for you to attend a classroom-based educational workshop.

See Appendix C

21. How many times during the year would you like to see classroom-based educational workshops offered?

	<i>Percent</i>	<i>Count</i>
1 time per year	28%	22
2-3 times per year	62%	48
4 or more times a year	10%	8
Total	100%	78

22. About how many days would be ideal for a classroom-based educational workshop to last?

	<i>Percent</i>	<i>Count</i>
1 day or less	3%	2
2-4 days	89%	69
5-7 days	6%	5
8-10 days	0%	0
11 or more days	1%	1
No preference-depends on the topic area	1%	1
Total	100%	78

23. If you could choose the best time to participate in a classroom-based educational workshop, would it be during the fall, spring, summer or winter?

	<i>Percent</i>	<i>Count</i>
Fall	32%	24
Spring	18%	14
Summer	13%	10
Winter	37%	28
Total	100%	76

Field-based Training and Education

24. How interested you are in field-based training programs related to ecological restoration of forests?

	<i>Percent</i>	<i>Count</i>
Very interested	60%	55
Somewhat interested	36%	33
Not very interested → Skip to Q28	4%	4
Not at all interested → Skip to Q28	0%	0
Total	100%	92

25. Which of the following describes the best location for you to attend a field-based training program?

	<i>Percent</i>	<i>Count</i>
Northern Arizona University and Flagstaff → Skip to Q26	39%	34
A location that is not close to Northern Arizona University → See Q25a	57%	50
No preference → Skip to Q26	5%	4
Total	101%	88

25a. What is the most desirable location where you would like to see field-based training programs take place?

See Appendix D

25b. Why did you select this particular site as the most desirable site for a field-based program location?

See Appendix E

26. About how many days would be ideal for a field-based training program to last?

	<i>Percent</i>	<i>Count</i>
1 day or less	8%	7
2-4 days	84%	74
5-7 days	5%	4
8-10 days	1%	1
11 or more days	1%	1
No preference-depends on the topic area	1%	1
Total	100%	88

27. If you could choose the best time of the year to participate in a field-based training program, would it be during the fall, spring, summer or winter?

	<i>Percent</i>	<i>Count</i>
Fall	49%	42
Spring	29%	25
Summer	14%	12
Winter	7%	6
Total	99%	85

Combined Classroom and Field-based Education and Training

28. How interested are you in taking part in an ecological restoration education program that is a combination of a classroom-based workshop and field-based training?

	<i>Percent</i>	<i>Count</i>
Very interested	58%	53
Somewhat interested	36%	33
Not very interested	6%	5
Not at all interested	0%	0
Total	100%	91

* If Respondent is not interested in both classroom and field based programs, → Skip to Q31.

Preparation and Credit for Educational Programs

29. How willing would you be to complete twenty hours of self-paced preparatory studies before participating in a classroom-based education workshop or field-based training program?

	<i>Percent</i>	<i>Count</i>
Very willing	33%	29
Somewhat willing	51%	45
Somewhat unwilling	15%	13
Very unwilling	1%	1
Total	100%	88

30. How willing would you be to complete ten hours of self-paced studies after finishing a classroom-based or field-based program?

	<i>Percent</i>	<i>Count</i>
Very willing	32%	28
Somewhat willing	51%	45
Somewhat unwilling	16%	14
Very unwilling	2%	2
Total	101%	89

31. How interested are you in receiving college credit for participating in ecological restoration educational programs?

	<i>Percent</i>	<i>Count</i>
Very interested	25%	23
Somewhat interested	33%	30
Not very interested → Skip to Q33	26%	24
Not at all interested → Skip to Q33	15%	14
Total	99%	91

32. In order to receive college credit, would you prefer to take formal courses at NAU or would you prefer web-based courses?

	<i>Percent</i>	<i>Count</i>
Formal courses at NAU	15%	8
Web-based	81%	42
Both formal courses and web-based	4%	2
Total	100%	52

Employer Support

33. *[If land manager]*
How supportive would your employer be of staff taking time off of work to attend ecological restoration educational programs?

[If administrator]
How supportive would you be of staff taking time off of work to attend ecological restoration educational programs?

	<i>Percent</i>	<i>Count</i>
Very supportive	42%	38
Somewhat supportive	47%	43
Not very supportive	10%	9
Not at all supportive	1%	1
Total	100%	91

34. *[If land manager]*
 How likely would you be to receive financial support from your employer for participating in ecological restoration educational programs?

[If administrator]
 How likely would you be to award financial support to your employees so that they could participate in ecological restoration educational programs?

	<i>Percent</i>	<i>Count</i>
Very likely	36%	33
Somewhat likely	52%	48
Not very likely	7%	6
Not at all likely → Skip to Q36	4%	4
Depends on cost	1%	1
Total	100%	92

35. *[If land manager]*
 How much do you think your employer is willing to pay for you to attend a weeklong workshop, assuming the cost does not include meals, lodging and transportation? Do you think they would be willing to pay...?

[If administrator]
 As an administrator, how much are you willing to pay for employees to attend a weeklong workshop, assuming the cost does not include meals, lodging and transportation?

	<i>Percent</i>	<i>Count</i>
\$100-\$199	25%	21
\$200-\$299	33%	28
\$300-\$399	12%	10
\$400-\$499	19%	16
\$500-\$599	4%	3
\$600+ or more	8%	7
None (or less than \$100)	0%	0
Total	101%	85

36. How much would you personally be willing to pay for a weeklong workshop, assuming the cost does not include meals, lodging and transportation?

	<i>Percent</i>	<i>Count</i>
\$100-\$199	48%	43
\$200-\$299	21%	19
\$300-\$399	6%	5
\$400-\$499	4%	4
\$500-\$599	1%	1
\$600+ or more	2%	2
None (or less than \$100)	18%	16
Total	100%	90

37. If you could not attend a workshop due to a lack of funding, how interested would you be in applying for a scholarship program that would provide a partial amount of the funding?

	<i>Percent</i>	<i>Count</i>
Very interested	46%	42
Somewhat interested	29%	27
Not very interested	14%	13
Not at all interested	11%	10
Total	100%	92

Topics of Interest

Now, I am going to read a list of subject areas concerning ecological restoration. For each area, please tell me if you are interested in learning more about the topic... (Q38a-Q38j)

- 38a. (The first topic is...) Basics of Ecological Restoration

	<i>Percent</i>	<i>Count</i>
Yes	91%	84
No	9%	8
Total	100%	92

- 38b. Ecosystem Functions

	<i>Percent</i>	<i>Count</i>
Yes	86%	79
No	14%	13
Total	100%	92

38c. Range of Natural Variability

	<i>Percent</i>	<i>Count</i>
Yes	80%	74
No	20%	18
Total	100%	92

38d. Forest Structure

	<i>Percent</i>	<i>Count</i>
Yes	76%	69
No	24%	22
Total	100%	92

38e. Components of Healthy Ecosystems

	<i>Percent</i>	<i>Count</i>
Yes	95%	87
No	5%	5
Total	100%	92

38f. Fire Ecology

	<i>Percent</i>	<i>Count</i>
Yes	90%	83
No	10%	9
Total	100%	92

38g. The Scale of Restoration Projects

	<i>Percent</i>	<i>Count</i>
Yes	73%	67
No	27%	25
Total	100%	92

38h. Adaptive Management

	<i>Percent</i>	<i>Count</i>
Yes	77%	71
No	23%	21
Total	100%	92

38i. Management Applications

	<i>Percent</i>	<i>Count</i>
Yes	89%	82
No	11%	10
Total	100%	92

38j. Bark Beetle Infestation

	<i>Percent</i>	<i>Count</i>
Yes	73%	66
No	28%	25
Total	101%	91

38k. Are there other topic areas concerning ecological restoration that you would like to learn more about?

See Appendix F

<i>Employment Profile</i>

Now I'd like to ask you a few questions so we can clarify your answers.

39. What is your job title or position?

See Appendix G

40. What is the agency that you work for?

	<i>Percent</i>	<i>Count</i>
National Parks Service (NPS)	19%	17
Forest Service (USFS)	1%	1
State Land Department (SLD)	9%	8
Bureau of Indian Affairs (BIA)	26%	24
Bureau of Land Management (BLM)	16%	15
New Mexico Forestry Division	17%	16
Arizona Department of Fish and Game	12%	11
Other → Specify in 40a	0%	0
Total	100%	92

41. How many years have you worked as a land manager or as an administrator in ecological restoration of forested lands?

	<i>Percent</i>	<i>Count</i>
Less than 1 year	7%	6
1-3 years	13%	12
4-6 years	13%	12
7-9 years	15%	14
10+ years	52%	48
Total	100%	92

42. What city (or area) and state do you primarily work in?

See Appendix H

<i>Demographics</i>

- D1. In what year were you born?

<i>Year</i>	<i>Percent</i>	<i>Count</i>
1940-1949	13%	12
1950-1959	45%	41
1960-1969	29%	27
1970-1979	13%	12
Total	100%	92

- D2. What is the highest grade of school or year of college that you have completed?

	<i>Percent</i>	<i>Count</i>
Some college/Associate's degree/2-year	1%	1
Bachelor's degree/4-year degree	69%	63
Post-Bachelor's degree	30%	28
Total	100%	92

- D3. Which of the following income groups includes your total family income in 2002 before taxes?

	<i>Percent</i>	<i>Count</i>
\$0-\$29,999	4%	3
\$30,000-\$74,999	58%	46
More than \$75,000	39%	31
Total	101%	80

These are all of the questions I have for you. Thank you very much for your time.

