Workshop Resources

Guidelines for Excellence
Nonformal Environmental Education Programs

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North American Association for Environmental Education
Workshop Resources

Nonformal Environmental Education Programs:
Guidelines for Excellence

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Nonformal Environmental Education Programs: Guidelines for Excellence—Workshop Resources is part of a continuing series of documents published by the North American Association for Environmental Education (NAAEE) as part of the National Project for Excellence in Environmental Education. The project is committed to synthesizing the best thinking about environmental education through an extensive process of review and discussion.

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Workshop Resources

Nonformal Environmental Education Programs: Guidelines for Excellence

Workshop Description
In this workshop, participants will be introduced to the nonformal environmental education program development cycle, including needs assessment, program design and delivery, and evaluation. If you follow the module as outlined, the workshop will take approximately 6.5 hours to complete, not counting breaks and lunch.

Workshop Background
This workshop introduces participants to Nonformal Environmental Education Programs: Guidelines for Excellence. These guidelines comprise a set of recommendations for developing and administering high quality, nonformal environmental education (EE) programs. These recommendations provide a tool that can be used to ensure a firm foundation for new programs or to trigger improvements in existing ones. The overall goal of the guidelines is to provide a superior educational process leading to the environmental quality that people desire.

The term “environmental education program” is used in these guidelines to mean an integrated sequence of planned educational experiences and materials intended to reach a particular set of objectives. Programs, taken together, are the methods by which an organization’s education goals are accomplished. Programs can be small or large and can range from short-term, one-time events to long-term, community capacity-building efforts.

Workshop Objectives
- Participants identify the key characteristics of high-quality environmental education programs
- Participants discuss the relationship between program design and program evaluation

Materials Needed
- Projector and PowerPoint presentation (optional)
- Chart paper, markers, tape
- Copies of Nonformal Environmental Education Programs: Guidelines for Excellence for each participant
- Journals for each participant (e.g., blue books, notebooks, sheets of paper stapled together)
- Materials for String Theory (3 x 5 cards, paper clips, markers, yarn or string, etc.)
- Scenario Cards: Characterizing Your Audience
- Copies of handouts:
  - Handout #1: Mini Self-Assessment—Nonformal Environmental Education Program Development (Optional)
  - Handout #2: Nonformal Environmental Education Programs Summary Sheet
  - Handout #3: Characterizing Your Audience Scenario cards (printed off and cut into strips)
  - Handout #4: Characterizing Your Audience
  - Handout #5: Too Good to Pass Up
  - Handout #6: Where Is the Environmental Literacy?
  - Handout #7: Evaluating Pen Evaluation Logic
### Sample Workshop Agenda

**Welcome, Introductions, and Logistics**

- **Icebreaker**
  - Use a brainstorm carousel with prompts that focus on EE and program development, String Theory (below) or one of your favorite icebreakers. If possible, use the icebreaker as both an opportunity for participants to get to know one another and to begin the process of thinking about nonformal environmental education program development.

**Project Background**

- Provide a short overview of NAAEE, the National Project for Excellence in Environmental Education, and the purpose behind the *Nonformal Guidelines*: What is NAAEE? What is the National Project for Excellence in EE? Why were the *Guidelines for Excellence* series developed? How were they developed? Why *Nonformal Guidelines*?

**Getting Started—Jumping into Program Design**

- As an engagement strategy, choose between these two different activities: Mini Self-Assessment and String Theory. In the first activity, participants work individually and complete a Mini Self-Assessment of their own program development process. In the second activity, participants work in small groups and build a model of the program development processes that they typically follow.

**Activity: Mini Self-Assessment**

- Using the six key characteristics outlined in the *Nonformal Guidelines* as criteria, participants complete a self-assessment of their own program development process (see Handout #1: Mini Self-Assessment—Nonformal Environmental Education Program Development). If you can contact the participants in advance of the workshop, consider asking them to complete the Mini Self-Assessment before they arrive (to jump-start their thinking about program planning). Otherwise, the self-assessment can be used as an introductory, engagement activity during the workshop.

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- Handout #8: Self-Assessment Nonformal Environmental Education Program Development
- Handout #9: Workshop Evaluation Form
Materials Needed
✓ Copies of Worksheet #1: Mini Self-Assessment—Nonformal Environmental Education Program Development

Alternatively—

Activity: String Theory
In this activity, participants think about how they have developed nonformal environmental education programs in the past.

Materials Needed
✓ 3 x 5 cards or slips of paper
✓ Yarn or string or ribbon
✓ Paper clips
✓ Colored markers
✓ Any other items that could be used to build a model
✓ Handout #2: Nonformal Environmental Education Programs Summary Sheet

Procedure
1. Ask the participants to think about the process they used in the past to develop nonformal environmental education programs (i.e., what is their typical program development process?). Individually, they should outline (brainstorm) their steps in their journal or on 3 x 5 cards. Give them about five minutes to outline their steps.
2. After most individuals have completed their task, form new groups (two to four people per group).
3. With the others in their group, ask participants to compare their program planning steps.
4. After they have discussed their planning steps, ask each group to create a model of their combined nonformal program development process.
5. Remind them that program development is not necessarily a linear process. Point out the model building materials at their table (yarn, paper clips, 3 x 5 cards, markers, etc.). Encourage them to be creative.
6. When most groups have completed their models, distribute copies of Handout #2: Nonformal Environmental Education Programs Summary Sheet (one-page overview of the six key characteristics). Give participants a few minutes to review the key characteristics and compare them to their model.

Wrap-Up
Ask the participants how their models compared to the six key characteristics? Which key characteristics were included in their models? Where any not included? Had they included steps that they didn’t see represented on the summary sheet? Were there any surprises?

Getting into the Six Key Characteristics
Hand out copies of Nonformal Environmental Education Programs: Guidelines for Excellence to each participant. Quickly walk them through the book, showing them how the guidelines are organized (e.g., six key characteristics, guidelines, indicators, appendices). Tell the participants that you will be exploring each of the key characteristics in more depth throughout the rest of the workshop, and that you will begin with Key Characteristic #1.
Key Characteristic #1: Needs Assessment

Key Characteristic #1: Needs Assessment focuses on the design of programs to address identified environmental, educational, and community needs and to produce responsive, responsible benefits that address those identified needs.

Lead a short discussion of needs assessment. Have any of the participants conducted a needs assessment—formally (e.g., survey, focus groups, etc.) or informally (e.g., discussion with conference participants, casual observation of visitor behavior)? During the discussion, reinforce the importance of not reinventing the wheel (Guideline 1.2). Ask each group to revisit their individual Mini Self-Assessments or group String Theory model. To what extent had they included some type of needs assessment?

Definition of Needs Assessment—The part of the overall planning and evaluation cycle that ascertains the need for a particular program by considering such things as audience interest and knowledge, environmental conditions, etc. Also known as front-end evaluation.

Activity: Characterizing Your Audience (Guideline 1.3)

Working in small groups, participants analyze an assigned audience, looking at what we might know about that audience, and what we need to learn about the audience. They will be asked to describe their assigned audience, think about how to differentiate audiences, and consider implications for program planning. (45 minutes)

Materials

✓ Handout #3: Scenario cards for Characterizing Your Audience (printed off and cut into strips)
✓ Handout #4: Characterizing Your Audience
✓ PowerPoint slide with needs assessment steps

Procedure:

1. Divide participants into small groups (up to five groups of two to four participants per group).
2. Assign each group a different scenario to analyze (there are five).
3. Give each group a copy of Handout #4: Characterizing Your Audience.
4. Ask participants to complete the worksheet as a group, describing their assigned audience in terms of possible characteristics such as background knowledge and interests, prior training, attitudes and biases, potential interest in attending a training, ability to attend training, and relevant cultural characteristics.

Scenario Cards: Characterizing Your Audience

1. Audience: Local Officials
   - Many communities statewide are struggling to update their combined sewer systems.
   - Local officials are elected; in some of the larger municipalities their jobs are full time; in some of the smaller ones they are volunteers serving part time as officials.

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1 Scenario cards are adapted from training materials developed by the National Oceanic and Atmospheric Association (NOAA) Coastal Services Center.
2. **Audience: Nonprofit Conservation Groups**  **Issue: Nonpoint Source Pollution**
   - Local and regional conservation groups such as the local Audubon Society, the Friends of the State Parks, the Nature Conservancy, and the Sierra Club are beginning to work with the public and local communities to reduce run-off and heighten awareness of nonpoint source pollution.
   - Although the groups know the basics, there is some misinformation being given out. Actions being supported to date have been “stop littering” campaigns and storm-drain stenciling.

3. **Audience: K–8 Classroom Teachers**  **Issue: Nonpoint Source Pollution**
   - There has been a recent acknowledgment at the state level that students should learn about water (elementary level) and water quality (middle school level) as part of the curriculum.
   - Teachers are now working to incorporate this information into their curriculum and lesson plans.

4. **Audience: Landscapers**  **Issue: Nonpoint Source Pollution**
   - Landscape businesses are booming. More and more residents are using landscape professionals to maintain their yards and gardens.
   - Nonpoint source pollution problems associated with increased nitrogen and phosphorus continue to grow.

5. **Audience: Immigrant Community**  **Issue: Nonpoint Source Pollution**
   - Many members of this immigrant community fled a war in their region and came to the United States over the last 10–15 years.
   - Subsistence fishing is common within the community.

**Debriefing**
1. Bring the group back together for a quick sharing of each group’s scenario and the results of their analysis (two minutes per group). Or, alternatively, ask one to two groups to share their results in full, and then ask if any of the other groups have additional or different experiences that they would like to share.
2. Ask participants: If you were given the same audience, but a different topic, how would your analysis differ?
3. If you suggested that you needed more information about or from the audience, how might you go about collecting that information?

**Wrap-Up**
Ask participants to refer to the bullet points for Key Characteristic 1.3. How do these bullets relate to their scenario? Would any of their considerations change?

**Reflection—Journaling**
Using their journals to reflect on their own programs and the audiences that their programs serve, ask participants: How do you know what your program audiences need? Do you know if you are addressing their needs? How do you know this?
A Final Word on Needs Assessment

A Missed Opportunity: A Cautionary Tale

Depending on time, you may want to close out the discussion of audience needs by telling the following true story.

The Story
A new nature center, located on the outskirts of a medium-sized city, was just about to open. Staff members thought that it would be a great idea to design an EE program targeting an immigrant community in the city. They worked hard to develop a program that was hands-on and engaging for families. They scheduled the program for the last Saturday of the month. They printed fliers announcing the program and distributed them to businesses and organizations throughout the immigrant community’s primary neighborhood. Saturday came and Saturday went. No one came for their program.

What Went Wrong?
Ask the group what may have been missed as the nature center prepared their program?

Some Answers
The nature center forgot to talk to their target audience! It turns out that Saturdays are an important and very busy day for this community. Many members are actively involved in the local farmer’s market—as growers and as customers. The fliers were not translated into the community’s native language. Few had their own cars and there was no public transportation available to the nature center. Finally, community elders play an important role in sanctioning activities. The nature center staff had not reached out to the community elders for their input and approval.

The Upshot
The nature center staff realized that they needed to reach out to their target audience to determine what this specific community needed. After many conversations, community elders fully approved the program and its integration into the farmer’s market, and the marketing fliers were translated into the group’s native language. The result: a very vibrant and successful series of events.

Key Characteristic #2
Key Characteristic #2: Organizational Needs and Capacities focuses on the development of programs that support and complement their parent organization’s mission, purpose, and goals.

Ask participants if there are ever times when “mission creep” is appropriate? Ask participants to revisit their Mini Self-Assessment or their String Theory models. To what extent had they included issues related to their organization’s mission, needs or capacities? [10 minutes]

Activity: Too Good to Pass Up
In this activity, participants analyze a common question—when does reaching out to new audiences turn into organizational mission creep?

Materials
✓ Handout #5: Too Good to Pass Up for each group.
Procedure
1. Divide participants into small groups (three to five participants per group).
2. Give each group a copy of Handout #5: Too Good to Pass Up.
3. Ask participants to read and discuss the scenario.
4. Tell the groups that they should develop a list of questions and concerns they might use in preparing for their board meeting. In addition, they should think about the following questions: What do you need to know before you explore this partnership any further for your organization? What might be a “deal breaker?” What might motivate your organization to enter into the partnership? Provide this caution: If you find yourselves saying, “We assume that...” write the assumption down as a question or concern.
5. Each group should prioritize their questions and concerns and post them on chart paper.
6. Ask each group to report out or ask them to conduct a gallery walk (groups visit each poster, read the entries, and then move on to the next poster).
7. After all the groups have reported on their discussions or visited all of the posters, ask them to look at the indicators outlined in the Nonformal Guidelines (Guideline 2.1 bullet points) and compare the results.

Scenario (Handout #4: Too Good to Pass Up)
Your organization has been approached by a community-based group interested in forming a partnership. Your staff and board members have expressed a desire to work with this group previously. The group would like to work with your organization on a multiyear, grant-funded program designed to reach at-risk youth. Funding for the program is assured if your organization serves as the fiscal agent. The funder wants the community-based group to develop a program that will teach youth technology skills.

You are assigned to take this proposed partnership to your board of directors. In preparing for the meeting, develop a list of questions and concerns. What do you need to know before you explore this partnership any further for your organization? What might be a “deal breaker?” What might motivate your organization to enter into the partnership? Caution: If you find yourselves saying, “We assume that—,” write the assumption down as a question or concern.

Prioritize your questions and concerns. Put them up on flip chart paper.

Reflection—Journaling
Using their journals to reflect on their own programs and organizations, ask participants: Do you find yourself tempted to engage in projects that are outside the scope of your organization’s mission? Why? Whether you have or have not done so in the past, when might it be appropriate to engage in projects that could be considered “mission creep”?

Key Characteristic #3

Key Characteristic #3: Program Scope and Structure recommends that programs should be designed with well-articulated goals and objectives that state how the program will contribute to the development of environmental literacy.

Tell the participants that we are going to move on to Key Characteristic #3 with a focus on environmental education goals and objectives.
Activity: Where Is the Environmental Literacy?
In this activity, participants examine a series of lesson objectives and determine how they relate to an environmental literacy framework.

Materials
✓ Handout #6: Where Is the Environmental Literacy? Using Handout #6, prepare two envelopes for each group: Envelope #1 EE Objectives and Envelope #2 Environmental Literacy

Procedure
1. Divide the participants into small groups (three to five participants per group).
2. Explain that they will be asked to complete a simple matching exercise.
3. Give each group two envelopes: #1 EE Objectives and #2 Environmental Literacy
4. Tell participants to look carefully at the objectives and look carefully at the environmental literacy framework elements.
5. Ask participants to match each objective to the appropriate environmental literacy framework element.
6. After each group has completed the task, lead a discussion about their findings. Did they have any difficulties categorizing any of the lesson objectives? If some objectives were more difficult than others, ask them to describe their thinking. Was there at least one objective for each element of the environmental literacy framework?

Wrap-Up
1. Point out Appendix A (Smart Objectives) and Appendix B (Rubrics) as resources.
2. Point out guideline 3.3 Program Format and Delivery. Ask participants to describe the relationship between guideline 3.3 and guideline 3.1 Goals and Objectives for the program.
3. Ask participants to take a couple of minutes to compare their individual Mini Self-Assessment or group String Theory model to Key Characteristic #3.

Reflection—Journaling
Using their journals to reflect on their own programs, ask participants: Think about the programs offered for any age group, how well do you address all four components of environmental literacy? What aspects of environmental literacy do you address thoroughly? Which could use further development?

Key Characteristics #4 and #5

Key Characteristic #4 Program delivery Resources suggests that programs require careful planning to ensure that well-trained staff, facilities, and support materials are available to accomplish program goals and objectives.

Key Characteristic #5 Program Quality and Appropriateness suggests that programs be built on a foundation of quality instructional materials and thorough planning.

Activity: Deconstructing a Field Day
In this activity, participants are given a scenario and asked to brainstorm all the steps needed to ensure that a program will go off without a hitch. The checklists they create will be compared to the guidelines in Key Characteristics #4 and #5.
Procedure

1. Tell the participants that we are going to shift now to thinking about all the preparation that needs to go into implementing a program.

2. Read the following scenario to the participants:
Imagine that you have decided that your nature center wants to host a field day for your local community. You will be focusing on local water issues. The field day will take place at the local high school. You will set up 10 stations around the high school football field; each station will offer a hands-on activity for field day participants.

There’s a lot of work to be done before the community members arrive. Design a checklist of “to do” items, beginning with the day you decide you want to launch this program through to the arrival of the first participants.

3. Ask the participants to work in pairs, preferably with someone new.

4. Tell the participants that their assignment is to design a checklist of “to do” items, beginning with the day you decide you want to launch this program through to the arrival of the first participants. (20 minutes)

5. After the groups have completed their checklists, go around the room, asking each group to share one or two items on their checklist. After all the groups have shared, ask the participants to compare their checklist to the bulleted points outlined for Key Characteristic #4 and #5.

Wrap-Up

1. What guidelines did you include in your checklist? Which ones were missed completely?

2. What did you include that wasn’t included in either Key Characteristic #4 or #5?

3. Did your checklist seem to focus on one element of implementation planning more than another?

Reflection—Journaling

Using their journals to reflect on their own programs, ask participants: Look back at Key Characteristic #4. Think about one of your more complex programs to implement. What implementation tasks do you do well? What implementation tasks often seem to fall through the cracks? Now, look back at Key Characteristic #5. Thinking about the instructional materials you use, what are some of the ways you ensure that you are using quality instructional materials? What might you include in the future?

**Key Characteristic #6**

**Key Characteristic #6 Evaluation** focuses on the need to define and measure results to improve current programs, ensure accountability, and maximize the effects of future efforts.

Tell the participants that we are going to move on to a new topic—evaluation. Who has conducted an evaluation? Ask them to describe their experiences briefly. Point out to the participants that we have been talking about evaluation all day—refer them to the note at the beginning of Key Characteristic #6. Evaluation is included throughout successful nonformal programming.

Tell the participants that there are different types of evaluation that take place at different points in the program development cycle. Remind them that we talked about needs assessment earlier in the day. Briefly introduce concepts of formative evaluation or summative evaluation.
Definitions

**Needs assessment:** The part of the overall planning and evaluation cycle that ascertains the need for a particular program by considering such things as audience interest and knowledge, environmental conditions, etc. Also known as front-end evaluation.

**Formative evaluation:** Collecting information and data about your program during its implementation with the goal of using the information and data to improve the program as it is implemented.

**Summative evaluation:** Focuses on the documentation of outputs (e.g., number of participants reached, number of events held) and impacts or outcomes (e.g., level of knowledge gained, changes in social, economic, or environmental conditions) of the program once it is completed.

**Activity: Evaluating Everyday Items Using Evaluation Logic**
In this activity, participants take a normal, everyday experience, such as deciding which pen and pencil to buy or use and think about what it takes to make evaluative criteria, standards, and judgments explicit.

**Materials**
- ✓ Four different types of pens or pencils (one set of four different pens or pencils for each group). That is, give each group one 0.3 ballpoint pen, one 0.7 ballpoint pen, one highlighter, and one felt-tip pen. Put a label on each pen type (e.g., A, B, C, D).
- ✓ Handout #7: Evaluating Pen Evaluation Logic

**Note:** This activity can be done with any kind of object such as pencils or food items (e.g., types of chocolate chip cookies, different types of popcorn)—but the key is that there must be discernable differences between each item (e.g., buttered popcorn, caramel popcorn, salted popcorn, kettle corn). For example, with pens you will want to provide a set of pens that have a variety of characteristics: ballpoint versus ink pen, type of grip or barrel size, fine point versus medium point, felt-tip pen vs. highlighter, etc.

**Procedure**
1. Tell participants that they will be conducting an evaluation of pens. Explain that this is an exercise in understanding the underlying logic behind evaluation.
2. Ask participants to get into groups of three to five people.
3. Provide each group with four different types of pens (labeled A, B, C, and D).
4. Ask participants to keep notes on their process, the decisions they made, and any challenges they experienced.
6. Explain that they are to first discuss and complete the first two columns on the handout—the criteria for which pens should be judged and the standards that should be used to judge a pen.
7. Tell participants to then write with each pen and complete the third and fourth columns on the handout.
Wrap-Up
1. How would you describe your experience in establishing criteria for evaluating the pens? Was it difficult? What were some of the things you discussed in your group?
2. How did you determine what standards to use when judging the pens against your criteria? Were you all in agreement on these standards? How did you reconcile your differences?
3. How comfortable were you with your final judgment about which pen was best and which you would recommend?
4. How could you use a similar method to evaluate an aspect of your own program?
5. Once the group has finished discussing evaluation, point out Appendix E (Logic Model). Explain that more and more grant funders are requiring logic models or similar types of information. Explain to the group that every program has multiple elements that can be considered for evaluation. In the long term, you might want to develop a logic model for your program. This will help you map out an evaluation strategy. Evaluation can be complex and expensive. In the end you will need to determine which aspects are most important to you and your organization to achieve program success.

Reflection—Journaling
Have you ever evaluated a program before? If so, what did you learn? If not, why not? In the future, how can you use program evaluation to improve your programs? (10 minutes)

Pulling It All Together 10 minutes
As a culminating exercise, ask to reflect further on the six key characteristics and how they relate to their own program planning process.

Materials
✓ Handout #8: Self-Assessment Nonformal EE Program Development

Hand out copies of the Self-Assessment tool and give participants a few minutes to complete it. Discuss their reactions.

The Self-Assessment that you completed at the beginning of the workshop was a formative assessment to help us as facilitator understand what you already knew and how we should tailor our instruction. This Self-Assessment is a tool to help you reflect on your program. It is more detailed and a great resource for program assessment.

You can have participants complete the Self-Assessment in class or send it home with them as homework. You could even offer a follow-up conference call, webinar, Google Hangout, or other virtual environment to discuss their Self-Assessment and the plan they developed as a result of their Self-Assessment. This would assist with developing a stronger learning community and sustained professional learning.

Final Thoughts, Questions, and Workshop Evaluation 20 minutes

Materials
✓ Handout #9: Workshop Evaluation
Using *Nonformal Environmental Education Programs: Guidelines for Excellence* as a set of potential benchmarks, carefully reflect on your program development efforts. To what extent do you or does your organization incorporate each of the following when designing and implementing an environmental education program?

Key: **N** = Never  /  **S** = Sometimes  /  **M** = Most of the time  /  **A** = Always

<table>
<thead>
<tr>
<th>#1 Needs assessment</th>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
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<tbody>
<tr>
<td>Nonformal environmental education programs are designed to address identified environmental, educational, and community needs and to produce responsive, responsible, benefits that address those identified needs.</td>
<td>✓</td>
<td></td>
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<tr>
<td>✓ Environmental issue or condition</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>✓ Inventory of existing programs and materials</td>
<td>✓</td>
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<tr>
<td>✓ Audience needs</td>
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**Personal notes or questions:**

<table>
<thead>
<tr>
<th>#2 Assessment of organizational needs and capacities</th>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
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<tr>
<td>Nonformal environmental education programs support and complement their parent organization’s mission, purpose, and goals.</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>✓ Consistent with organizational priorities</td>
<td>✓</td>
<td></td>
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<tr>
<td>✓ Organization’s need for the program identified</td>
<td>✓</td>
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<td></td>
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<tr>
<td>✓ Organization’s existing resources inventoried</td>
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**Personal notes or questions:**

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<tr>
<th>#3 Determination of the program scope and structure</th>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
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<tr>
<td>Nonformal environmental education programs should be designed with well-articulated goals and objectives that state how the program will contribute to the development of environmental literacy.</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>✓ Goals and objectives for the program</td>
<td>✓</td>
<td></td>
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<tr>
<td>✓ Fit with goals &amp; objectives of environmental education</td>
<td>✓</td>
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<tr>
<td>✓ Program format and delivery</td>
<td>✓</td>
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<td>✓ Partnerships and collaboration</td>
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**Personal notes or questions:**
Nonformal environmental education programs require careful planning to ensure that well-trained staff, facilities, and support materials are available to accomplish program goals and objectives.

- Assessment of resource needs
- Quality instructional staff
- Facilities management
- Provision of support materials
- Emergency planning

### Personal notes or questions:

<table>
<thead>
<tr>
<th>#4 Program delivery resources</th>
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Nonformal environmental education programs are built on a foundation of quality instructional materials and thorough planning.

- Quality instructional materials and techniques
- Field testing
- Promotion, marketing, and dissemination
- Sustainability

### Personal notes or questions:

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<th>#5 Program quality and appropriateness</th>
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Nonformal environmental education programs define and measure results to improve current programs, ensure accountability, and maximize the effects of future efforts.

- Determination of evaluation strategies
- Effective evaluation techniques and criteria
- Use of evaluation results

### Personal notes or questions:

<table>
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<th>#6 Evaluation</th>
<th>N</th>
<th>S</th>
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### Needs assessment:
Nonformal environmental education programs are designed to address identified environmental, educational, and community needs and to produce responsive, responsible benefits that address those identified needs.

1.1 Environmental issue or condition
1.2 Inventory of existing programs and materials
1.3 Audience needs

### Organizational needs and capacities:
Nonformal environmental education programs support and complement their parent organization’s mission, purpose, and goals.

2.1 Consistent with organizational priorities
2.2 Organization’s need for the program identified
2.3 Organization’s existing resources inventoried

### Program scope and structure:
Nonformal environmental education programs should be designed with well-articulated goals and objectives that state how the program will contribute to the development of environmental literacy.

3.1 Goals and objectives for the program
3.2 Fit with goals and objectives of environmental education
3.3 Program format and delivery
3.4 Partnerships and collaboration

### Program delivery resources:
Nonformal environmental education programs require careful planning to ensure that well-trained staff, facilities, and support materials are available to accomplish program goals and objectives.

4.1 Assessment of resources needs
4.2 Quality instructional staff
4.3 Facilities management
4.4 Provision of support materials
4.5 Emergency planning

### Program quality and appropriateness:
Nonformal environmental education programs are built on a foundation of quality instructional materials and thorough planning.

5.1 Quality instructional materials and techniques
5.2 Field testing
5.3 Promotion, marketing, and dissemination
5.4 Sustainability

### Evaluation:
Nonformal environmental education programs define and measure results to improve current programs, ensure accountability, and maximize the effects of future efforts.

6.1 Determination of evaluation strategies
6.2 Effective evaluation techniques and criteria
6.3 Use of evaluation results
Handout #3
Scenario Cards: Characterizing Your Audience

1. **Audience**: Local Officials  
   **Issue**: Nonpoint Source Pollution  
   - Many communities statewide are struggling to update their combined sewer systems.  
   - Local officials are elected; in some of the larger municipalities their jobs are full-time; in some of the smaller ones they are volunteers serving part-time as officials.

2. **Audience**: Nonprofit Conservation Groups  
   **Issue**: Nonpoint Source Pollution  
   - Local and regional conservation groups such as the local Audubon Society, the Friends of the State Parks, the Nature Conservancy, and the Sierra Club are beginning to work with the public and local communities to reduce run-off and heighten awareness of nonpoint source pollution.  
   - Although the groups know the basics, there is some misinformation being given out. Actions being supported to date have been “stop littering” campaigns and storm-drain stenciling.

3. **Audience**: K–8 Classroom Teachers  
   **Issue**: Nonpoint Source Pollution  
   - There has been a recent acknowledgment at the state level that students should learn about water (elementary level) and water quality (middle school level) as part of the curriculum.  
   - Teachers are now working to incorporate this information into their curriculum and lesson plans.

4. **Audience**: Landscapers  
   **Issue**: Nonpoint Source Pollution  
   - Landscape businesses are booming. More and more residents are using landscape professionals to maintain their yards and gardens.  
   - Nonpoint source pollution problems associated with increased nitrogen and phosphorus continue to grow.

5. **Audience**: Immigrant Community  
   **Issue**: Nonpoint Source Pollution  
   - Many members of this immigrant community fled a war in their region and came to the United States over the last 10–15 years.  
   - Subsistence fishing is common within the community.

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2 Adapted, with permission, from NOAA Coastal Services Center, Training Activity: Characterizing Your Audience.
Characterizing Your Audience

Given the information provided about your audience and some “best guesses”:

1. How would the issue affect your audience? Why would they be interested in the issue?

2. How knowledgeable would they be about the issue? Would they be familiar with terminology?

3. How would they gain information related to the issue? Would they typically have access to education or information programs?

4. What are the barriers to their participation in education programs?

5. Would you recommend targeting this audience for the needs assessment? Yes or No? Explain your reasoning:

6. What information would you want to gather from this audience if you were to conduct a needs assessment?

7. What methods might you use to gather information from or about this audience?
Scenario
Your organization has been approached by a community-based group interested in forming a partnership. Your staff and board members have expressed a desire to work with this group previously. The group would like to work with your organization on a multiyear, grant-funded program designed to reach at-risk youth. Funding for the program is assured if your organization serves as the fiscal agent. The funder wants the community-based group to develop a program that will teach youth technology skills.

You are assigned to take this proposed partnership to your board of directors. In preparing for the meeting, develop a list of questions and concerns. What do you need to know before you explore this partnership any further for your organization? What might be a “deal breaker?” What might motivate your organization to enter into the partnership? Caution: If you find yourselves saying, “we assume that—,” write the assumption down as a question or concern.

Prioritize your questions and concerns. Put them up on flip chart paper.
Handout #6:
Where Is the Environmental Literacy?

Directions: There are nine learning objectives. Print off the sheet of learning objectives and cut them into strips (one learning objective for each strip of paper). There are four component parts of environmental literacy. Print them off and cut them into four strips. Create two envelopes for each group. Place the nine learning objectives in one envelope and the four environmental literacy components in the second envelope. Ask participants to match the individual learning objectives to the appropriate environmental literacy element.

Learning Objectives (Envelope #1)

Students will describe and give examples of producer-consumer, predator-prey, and parasite-host relationships.

Students will understand that uneven distribution of resources influences their use and perceived value.

Students are able to evaluate the consequences of specific environmental changes, conditions, and issues for human and ecological systems.

Students will consider their personal environmental impact when making daily decisions.

Students will take initiative to solve a local environmental at their school or in their community

Students will be able to locate and collect information about the environment and environmental topics.

Students are able to design a simple investigation.

Students know how to design investigations to answer specific questions about the environment.

Students will evaluate whether personal involvement in particular actions is warranted, considering factors such as their own values, skills, resources, and commitment.
Environmental Literacy (Envelope #2)

Strand 1: Questioning, Analysis, and Interpretation Skills
Environmental literacy depends on learners' ability to ask questions, speculate, and hypothesize about the world around them, seek information, and develop answers to their questions. Learners must be familiar with inquiry; master fundamental skills for gathering and organizing information; and interpret and synthesize information to develop and communicate explanations.

Strand 2: Environmental Processes and Systems
Environmental literacy is dependent on an understanding of the processes and systems that comprise the environment, including human social systems and influences. Students develop an understanding of how changes in one system (hydrosphere, atmosphere, geosphere, and biosphere) results in changes in another. They develop an understanding of how human activities affect environmental quality and long-term sustainability at local, tribal, national, and global levels. These understandings are based on knowledge synthesized from across traditional disciplines. The guidelines in this section are grouped in three sub-categories:
2.1—Earth’s physical and living systems
2.2—Humans and their societies
2.3—Environment and society

Strand 3: Skills for Understanding and Addressing Environmental Issues
Skills and knowledge are refined and applied in the context of environmental issues at varying scales. Environmental literacy includes the abilities to define, learn about, evaluate, and act on environmental issues. Students investigate environmental issues; consider evidence and differing viewpoints; and evaluate proposed action plans, including likely effectiveness in specific environmental, cultural, social, and economic contexts. They analyze the intended and unintended consequences of their own actions and actions taken by other individuals and groups, including implications for long-term environmental, social, and economic sustainability. In this section, the guidelines are grouped in two sub-categories:
3.1—Skills for analyzing and investigating environmental issues
3.2—Decision-making and citizenship skills

Strand 4: Personal and Civic Responsibility
Environmentally literate community members are willing and able to act on their own conclusions about what should be done to ensure environmental quality, social equity, and economic prosperity. As learners develop and apply concept-based learning and skills for inquiry, analysis, and action, they also understand that what they do individually and in groups can make a difference.
Learning Objectives—Answer Sheet

Students will describe and give examples of producer-consumer, predator-prey, and parasite-host relationships. [Answer: Strand 2]

Students will understand that uneven distribution of resources influences their use and perceived value. [Answer: Strand 2]

Students are able to evaluate the consequences of specific environmental changes, conditions, and issues for human and ecological systems. [Answer: Strand 3]

Students will consider their personal environmental impact when making daily decisions. [Answer: Strand 4]

Students will take initiative to solve a local environmental issue at their school or in their community [Answer: Strand 4]

Students will be able to locate and collect information about the environment and environmental topics. [Answer: Strand 1]

Students are able to design a simple investigation. [Answer: Strand 1]

Students know how to design investigations to answer specific questions about the environment. [Answer: Strand 1]

Students will evaluate whether personal involvement in particular actions is warranted, considering factors such as their own values, skills, resources, and commitment. [Answer: Strand 3]
### Handout #7

**Evaluating Pen Evaluation Logic**

<table>
<thead>
<tr>
<th>Establishing Criteria</th>
<th>Constructing Standards</th>
<th>Measuring Performance and Comparing with Standards</th>
<th>Synthesizing and Integrating Evidence into Judgment of Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the dimensions or criteria on which a pen should be judged (e.g., type of ink, smearing, ink flow, aroma, how fast the ink dries)?</td>
<td>How well should the pen perform on each of the dimensions (What are your standards)? Develop a rating system.</td>
<td>Based on your criteria for a good pen, how well does each pen measure up against the standards you set?</td>
<td>Which pen is worth buying?</td>
</tr>
</tbody>
</table>

**Which pen would you recommend, and why?**

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**Part II: Now, use the same procedure, but apply it to an environmental education program.**

<table>
<thead>
<tr>
<th>Establishing Criteria</th>
<th>Constructing Standards</th>
<th>Measuring Performance and Comparing with Standards</th>
<th>Synthesizing and Integrating Evidence into Judgment of Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the dimensions or criteria on which a program should be judged? (Think about some discrete aspect of a program—lesson plan, facilities, instructors . . . what criteria for the aspect under evaluation?)</td>
<td>How well should the program perform on each of the dimensions (What are your standards)? Develop a rating system.</td>
<td>Based on your criteria for a good program, how well does each aspect measure up against the standards you set?</td>
<td>What features of the program are outstanding? What features could use improvement?</td>
</tr>
<tr>
<td><strong>Sample criteria for facilities:</strong> Views to the outdoors Acoustics Comfort of seating Food Can control thermostat Few to no hazards ADA Compliant</td>
<td><strong>Rating: Views to the outdoors.</strong> 1. No window 2. Clerestory window 3. Small window - views for few participants 4. Windows with views for most participants 5. Windows with views for all participants</td>
<td><strong>Rate the room that you are in using the criteria established</strong></td>
<td><strong>Describe your judgment</strong> You can see lots of green; lots of natural light</td>
</tr>
</tbody>
</table>
## Self-Assessment: Nonformal Environmental Education Program Development

Using *Nonformal Environmental Education Programs: Guidelines for Excellence* as a set of potential benchmarks, carefully reflect on your program development efforts. To what extent do you or does your organization incorporate each of the following steps when designing and implementing an environmental education program?

**Key:** N = Never / S = Sometimes / M = Most of the time / A = Always

### #1 Needs Assessment
<table>
<thead>
<tr>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify environmental issues to be addressed</td>
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<tr>
<td>Inventory existing programs</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Seek input from community and potential audiences</td>
<td></td>
<td></td>
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</tbody>
</table>

### #2 Assessment of organizational needs and capacities
<table>
<thead>
<tr>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider goals and priorities of parent organization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify parent organization’s need for the program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine resources and capacities of parent organization</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### #3 Determination of the program scope and structure
<table>
<thead>
<tr>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop program goals and objectives</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Assess overall fit with field of EE (e.g., use <em>K-12 Environmental Education: Guidelines for Excellence</em>).</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Determine format, techniques, and training needs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explore potential for partnerships</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### #4 Program delivery resources
<table>
<thead>
<tr>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess logistical and resource needs</td>
<td></td>
<td></td>
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<tr>
<td>Assess staff competencies and training needs (e.g., use <em>Professional Development of Environmental Educators: Guidelines for Excellence</em>).</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Safe and appropriate facilities are available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arrange needed facilities, supplies, and equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency plans are in place</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### #5 Program quality and appropriateness
<table>
<thead>
<tr>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain or develop educationally sound materials (e.g., use <em>Environmental Education Materials: Guidelines for Excellence</em>).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field test new instructional materials</td>
<td></td>
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<tr>
<td>Promote, market, and disseminate program</td>
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<tr>
<td>Develop sustainability strategies</td>
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</tbody>
</table>

### #6 Evaluation
<table>
<thead>
<tr>
<th>N</th>
<th>S</th>
<th>M</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop evaluation strategies, techniques, and criteria</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Implement practical program evaluation</td>
<td></td>
<td></td>
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<tr>
<td>Use evaluation results in the development of programs</td>
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</tbody>
</table>
Now that you have completed the first checklist, what do you know? Take a few minutes to tally the results of your self-assessment in the table provided below. This should provide you with an overview of the results of your self-assessment.

<table>
<thead>
<tr>
<th>Key: N = Never / S = Sometimes / M = Most of the time / A = Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Needs Assessment (three guidelines)</td>
</tr>
<tr>
<td>#2 Assessment of organizational needs and capacities (three guidelines)</td>
</tr>
<tr>
<td>#3 Determination of the program scope and structure (four guidelines)</td>
</tr>
<tr>
<td>#4 Program delivery resources (five guidelines)</td>
</tr>
<tr>
<td>#5 Program quality and appropriateness (four guidelines)</td>
</tr>
<tr>
<td>#6 Evaluation (three guidelines)</td>
</tr>
</tbody>
</table>
Self-Assessment, Part III

Now that you have summarized your self-assessment, what can you say about the strengths and weaknesses of your program development process? Identify any changes you might make to the program design and implementation process.

<table>
<thead>
<tr>
<th>Areas of Strength</th>
<th>Areas that Need to be Enhanced or Strengthened</th>
<th>Specific Actions to Address Self-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
Handout #9

Workshop Evaluation

Thank you for your interest in the National Project for Excellence in Environmental Education! Your responses will be used to improve this and other programs supported by NAAEE.

What grade do you give this workshop?  

A B C D F

Why did you give it that grade?

How strongly do you disagree or agree with the following? Circle one for each.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Unsure</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will recommend this workshop to colleagues or other professionals.</td>
<td>1 2 3 4 5 6 7 NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This workshop was much better than other workshops I have participated in.</td>
<td>1 2 3 4 5 6 7 NA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Within the next year, I intend to

... improve my EE efforts by using the Guidelines

... share what I learned with colleagues and other professionals.

Describe three ways you can use the Guidelines to improve your own or others’ EE efforts:
How can this workshop be improved to better meet your EE, professional, or other needs?

What is your current profession? *Check all that apply.*

- Pre-K–12 teacher
- Preservice teacher
- Nonformal educator
- College or university Instructor
- Resource developer
- Program director
- Conservation or natural resource professional
- Other ______________________

Who do or will you teach? *Check all that apply.*

- Preschool
- K–2
- 3–5
- 6–8
- 9–12
- Teachers
- Preservice teachers
- Other college or university students
- College or university Instructors
- Program directors
- Resource developers
- Conservation or natural resource professionals
- Families
- Other ______________________
- Not applicable

Number of years you have been an environmental educator: About ________ years

Number of students or participants you typically teach or reach per year: About ______________________  □ NA

The students or participants you primarily work with come from: *Check one.*

- Urban
- Suburban
- Rural
- Tribal
- Mix of areas

THANK YOU!