



**Elkhorn Slough National Estuarine
Research Reserve
Coastal Training Program**

**Coastal Planners and Regulators
Audience Needs Assessment**

Introduction

Decisions made on behalf of coastal communities can have profound, long term consequences for estuarine and coastal environments. Elected officials, land use planners, regulatory personnel, coastal managers, and agricultural and fisheries interests are key decision makers who often do not have adequate access to relevant science based information, training, or available technology to make informed decisions affecting the coast.

The National Estuarine Research Reserve System (NERRS) has been building the capability to address these information and technology needs through targeted training and education programs at the local and regional levels.

The Elkhorn Slough National Estuarine Research Reserve (ESNERR) Coastal Training Program (CTP) has been established to build on the experience and research of the NERRS' community and enhance reserve capabilities to deliver training. The goals and objectives of the CTP as a whole have been described as follows:

*The **goal** of the Coastal Training Program is to improve decision-making related to coastal resources management at local and regional levels.*

*The **objectives** of the Coastal Training Program are to:*

- 1) Provide the best available science-based information, tools, and techniques to those individuals and groups that are making important decisions regarding resources within coastal watersheds, estuaries, and nearshore waters;*
- 2) Increase networking and collaboration across sectors and disciplines related to coastal management issues in local and bio-geographic areas; and*
- 3) Increase understanding of the environmental, social and economic consequences of human activity within the coastal landscape.*

Introduction, continued

This report is an audience needs assessment that records the various natural resource conservation educational needs of regional planners and regulators. Planners and regulators were a principle audience identified by the Elkhorn Slough National Estuarine Research Reserve's (ESNERR's) Coastal Training Program (CTP) Market Analysis. Moreover, members of the audience have been very engaged with ESNERR and our sister organization the Elkhorn Slough Foundation for many years. Our relative familiarity with key members of this audience made it a natural fit for this first CTP needs assessment for two reasons. First, we knew that we would receive supportive criticism on survey assumptions and methodology. Second, we knew we could rely on the results of the survey to help us adjust our programs to meet this critical audience's needs.

These decision makers are the most obvious and frequently recognized people affecting the quality of our natural environment. We see many members of this audience frequently attending CTP workshops and they often call upon us for information between workshops. While we have received much praise and some suggestions from them, we had not formally queried them on their specific educational needs. This survey did just that. As part of what will become an ongoing exercise in surveying the various audiences in the coastal Monterey and Santa Cruz county area, this survey was the first to explore questions of how the CTP can best design its programs, the kinds of general and specific subject matter that we might present, and how we might best attract this audience to our workshops.

The response we received from the survey was gratifying. An unprecedented half of the entire audience filled out the survey. We received many thoughtful, more in depth written responses when we made such opportunities available in the survey. And, the information we gathered will help us to improve our program in various ways for this particular audience. Amongst some of the more important conclusions are:

- 1) 8-hour workshops with a field component are the preferred educational format.
- 2) Workshops are best held in the spring, on Wednesdays and Thursdays.
- 3) Our audience is generally well-educated and expects high profile presenters at workshops such as state and federal agency biologists and independent biological consultants.
- 4) This audience values workshops as a time to network with others within the audience.
- 5) We should provide copies of peer-reviewed scientific papers and abstracts of the presentations at workshops.
- 6) This audience doesn't need to be provided incentives to attend workshops, but we can help them attend by waiving charges for attending training.
- 7) We should focus on particular broad subject areas, such as sensitive species and habitats, and specific, suggested specific educational programs within those areas.

We will use these suggestions to improve the format of our educational programs and to design the coming year's workshops. If the changes we make help, we expect to see increased attendance at our workshops, improved decision making in the areas upon which our programs focus, and recognition of those improvements in our workshop evaluations and future needs assessments of this audience.

Methods

We developed needs assessment survey based largely on the format of needs assessments previously approved by NERRS with additional questions applicable to our region. We queried on all four of the major educational focal areas described in the ESNERR CTP Strategic Plan, although the titles of these focal areas differ somewhat from those that appeared in the Strategic Plan because the Strategic Plan was finalized after the survey was finalized. For instance, the Strategic Plan's focal area "habitat restoration" is the same as the survey's focal area "sensitive habitat and species;" the Strategic Plan's "maintaining biodiversity" is the survey's "invasive, exotic species" focal area, and; the Strategic Plan's "sustainable human systems" is the survey's focal area "human impacts on ecosystems." The survey was amended following review by ESNERR staff and a number of volunteers for format and length. The final format of the survey in full is attached in Appendix 1.

On May 30, 2003, we mailed an email request and web link for the survey to the following ten planning and enforcement groups located in Santa Cruz and Monterey counties:

- 1) Santa Cruz County Planning Department
- 2) Monterey County Department of Planning and Building Inspection
- 3) Santa Cruz County Supervisors
- 4) Monterey County Supervisors
- 5) Santa Cruz County Planning Commission
- 6) Monterey County Planning Commission
- 7) Santa Cruz County District Attorney's Office
- 8) Monterey County District Attorney's Office
- 9) California Department of Fish and Game
- 10) California Coastal Commission

For the bulk of those surveyed, we relied upon contacts within each agency to distribute invitations for the survey. ESNERR CTP Steering Committee members – local managers of the California Coastal Commission and Monterey County Department of Planning and Building Inspection – agreed to disseminate the survey link within their departments. Other people who have been personally invested in the CTP also aided. A senior employee of the Santa Cruz County Planning Department is a frequent attendee of CTP workshops and agreed to disseminate the survey link within their agency. The local manager of the California Department of Fish and Game, the managing agency of the ESNERR, also distributed the survey link to their staff. With the remaining groups, we used the extensive existing CTP contact database as well as email links researched on the internet and through phone calls to the agencies.

After a reminder one week after sending the survey, we collected survey responses on the notified deadline of June 20, 2003. We then compiled and interpreted the results of the survey for this report. In order to rank the various preferences expressed in the survey, we multiplied the number of responses in the most desired category (e.g., 'best' or 'very important') by 1.5, neutral category (e.g., 'acceptable' or 'somewhat interested') by 1, and the low category (e.g., 'worst' or 'not interested') by -1. We transformed those numbers, ranking them by percentage using the Microsoft EXCEL software 'percent rank' function' and graphed those ranks for comparison.

Results

Response number and affiliation

A total of 40 of the possible 91 people responded to the survey. The most responses were from the Monterey and Santa Cruz County Planning offices. There were also numerous responses from the California Coastal Commission. There were fewer responses from the Monterey and Santa Cruz county supervisors or planning commissioners and no response from the either county's District Attorney's offices (Fig. 1).

Figure 1: Respondent numbers and affiliation.

Agency	Respondent # / est. potential
Santa Cruz County District Attorney's Office	0 / 2
Monterey County District Attorney's Office	0 / 2
Santa Cruz County Planning Commission	1 / 5
Monterey County Planning Commission	2 / 9
Monterey County Supervisors	2 / 10
Santa Cruz County Supervisors	3 / 10
California Department of Fish and Game	5 / 16
California Coastal Commission	7 / 10
Santa Cruz County Planning Department	9 / 12
Monterey County Department of Planning & Building Insp.	11 / 15
Total	40 / 91

Occupational focus of respondents

Respondents were split in spending either very few or most their work hours on coastal environmental or watershed management issues (Fig. 2), but the vast majority of respondents felt that it was important or very important that they receive additional training such as that

Figure 2: Hours per week spent by respondents on coastal environmental or watershed management issues.

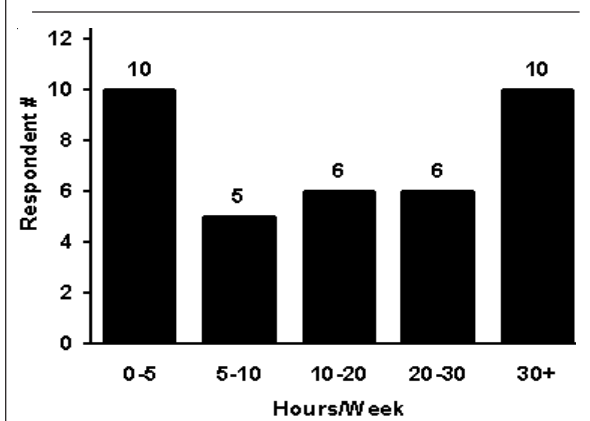
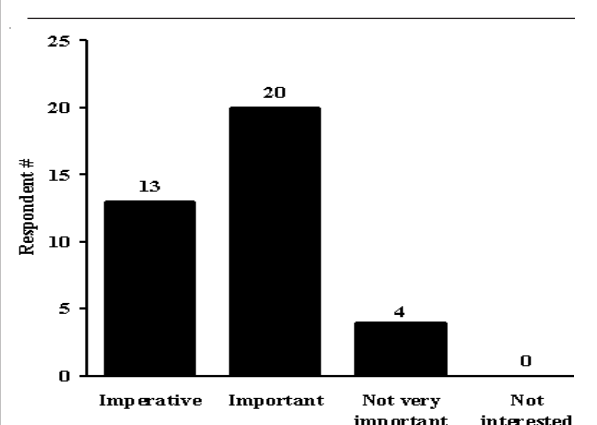


Figure 3: Importance to respondents of receiving additional training on biology, ecology, and resource conservation.



Educational barriers

When we asked about the most significant barriers to respondents attending educational forums, their responses were weighted towards their workloads being the most significant barriers. Also important was the cost of attending training programs. On the other hand, familial obligations, supervisor support, and lack of relevant training opportunities were not important barriers (Fig. 4).

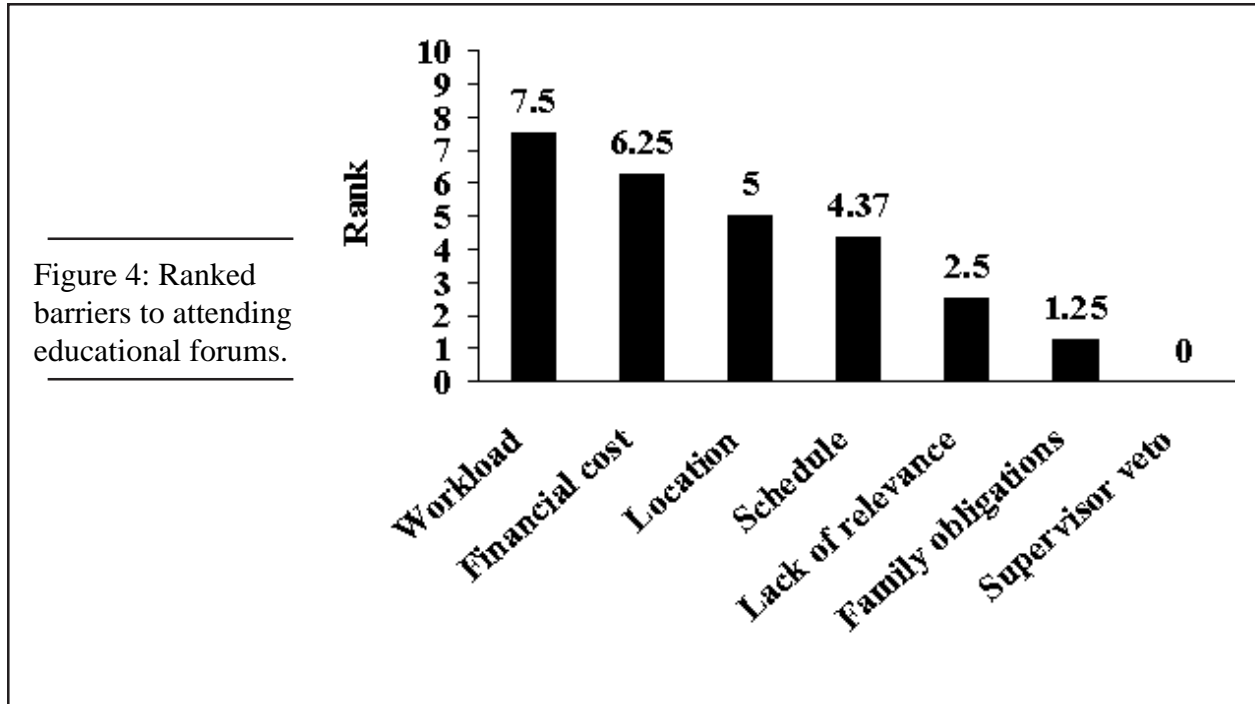
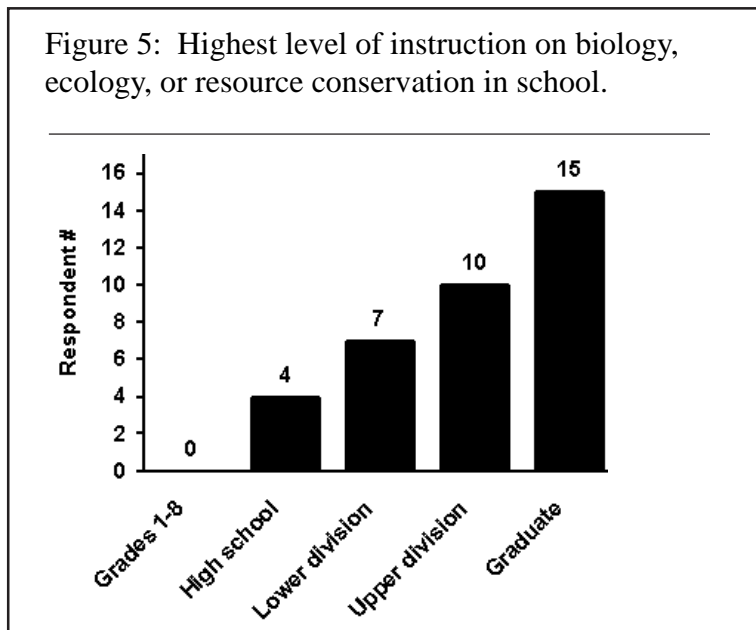


Figure 5: Highest level of instruction on biology, ecology, or resource conservation in school.

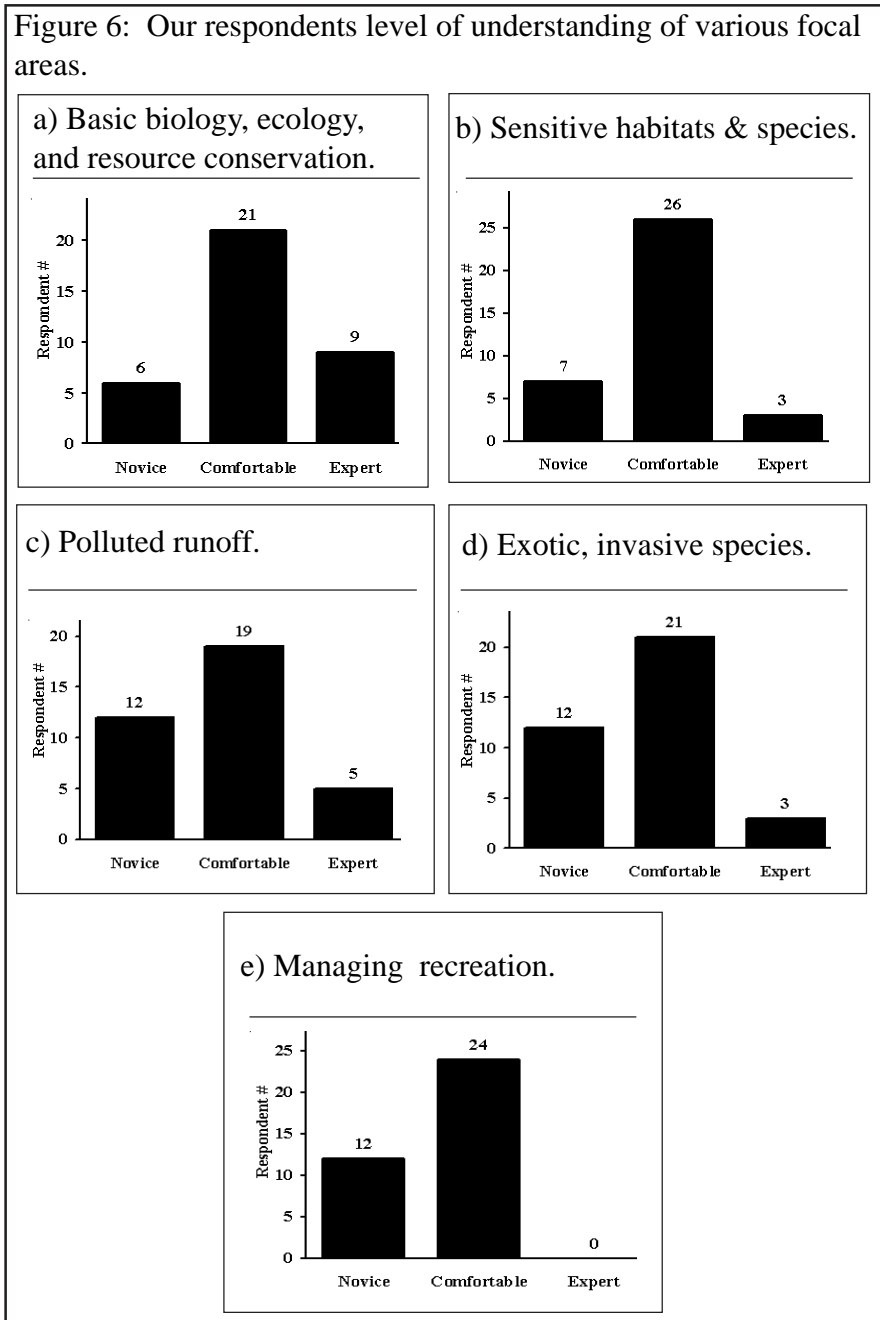


Education level

The level of education of the audience varied: two thirds had received graduate-level or upper-division undergraduate training in biology, ecology, or resource conservation and one third of the respondents had only lower division undergraduate-level or high school-level training (Fig 5).

Comfort with ecological subjects

In general, respondents felt comfortable with most of the specific subject areas listed in the survey. Most respondents at least felt comfortable, and many rated themselves as experts, on their understanding of basic biology, ecology and resource conservation (Fig 6a). Fewer respondents rated themselves as experts, but most felt comfortable, with their understanding of sensitive habitats and species (Fig. 6b). More respondents felt like they were novices on polluted runoff issues (Fig. 6c) and invasive, exotic species issues (Fig. 6d). More respondents rated themselves as novice and none as experts on their understanding of managing and monitoring impacts from recreation on natural areas (Fig. 6e).



Educational program design needs

When we asked about the type of educational format that they prefer, respondents indicated that they frequently found useful information on ecology and resource conservation at workshops and in books but less frequently found valuable information of this type on television and radio (Fig. 7).

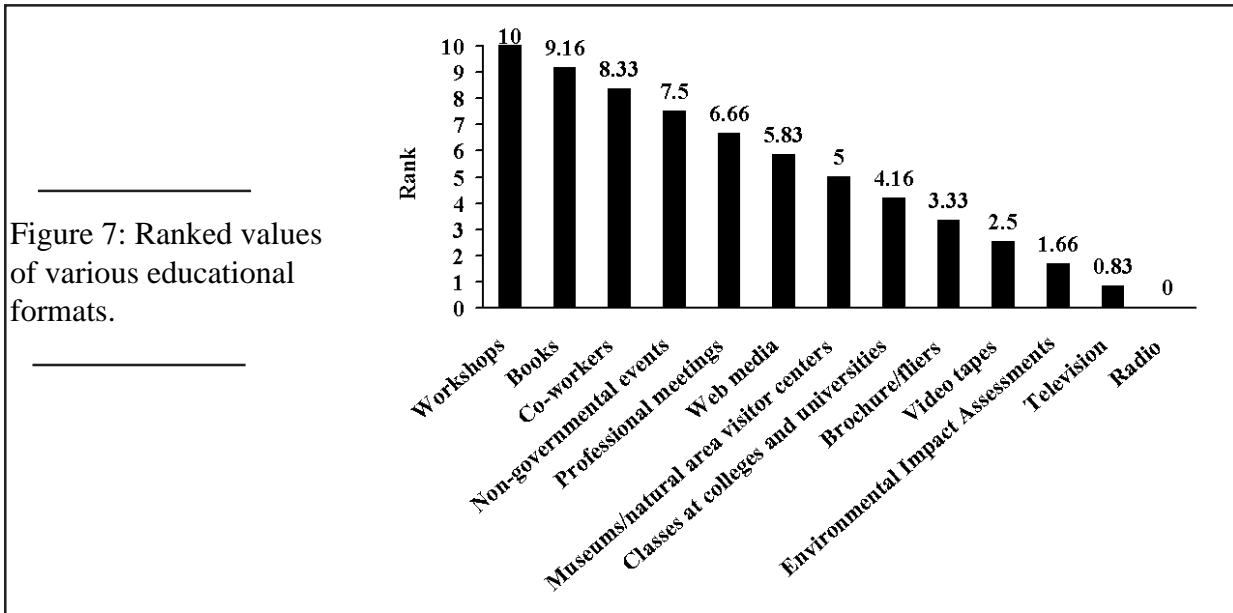


Figure 7: Ranked values of various educational formats.

The survey indicated that the audience most highly values information from biologists with federal and state agencies and independent biological consultants; curiously, biologists appearing on local county lists as 'approved' ranked the least valuable information source (Fig. 8).

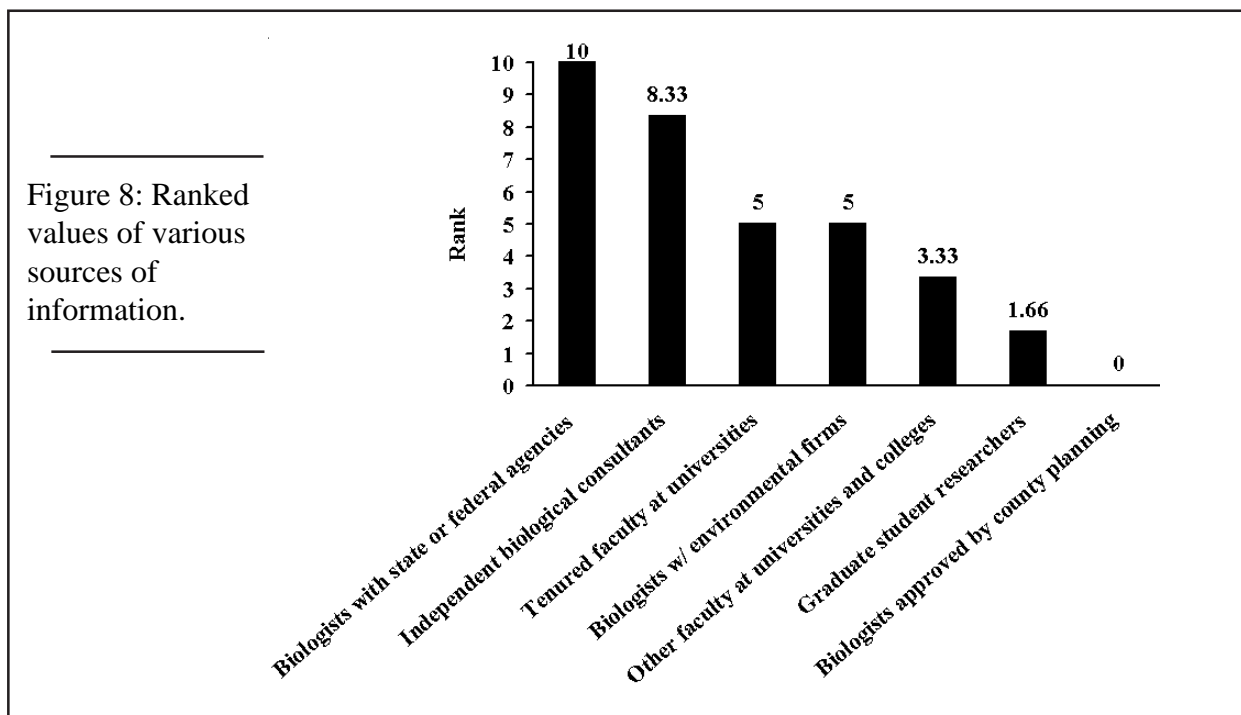
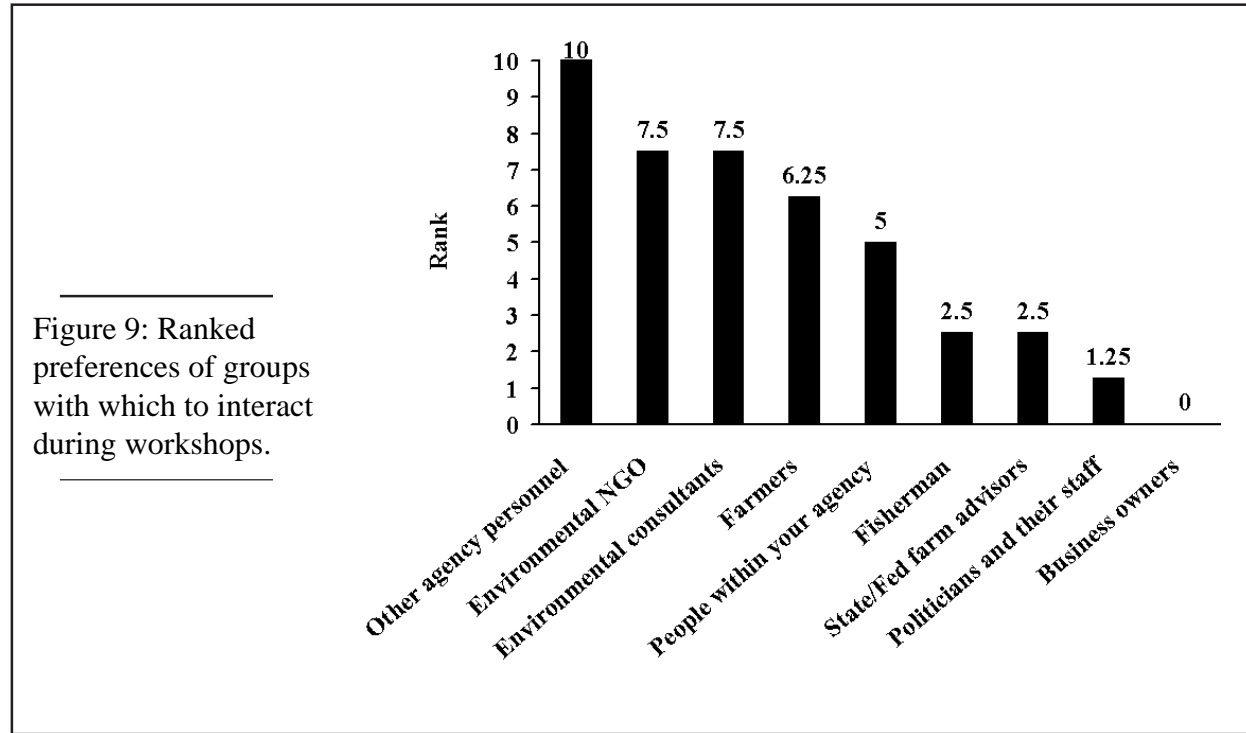


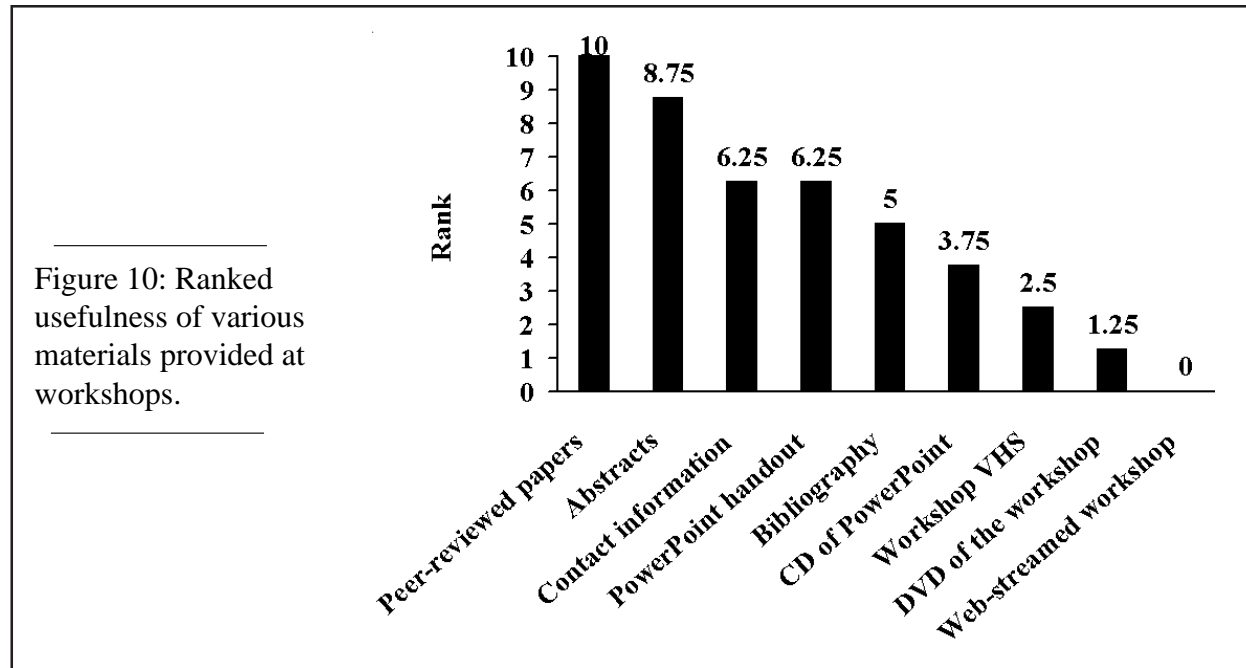
Figure 8: Ranked values of various sources of information.

Educational program design needs, continued

When attending workshops, this audience felt that it is particularly important to interact with personnel similarly situated to themselves at other agencies, but they were relatively averse to interacting with business owners or politicians during workshops (Fig. 9).



In response to our question about the kinds of material the audience would find useful as part of training workshops, they responded as strongly interested in acquiring copies of published, peer reviewed papers and written abstracts on the presentations. They indicated that they would not find as much value in digital media (Fig. 10).



Prioritization of Specific Training Subjects

For this section of the survey, we asked coastal planners and regulators about whether certain broad subject areas were important to them to improve their job performance. If they affirmed that

Figure 12: Ranked preferences of specific training subjects in the broad category of basic biology, ecology, and resource conservation.

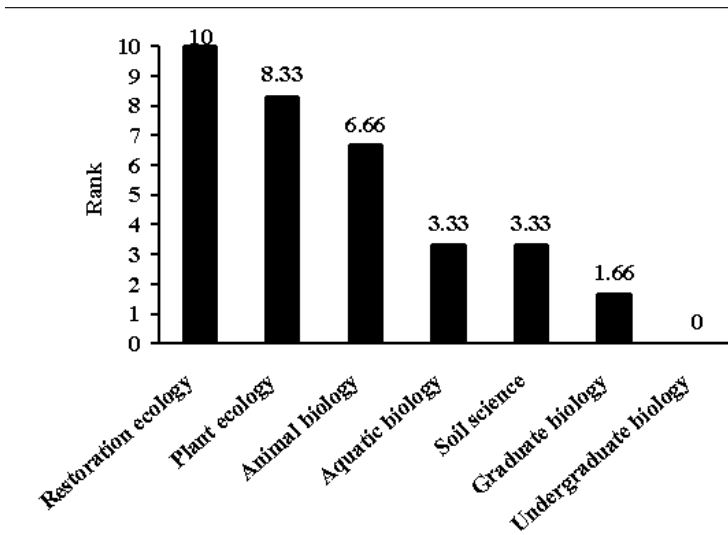
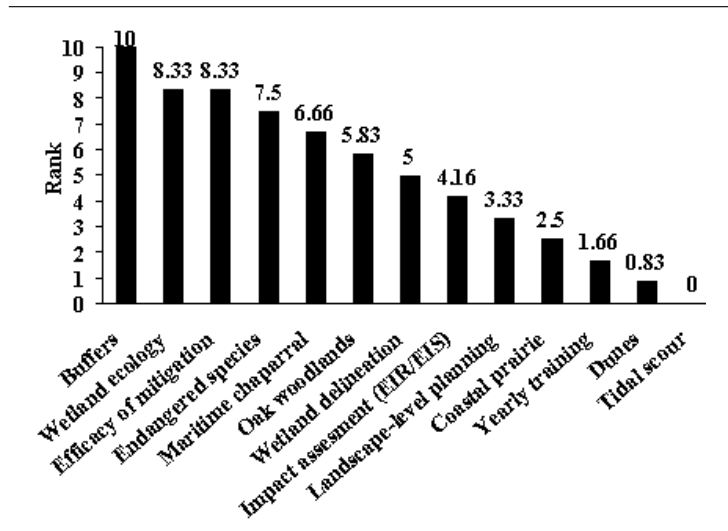


Figure 13: Ranked preferences of specific training subjects in the broad category of habitat restoration and management.



one of these broad subject areas was important to them, they were then asked to weight the importance of more specific types of training in that subject area. The most interest was expressed in additional training in the broad subject area of sensitive habitat and species (88%) and the least on invasive, exotic species (73%).

For those who answered that they required additional training in basic biology to better perform their jobs (82%), we found that their answers ranked training in restoration and plant ecology highly and their interest in basic biology courses at either the graduate or undergraduate level ranked low (Fig. 12). A follow-up question allowed respondents to detail any additional specific training in this basic biology category that they would like to receive, but there were no responses to this question.

Two subjects ranked very low: dune ecology and tidal scour effects on the Elkhorn Slough (Fig. 13). We again followed this question with an opportunity for respondents to let us know about other specifically desired training opportunities. We received six suggested subjects: 1) "coastal bluff and interaction with tidal environment below," 2) "coastal erosion in general," 3) "intertidal," 4) "life cycle of endangered species and critical stage info (*sic*)," 5) "Monterey pine - terrestrial habitat," and 6) "resource management and mitigation strategies for individual site development."

Basic biology, ecology, and resource conservation

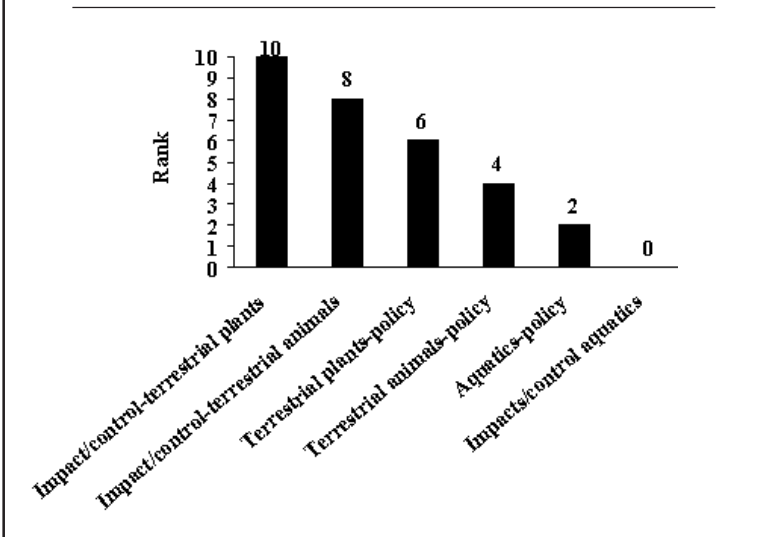
Eighty-eight percent of our respondents indicated that they required additional training in sensitive habitats and species to better perform their jobs, and their answers indicated a high ranking for training on creating better ecological buffers;

Sensitive habitat and species

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Prioritization of Specific Training Subjects, continued

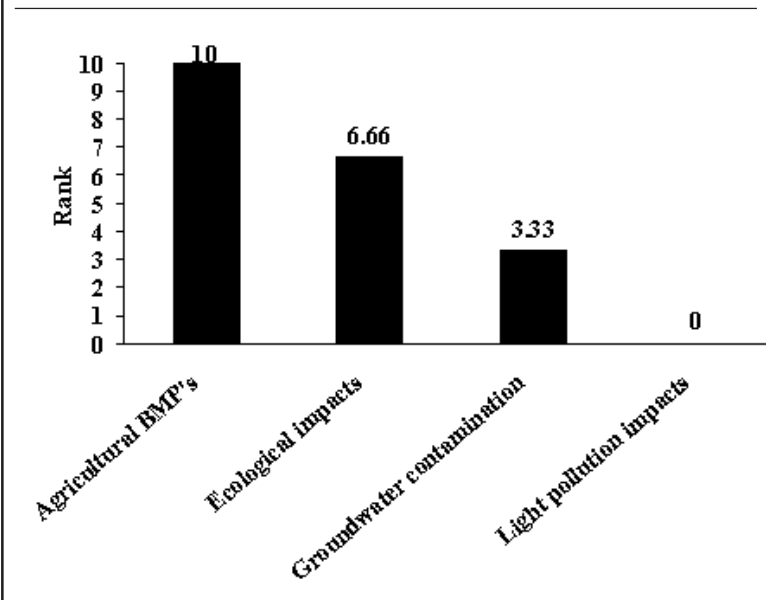
Figure 14: Ranked preferences of specific training subjects in the broad category of invasive, exotic species.



Invasive, exotic species

Seventy-three percent of the respondents indicated that they require additional training on invasive, exotic species, and their answers suggest that we prioritize training on terrestrial plants and animals and that we assign a low for priority for training on either the the policy or control/impact aspects of invasive aquatic organisms (Fig. 14). Our follow-up question allowing respondents to request other specific training subjects on invasive, exotic species went unanswered.

Figure 15: Ranked preferences of specific training subjects in the broad category of the polluted runoff.

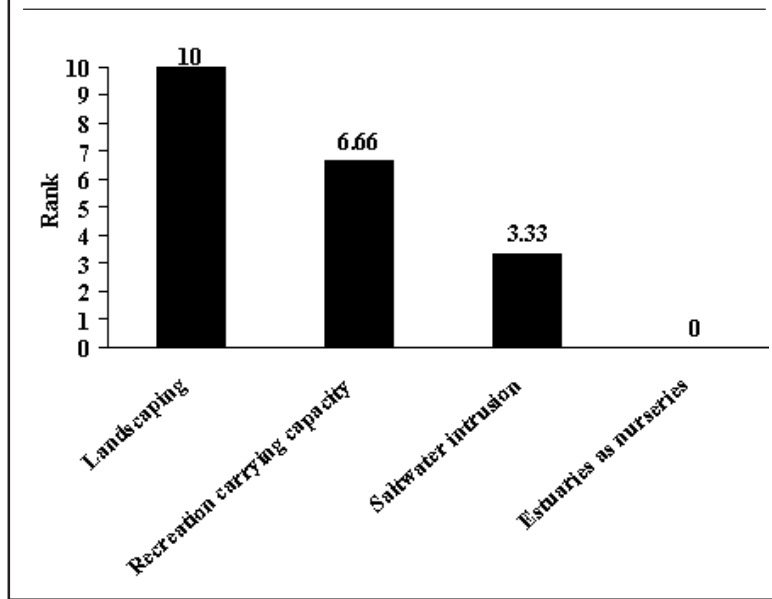


Polluted runoff

With the twenty-five respondents who answered that they required additional training on polluted runoff, training on agricultural best management practices ranked highest and ecological impacts of human-caused light pollution ranked lowest (Fig. 15). We followed this question with an opportunity for respondents, again, to suggest to us other specific training subjects on this subject. We received 3 suggested subjects: 1) "efficacy of BMP's for protecting urban runoff water quality," 2) "polluted runoff from urban areas," and 3) "sediment bioturbation ionic vs dissolved effects of heavy metals."

Prioritization of Specific Training Subjects, continued

Figure 16: Ranked preferences of specific training subjects in the broad category of the human impacts on ecosystems.



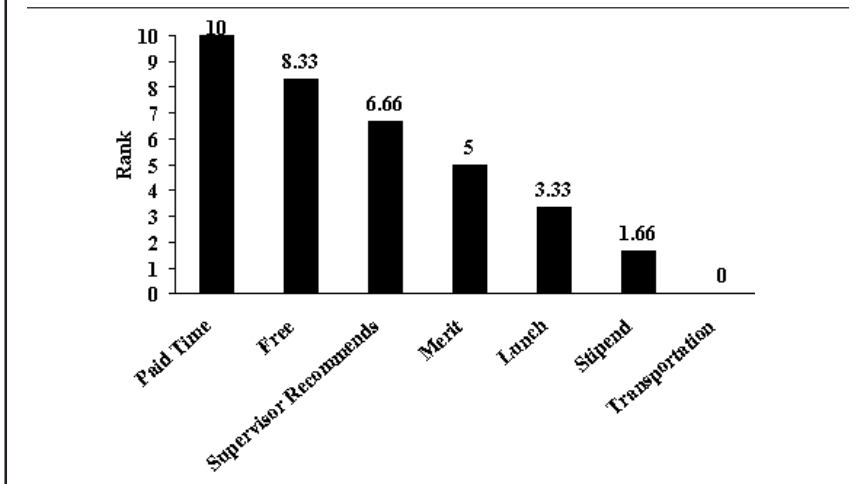
Human impacts on ecosystems

Survey responses for those that required additional training on the broad category of human impacts on ecosystems (30 respondents), suggest a high ranking for additional training in appropriate landscaping but low ranking for training on estuaries use as nurseries for fisheries (Fig. 16). The follow-up question allowing respondents to request other specific training subjects elicited two responses: 1) "long term site management regarding human behavior to ensure long term sustainability at the site specific level and landscape level" and 2) "significance of healthy coastal estuaries as nurseries for fish the ecosystem (food based trophic transfer)."

Training Methodology

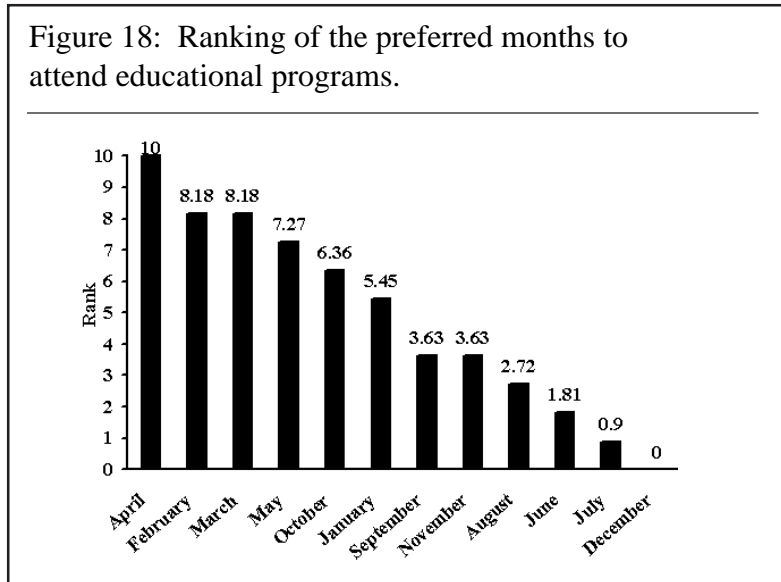
The next portion of the survey dealt with preferred methodology of training, starting with assessing the need for the Coastal Training Program to provide incentives to coastal planners and regulators in order to assist them in attending training workshops. Fifty-eight percent of those surveyed responded that such incentives were unnecessary to entice them to attend. For the minority that responded that incentives would help them to attend, the provision for attendees to be paid by their employers while attending workshops was ranked as the most preferred incentive and transportation to workshops was ranked the lowest as a potential incentive (Fig. 17).

Figure 17: a) Positive and negative responses on preferences for incentives for attending workshops and b) for positive responses, the preferred types of incentives.



Training Methodology, continued

Figure 18: Ranking of the preferred months to attend educational programs.



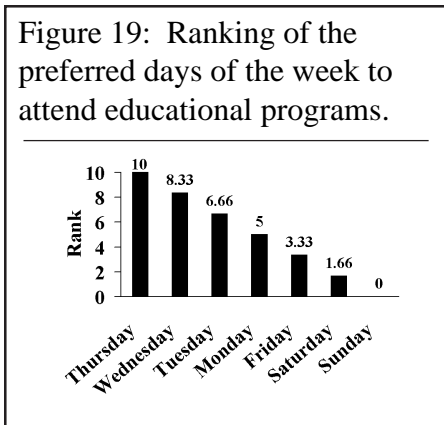
Timing of workshops

We also asked which month would be preferred for our audience to attend workshops, and they rated April the highest and December the lowest (Fig. 18). When asked which days of the week were preferred, our audience ranked Wednesday and Thursday highly and, perhaps not surprisingly, Sunday ranked the least popular (Fig. 19).

Types of workshops

With regard to the types and schedules of workshops, our attendees answers ranked 8-hour workshops with a field component highly, but 8-hour workshops without field components ranked the lowest (Fig. 20).

Figure 19: Ranking of the preferred days of the week to attend educational programs.



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Location of workshops

In the past, we have used the Elkhorn Slough National Estuarine Research Reserve Administration Building conference room as the venue for Coastal Training Program workshops, and the vast majority of the respondents indicated that the locale is convenient (Fig. 21). For the small percentage that would prefer another location, most preferred to attend workshops in Santa Cruz, with one each preferring, Monterey, Watsonville, and Aptos.

Figure 20: Ranking of the preferred designs for workshops.

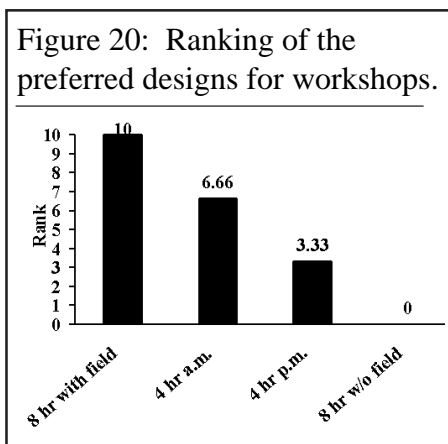
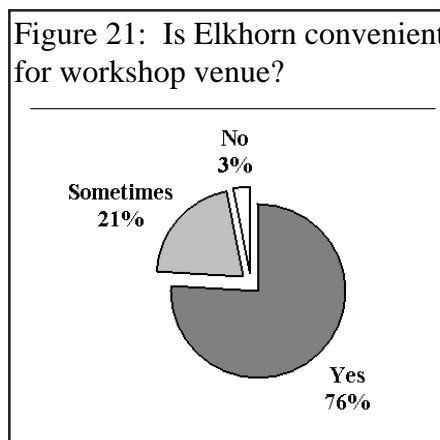


Figure 21: Is Elkhorn convenient for workshop venue?



Discussion

The results of this survey will help the Elkhorn Slough National Estuarine Research Reserve's Coastal Training Program better focus its programs for the vital audience of local coastal planners and regulators. The CTP identified various educational opportunities through its Market Analysis, and the results of this survey indicate that this audience highly values most of the program areas outlined in the CTP Strategic Plan.

Response number and affiliation

We were pleased by the numbers of responses. Although we are not presently certain of the exact number individuals within the entire audience, we estimated that there are approximately 91 members in the CTP target area of Santa Cruz and Monterey County. As we further develop our relationship with planners and enforcement personnel, we will continue to develop our contact information database.

It was disappointing to have few responses from either the planning commissions' or the district attorneys' offices. In an interview with one planning commissioner about the survey, they expressed that the language of the survey may have deterred their fellow commissioners, who were appointed because of their affiliation with agricultural or urban development interests. These other commissioners may not understand the role of the CTP in helping to create solutions for the general land use decisions with which they are regularly faced. Moreover, the survey language at the outset may have favored paid employees ('work week' 'for your job'), but planning commissioners serve as unpaid volunteers. With the burden of non-environmentally oriented work, District Attorney's office personnel may not prioritize natural resource issues that are the focus of the CTP and may not understand the survey's relevance. The importance of these segments of the audience, however, is paramount as all local and regional environmental laws are ultimately created and upheld by these people. We plan on meeting with the District Attorneys and planning commissioners themselves within the year in order to clarify potential relationships.

Educational program design needs

The audience's preference for attending workshops is not surprising, as CTP workshops have been exceedingly popular and the workshop educational format was indicated as the preferred training method in the ESNERR CTP Market Analysis. However, we had not known about this audience's emphatic preference to hear from federal and state agency biologists during those workshops. This is probably because it is precisely those biologists who are overseeing and commenting on the many biological decisions that this audience is making in the course of fulfilling their responsibilities.

The survey results reinforced the value of CTP workshops for this audience to be able to network. The most preferred group with whom the respondents would like to interact during workshops was similarly situated personnel at other agencies. Whereas the CTP has had increasing success in inviting both Monterey and Santa Cruz county staff to our workshops, attendance has always been skewed towards Monterey County staff. These results encourage us to redouble our efforts to attract Santa Cruz agency staff in greater numbers.

Discussion, continued

During the last 8 months, the CTP has held numerous workshops and provided diverse materials during those events. We have been surprised at the popularity of providing attendees with copies of peer-reviewed scientific papers on the subjects. The survey results confirm that this is the single most valued educational material that we can provide, with written abstracts of the presentations close behind in popularity. We were more surprised that digital media is relatively so much less popular.

Occupational focus of respondents

It was interesting to note the mix of the amount of time respondents spent on environmental resource issues: there was a real split between those that spent little and those that spent the majority of their time on such issues. But, seemingly regardless of this discrepancy, we found that our educational programs are very important to the audience.

Educational level of audience and comfort with ecological subjects

The level of education in natural resource-related fields was surprising: most of our audience has a very high level of education. This may explain their responses that most were comfortable with the general subject areas about which we asked them. There were relatively more respondents that were 'novice' at the subjects of invasive, exotic species, polluted runoff, and the impacts of recreation on natural resources. The latter two are subjects that are secondary priorities to the CTP in our Strategic Plan. The information that this audience feels less comfortable with these subjects indicates a need for us to provide occasional, basic educational programs in these areas.

Educational program design needs

In summary, the responses in this portion of the survey indicate that workshops featuring state and federal agency biologists and/or independent biological consultants are the best way to present information to this audience. They want to interact with personnel from other agencies at these events and they want to receive copies of published, peer-reviewed papers and written abstracts of presentations at the workshops. They do not generally gain valuable information from brochures and fliers (something that our CTP has contemplated publishing) and they do not want to hear presentations from scientists without very high credentials.

Importantly, members of this audience does not want to interact with audiences that are often at cross purposes with natural resource protection: business owners, farmers, fisherman. Interaction with these other groups may present a challenge for our planners and regulators, who may need to be able to ask more frank questions during our workshops. On the other hand, our region has rarely experienced fulfilling mediated discussions on the numerous contentious issues with which we are faced. The CTP may explore this role after future needs assessments more deeply explore this information.

This audience does not value the numerous electronic media - VHS, DVD, etc. - that are often provided as part of workshops. Our CTP has had few requests for such materials but has made an effort to produce them; we may reconsider producing such materials if other audiences feel similarly.

Discussion, continued

Prioritization of specific training subjects

Results indicate that this audience values all of the educational focal areas that the CTP prioritized in its Strategic Plan, which were partially defined by gaps in other agency's educational programs as determined by the CTP Market Analysis. Follow-up questions in each focal area help define specific educational programs that this audience requires. A short list of the most desired programs includes:

- 1) Restoration ecology (basic biology, ecology, and resource conservation)
- 2) Plant ecology (basic biology, ecology, and resource conservation)
- 3) Buffers (habitat restoration and management)
- 4) Wetland ecology (habitat restoration and management)
- 5) Efficacy of mitigation (habitat restoration and management)
- 6) Impact and control of terrestrial plants and animals (invasive, exotic species)
- 7) Agricultural best management practices (polluted runoff)
- 8) Landscaping (human impacts on ecosystems)
- 9) Recreational carrying capacity (human impacts on ecosystems)

Training methodology

The most valuable information gleaned from the results in this section of the survey were the preferences to hold educational workshops during the late winter and early spring, during the middle of the week. The preferred workshop format was not a surprise, though it is interesting that even the very overworked planners and regulators prefer whole days of training with field components; we had considered short workshops at the job sites of many of these individuals, but the majority even responded that these workshops were conveniently located at the Elkhorn Slough.

Conclusion

The information we gathered from this survey will help us to improve the design and content of our educational programs. We look forward working to grow our program in the ways that will help meet the needs of this important audience. Many thanks to all of those who reviewed or participated in the survey and to the many who have helped the Elkhorn Slough National Estuarine Research Reserve's Coastal Training Program become a leading educational institution in the Monterey Bay region.

Appendix 1: The Survey

Appendix 1
Survey Page 1

Coastal Resource Planners and Regulators Survey	Exit this survey >>
Welcome to the survey	
<p>This survey should take you less than 15 minutes to complete; at most, you will be asked 36 questions.</p> <p>The survey is anonymous and your answers are confidential.</p> <p>If you are interrupted, you can return and finish or edit your answers at another time.</p> <p>If you have questions regarding the survey, or if you want to get on our mailing list, please email grey@elkhornslough.org</p> <p>Thank you for your participation!</p>	
Next >>	

Survey Page 2

Coastal Resource Planners and Regulators Survey	Exit this survey >>
Tell us about your job	
<p>The following information helps us to understand the kind of work you perform and how our program might best inform your agency</p>	
<p>* Who do you work for?</p> <ul style="list-style-type: none"><input type="radio"/> California Coastal Commission<input type="radio"/> Santa Cruz County Planning Department<input type="radio"/> Santa Cruz County Planning Commission<input type="radio"/> Santa Cruz County Supervisors<input type="radio"/> Santa Cruz County District Attorney's Office<input type="radio"/> Monterey County Department of Planning and Building Inspection<input type="radio"/> Monterey County Planning Commission<input type="radio"/> Monterey County Supervisors<input type="radio"/> Monterey County District Attorney's Office<input type="radio"/> Other (please specify)	
<< Prev Next >>	

Appendix 1, continued
Survey Page 3

Coastal Resource Planners and Regulators Survey	Exit this survey >>
<p>* Approximately how many hours of your work-week are spent addressing coastal environmental or watershed management issues?</p> <p><input type="radio"/> 0-5</p> <p><input type="radio"/> 6-10</p> <p><input type="radio"/> 10-20</p> <p><input type="radio"/> 20-30</p> <p><input type="radio"/> 30+</p>	
<p>* To be more effective at your job how important is it that you receive additional training on biology, ecology, and resource conservation?</p> <p><input type="radio"/> Imperative</p> <p><input type="radio"/> Important</p> <p><input type="radio"/> Not very important</p> <p><input type="radio"/> Not interested</p>	
<p align="center"><< Prev Next >></p>	

Appendix 1, continued
Survey Page 4

*** How seriously do the following inhibit your attendance at training workshops about ecology and resource conservation?**

	Major problem	Problem sometimes	Not a problem
Financial costs of attending training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Workload	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schedule of training (length or time offered)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of relevant educational program subjects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisor denies permission	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Location of training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family obligations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix 1, continued
Survey Page 5

Coastal Resource Planners and Regulators Survey

[Exit this survey >>](#)

Tell us about yourself

These questions help us understand your level of expertise with biology, ecology, and resource conservation

* What was the highest level instruction on biology, ecology, or resource conservation that you received in school?

- Grades 1-8
- High school
- Undergraduate, lower division
- Undergraduate, upper division
- Graduate

* Rate your understanding of basic biology, ecology, and resource conservation.

- Novice - I don't know much about these subjects
- Comfortable - I'm comfortable on the basics of these subjects
- Expert - people frequently turn to me for answers on these subjects

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Appendix 1, continued
Survey Page 6

* Rate your understanding of sensitive habitats / species.

- Novice - I don't know much about these subjects
- Comfortable - I'm comfortable on the basics of these subjects
- Expert - people frequently turn to me for answers on these subjects

* Rate your understanding of polluted runoff issues.

- Novice - I don't know much about these subjects
- Comfortable - I'm comfortable on the basics of these subjects
- Expert - people frequently turn to me for answers on these subjects

* Rate your understanding of exotic, invasive species issues.

- Novice - I don't know much about these subjects
- Comfortable - I'm comfortable on the basics of these subjects
- Expert - people frequently turn to me for answers on these subjects

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Survey Page 7

* Rate your understanding of managing and monitoring impacts from recreation on natural areas.

- Novice - I don't know much about these subjects
- Comfortable - I'm comfortable on the basics of these subjects
- Expert - people frequently turn to me for answers on these subjects

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Appendix 1, continued
Survey Page 8

Coastal Resource Planners and Regulators Survey [Exit this survey >>](#)

Educational program needs

Your answers will help us to design educational programs that best fit your needs

*** How often do you find the following information useful in learning about ecology/resource conservation?**

	Frequently useful	Useful at times	Never useful
Co-workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Museums/natural area visitor centers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brochure/fliers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-governmental organization events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Web media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classes at colleges and universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental impact reports, assessments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work shops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video tapes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Coastal Resource Planners and Regulators Survey		Exit this survey >>		
* How much do you value information from the following different kinds of biologists/ecologists?				
	Highly value	Somewhat value	Value little	
Tenured faculty at universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Other faculty at universities and colleges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Graduate student researchers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Biologists associated with environmental firms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Independent biological consultants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Biologists listed as approved by county planning offices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Biologists with state or federal agencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<< Prev Next >>				

Coastal Resource Planners and Regulators Survey		Exit this survey >>
* With what other group(s) would it be important for you to interact during workshops featuring ecological/resource conservation information?		
	Very important	Somewhat important
	Not important	
Farmers (or groups representing them)	<input type="radio"/>	<input type="radio"/>
Farm advisors with state or federal agencies	<input type="radio"/>	<input type="radio"/>
Fisherman (or groups representing them)	<input type="radio"/>	<input type="radio"/>
Environmental planners with consulting firms	<input type="radio"/>	<input type="radio"/>
People in similar positions to yourself at other agencies	<input type="radio"/>	<input type="radio"/>
Business owners (or groups representing them)	<input type="radio"/>	<input type="radio"/>
Politicians and their staff	<input type="radio"/>	<input type="radio"/>
People within your agency	<input type="radio"/>	<input type="radio"/>
Non-governmental environmental organizations	<input type="radio"/>	<input type="radio"/>
<< Prev Next >>		

Appendix 1, continued
Survey Page 11

Coastal Resource Planners and Regulators Survey				Exit this survey >>
* Which materials would you find useful as part of a training workshop?				
	Very useful	Somewhat useful	Not useful	
Contact information of other attendees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Printouts of slides/PowerPoint presentations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
CD of slides/PowerPoint presentations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
DVD (digital video disk) of the workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Written abstracts of presentations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Copies of leading peer-reviewed published papers on the material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
A summary bibliography on the material	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
A VHS video of the workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Web-streamed video of the workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<< Prev Next >>				

Survey Page 12

Coastal Resource Planners and Regulators Survey		Exit this survey >>
Training subjects		
Your answers help us choose which subjects to emphasize in our educational programs.		
You are half way done with the survey!		
* For your job, is it important that you receive additional training in basic biology, ecology, and resource conservation?		
Yes	No	
<input type="radio"/>	<input type="radio"/>	
<< Prev Next >>		

Coastal Resource Planners and Regulators Survey

[Exit this survey >>](#)

Basic biology, ecology, and resource conservation

Your answers help us prioritize educational programs with this issue

Please rate your interest in the following basic biology, ecology, and resource conservation training subjects.

	Very interested	Somewhat interested	Not interested	N/A
Graduate level biology covering a wide variety of issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Animal biology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soil science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aquatic biology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restoration ecology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plant ecology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Undergraduate level basic biology covering a wide variety of issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please list basic science subjects that we overlooked and that are crucial for you to receive additional training.

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Appendix 1, continued
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Coastal Resource Planners and Regulators Survey

[Exit this survey >>](#)

▣ For your job, is it important that you receive additional training on sensitive habitats and species?

Yes

No



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Coastal Resource Planners and Regulators Survey					Exit this survey >>
Please rate your interest in the following habitat restoration/management subjects.					
	Very interested	Somewhat interested	Not interested	N/A	
Designing a landscape-level conservation plan for California's central coast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conservation of maritime chaparral	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conservation of coastal prairie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
A review of the efficacy of habitat restoration mitigation strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Information on specific endangered species	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conservation of wetlands and riparian areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Biological impact assessment (EIR/EIS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Wetland delineation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Tidal scour/erosion of Elkhorn Slough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Designing appropriate buffers to protect natural resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conservation of dunes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conservation of dunes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Yearly training - conservation of Monterey Bay area natural resources - for new agency personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Conservation of coast live oak woodlands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Please list habitat restoration and management subjects that we overlooked and that are crucial for you to receive additional training.					
<div style="border: 1px solid black; width: 100%; height: 100%;"></div>					
<< Prev Next >>					

Appendix 1, continued
Survey Page 16

Coastal Resource Planners and Regulators Survey [Exit this survey >>](#)

*** For your job, is it important that you receive additional training on invasive, exotic species?**

Yes No

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Coastal Resource Planners and Regulators Survey [Exit this survey >>](#)

How interested are you in receiving training in the following subjects on invasive exotic species?

	Very interested	Somewhat interested	Not interested	N/A
Invasive aquatic organisms - impacts/control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invasive terrestrial plants - impacts/control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invasive terrestrial animals - impacts/control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invasive aquatic organisms - policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invasive terrestrial plants - policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invasive terrestrial animals - policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please list exotic species subjects that we overlooked and that are crucial for you to receive additional training.

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Appendix 1, continued
Survey Page 18

Coastal Resource Planners and Regulators Survey [Exit this survey >>](#)

* For your job, is it important that you receive additional training on polluted runoff?

Yes No

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Coastal Resource Planners and Regulators Survey [Exit this survey >>](#)

Please rate your level of interest on additional training in the following pollution subjects.

	Very interested	Somewhat interested	Not interested	N/A
Ecological impacts of polluted runoff from agricultural operations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientific review of best management practices to control polluted runoff from agricultural operations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacts of human-caused night lighting (light pollution) on plant and animal conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sources and threats of groundwater contamination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please list pollution subjects that we overlooked and that are crucial for you to receive additional training.

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Appendix 1, continued
Survey Page 20

Coastal Resource Planners and Regulators Survey Exit this survey >>

* For your job, is it important that you receive additional training on policy, prevention, and management of human impacts on ecosystems (landscaping, recreation, water use)?

Yes No

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Coastal Resource Planners and Regulators Survey Exit this survey >>

How interested are you in receiving additional training in the following subjects?

	Very important	Somewhat important	Not important	N/A
Using science-based carrying capacity analysis for better planning, management, and monitoring of recreational use of natural areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent, impacts, and solutions of saltwater intrusion into groundwater aquifers in the Monterey Bay region	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ecologically-based design and plant selection for drought tolerant and native plant landscapes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Significance of healthy coastal estuaries as nurseries for commercially important fish.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please list human impact subjects that we overlooked and that are crucial for you to receive additional training.

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Appendix I, continued
Survey Page 22

Coastal Resource Planners and Regulators Survey	Exit this survey >>
Training Methodology	
Tell us how we should structure our training	
* Would incentives help you attend training workshops?	
<input type="radio"/> Yes	
<input type="radio"/> No	
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Coastal Resource Planners and Regulators Survey	Exit this survey >>		
Please rate the value of the following incentive programs in helping you to attend training workshops.			
	Critically important	Somewhat important	Not important
Attending training recognized for merit/pay raises	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Training is free	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisor recommends attendance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transportation is provided	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your job pays you while attending training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lunch is provided	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stipend provided to attend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<< Prev Next >>			

Coastal Resource Planners and Regulators Survey Exit this survey >>

* Please rate the your preference of days for training events

	Best	Acceptable	Bad
Monday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuesday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wednesday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thursday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saturday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sunday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Coastal Resource Planners and Regulators Survey Exit this survey >>

* Please rate the following types/schedules for training workshops.

	Best	Acceptable	Bad
4 hour morning workshop (before lunch)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4 hour afternoon workshop (after lunch)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8 hour workshop without field component	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8 hour workshop with field component	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Coastal Resource Planners and Regulators Survey Exit this survey >>

* Please rate the following times of year for training events.

	Best	Acceptable	Bad
January	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
February	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
March	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
April	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
May	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
June	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
July	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
August	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
September	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
October	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
November	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
December	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix 1, continued
Survey Page 27

Coastal Resource Planners and Regulators Survey Exit this survey >>

* Is the Elkhorn Slough/Moss Landing area convenient to attend a half day or day-long workshop?

Yes

SomeTimes

No

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Coastal Resource Planners and Regulators Survey Exit this survey >>

Where would you prefer to travel to training workshops?

Salinas

Santa Cruz

Monterey

Watsonville

Other (please specify)

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