
Through interpretation, understanding; through understanding, appreciation; through appreciation, protection.-

- from Tilden, F. 1957. *Interpreting Our Heritage*.

INTERPRETATION AND OUTREACH

Interpretation is a way of communicating that translates technical concepts of natural science into terms and ideas that are easily and readily understood by nonscientists.

The formal definition is: *Interpretation is a communication process, designed to reveal meanings and relationships of our natural heritage, through involvement with landscapes, sites and objects.*

Interpretation is the transfer of ideas and relationships, rather than isolated facts and figures. Of course interpreters use factual information. These facts are used to illustrate points and clarify meanings. The meanings and messages are what we are trying to communicate - not just the facts.

This is what makes interpretation different from conventional education or teaching. Usually the goal of a teacher is to communicate facts alone. Interpreters use facts as a tool to help our audiences understand or appreciate what we're trying to explain. Carefully selected facts may be instructive, supportive, illustrative but they are never the ends themselves. The interpretive message answers "Well, what about it" or "Why should I care?" questions that arise subconsciously or consciously in the minds of the audience.

Four Characteristics of Interpretation

1) ENJOYABLE

Some Master Naturalist presentations serve as entertainment for some groups' monthly meeting, or as a welcome break from the regular classroom routine. The audience may or may not be particularly interested in natural areas, but that doesn't really matter. If your presentation is pleasurable and entertaining they will pay attention.

To make information pleasurable and entertaining:

- Use two-way communication - talk and listen to your audience.
- Use humor, music, props, etc.
- Use active, not passive verbs.

2) RELEVANT

Make the information meaningful and personal to the audience. Meaningful information has context. The interpreter must make the connection to something the audience already *knows* about, and then, also must link it to something they *care* about.

Information becomes meaningful when it is connected to our inner circle of highly personal matters (ourselves, our families, our health, our quality of life, our values, principles, beliefs, convictions). That's when our audience's attention is captured and held. This is a very powerful tendency.



To make information relevant:

- Use self referencing - Get the audience to think about themselves and their own experiences as you give them new information.
- Use labeling - This is classifying or labeling people. Labels can be positive, negative, or neutral. **BE CAREFUL!** Sometimes you can offend people unintentionally even with positive and neutral labels:

Positive label: “Those of us who understand how wetlands function...”

Negative label: “If you don’t care about prairies, then you probably don’t care about...”

Neutral label: Coloradoans”

3) ORGANIZED

Interpretive presentations are organized and easy to follow. Your audience will not exert much effort trying to follow what you’re saying. Make it

easy for them. Keep main ideas to five or less and select them based on the main theme (see below). Be sure you have a definite beginning (introduction), middle (body), and ending (conclusion).

4) THEMATIC

Every interpretative presentation has a theme or message. A theme is not a topic. A topic is the subject matter, the theme is the message about the topic. There are many themes about the same topic, each with a different story to tell. Information with a theme is more meaningful and easier to follow than information with no theme.

A theme is not the same as the topic. Once you choose the theme, you know exactly what information you need to get the message across. This forms the basis of your talk. If you have only a topic (“birds”; “insects”; “mammals”), there’s virtually no limit to the number of themes. Presentations without

themes are usually chock full of factual information, but are scattered and hard to follow. Presentations with a theme are going somewhere.

With a theme, it’s easy to organize the facts and supportive details for an effective presentation. After your talk, if a member of the audience is asked “What was that presentation about?”, their answer should be your theme.

In all your presentations and talks take an interpretive approach.

Every good theme:

1. is a short simple sentence.
2. contains one specific idea.
3. reveals the purpose of your presentation.
4. is not necessarily the title of your presentation.

SUGGESTED READING

1. Beck, Larry and Cable, Ted. 1998. *Interpretation for the 21st Century*. Sagamore Publishing, Chicago.
2. Brochu, L. and Merrimam, T. 2003. *Personal Interpretation*. Interpress.
3. Gross, M. and Zimmerman, R. 1994. *The Interpreter’s Guidebook: Techniques for Programs and Presentations*. Foundation Press, Univ. of Wisconsin.
4. Ham, S. 1992. *Environmental Interpretation: A Practical Guide for People with Big Ideas and Small Budgets*. North American Press, Golden, CO.
5. Knudsen, Cable and Beck. 1995. *Interpretation of Cultural and Natural Resources*. Venture Publishing Inc. State College, PA.
6. Tilden, F. 1957. *Interpreting Our Heritage*. Univ. of N. Carolina Press



GUIDELINES FOR EDUCATION AND OUTREACH

Five types of programs:

1. School Field Trips
2. Community Programs
3. Indoor Programs and Slide Shows
4. Events and Booths
5. Stewardship Projects

Use the principles of interpretation in every outreach type.

Community Programs

Leading a group of people along a trail or into a natural area is not difficult, but some do's and don'ts will add to your effectiveness.

Plan your theme. This often requires one or more reconnaissance visits to the natural area or visiting some likely areas to help you decide which would be best. This will depend on several things:

- your area of expertise and interest.
- the time of year.
- the target audience.

Rehearse the field trip ahead of time. Check the amount of time it will take, find appropriate places to stop, and identify special features to examine. Plan for more time than you think you need!

Always arrive early at the meeting place. Remain there and don't walk around as you will only confuse visitors planning to go on the field trip. When people arrive at the meeting place they expect to see the leader. If you do not stay at this location, many people may be uncertain as to whether they are at the correct place.

* **Greet people as they arrive** - don't let them just stand there. Introduce yourself. The group needs to know who you are. Engage early comers in conversation, developing rapport with the group while waiting for everyone to show up. This helps make them a part of the group and helps to get each person acquainted with others on the tour.

Start the field trip on time. Don't wait around too long for possible late comers. People who arrived early or on time have made an effort to do so and should not have to wait for those less punctual.

Let people know what to expect ahead of time so they can dress appropriately and bring proper equipment. Identify any special activities they will be engaged in during the tour. State the distance to be covered and the time required. Let them know the route and where the walk is to end. Let them know you'll be doing evaluations at the end.

Safety is paramount. Inform the group of special conditions, such as rough terrain, wet ground, flowing water, possible presence of ticks, poisonous plants, rattlesnakes, lightning, other users, etc.

Many people have a profound fear of snakes. If you are in rattlesnake habitat, tell people ahead of time. Inform them about the natural history of rattlesnakes, and appropriate behavior to avoid snakes and how to be aware of them.

Conversely, exposure only to domesticated animals may leave people without appropriate re-

spect for wild animals. Your presentation cannot totally undo fears but your attitude will affect your audience.

Lightning occurs frequently in the summer when people are outside more. Read and follow the hand-out on lightning.

List some highlights and the objective of the field trip. Invite people to ask questions during the walk. Let them know how the walk is to be led -- if the group needs to stay together, the pace, etc.

Begin the walk leisurely, moving only a short distance from the starting point before making your first stop. This stop should be within sight of the starting point which allows latecomers to catch up.

Keep the lead at all times. Walk only as fast as the slowest in the group. This is especially important with children who often want to run ahead. If you do let them run ahead, they may incur an injury from an unexpected hazard, and one of your responsibilities is to make every effort to avoid injuries. If desired, the MNA can bring up the rear.

Plan your stops and wait for the group. One problem with groups in natural areas is getting them into a position where all can hear. This is especially important on a narrow trail. Those in the back may be annoyed because they are missing what the naturalist is explaining. Wait for everyone to get to the proper location. If necessary, arrange the group and direct people where to stand, but do not allow them to "bunch"

around you by going off the trail. You may also stop the group, and walk to the middle of the line or speak from an uphill vantage point if possible. Make use of switchbacks to address the group.

Model proper behavior. When visiting natural areas later, audience members will do what they saw you do, not what you told them to do. For example, we tell people to “stay on the trails.” As the leader, you also must stay on the trails. Take binoculars to get a better look at something far away, don’t go off the trail and bring it back to the tour group. Don’t pick plants to show the group, as you are setting an example. If you pick plants you may be sure your act is not overlooked.

Make sure you can be heard. Speak clearly, don’t talk too fast, and don’t shout. Stopping close to running water, in a windy place, or near traffic is not a good idea. Keep your voice low and address the group before entering the natural area or while at the periphery of the area as much as possible. Encourage people to sit or stand quietly for a short time to absorb the sounds, sights and smells.

Practice your verbal descriptions. When looking through binoculars or a spotting scope it is just as important to describe the location accurately to others as it is to find it yourself. Remember that some people may not have much experience using equipment in the field and may become frustrated if they can’t locate something. Be very specific in describing the location: “The first tree with no leaves, halfway up, on the left side, just in back of the darkest branch,” not “Over there in those trees” or “In the water.”

Involve the group. Encourage discussions, but don’t lapse into academic treatises. Draw on listener experience.

Do not keep the group in one place too long, as many will become restless. Have a simple activity for the children prepared for most stops (even if it’s simply looking at something, or perhaps touching something that you know will be there).

Don’t be afraid to say “I don’t know” No subject is so completely mastered that all the answers are known, and the average group can ask a vast assortment of questions on a variety of subjects. It is impossible to anticipate every question.

At the end of the field trip, gather the group and review the walk. This allows you to re-emphasize your theme and to tie the trip together into a total picture.

Hand out the evaluations! Allow some time for these to be completed and how important these are to the program.

Dismiss the group at the end

of the walk. Some people may be reluctant to leave wondering if it would be discourteous. Invite people to stay afterwards for questions and discussion.

Plant and animal collecting is prohibited without a permit.

No pets are allowed on the guided nature walks. While individuals are allowed to have leashed pets with them on some trails, they are not allowed to bring pets on guided nature walks.

Build flexibility into the field trip. The natural world is dynamic and constantly changing. Be prepared to alter your planned field trip as conditions warrant.

As more people visit our natural areas the more crucial it becomes for visitors to understand the guidelines for behavior.

Key messages:

* Natural areas are funded by your sales tax dollars and you are welcome to visit them.

* Natural areas are here for every one to enjoy a variety of experiences.

* Visitors can be stewardship partners with the Natural Areas Department by following the rules and volunteering.



Community Events, Trail Talks, and Roving Interpretation

Frequently Master Naturalists will host a table or booth at an event, or be stationed along a trail with some props, or simply be a presence at a trailhead to answer questions.

At these events, it is impossible to anticipate all the questions you might be asked by the general public. Feel free to say “I don’t know”. Refer questions to the Natural Areas Program staff. You can carry our business cards.

Be aware that some people will have complaints or negative comments they want passed along. Simply tell them that you will pass the information on to the Natural Areas Program. If they want a return phone call please get their name and number. It’s not necessary to comment on controversial issues; simply refer them to us.

Staffing a Table

There are several community events that we participate in regularly. Most of these occur on the weekends, and can be indoors or outdoors. City staff will assemble a display and materials based on the theme of the event. Master Naturalists staff the table in two-three hour shifts. Set up and take down may be part of your service.

When staffing a table or booth, it is best to stand behind or next to the table instead of sitting. This makes you much more approachable. Smile and make eye contact as people walk toward the booth or past it. It helps to ask a question such as “Would you like a butterfly sticker?” or “Would

like to play this game?” If someone doesn’t want to talk to you don’t push it. We have to be careful not to be in “salesperson mode”. At trail talks, have a theme! Think of some leading questions and don’t detail people for too long - they’re probably anxious to hike.

At community events, try not to get into long conversations with other Master Naturalists or people staffing nearby booths - you may not be aware of people approaching your table. Remember your first duty is to the public visiting the event. Most folks don’t want to interrupt a conversation and will bypass your table if you’re talking amongst yourselves. Likewise, try to be aware of people who might like to see your table while you’re talking to someone else. In other words, look at them and smile and tell them you’ll be right with them, and perhaps hand them some materials. Make sure plenty of materials are out on the table. Replenish as necessary.

This is an active volunteer duty - do not sit passively reading or watching people walking by. Try to be as approachable as possible.

Keep track of how many people visit your table, or stopped by your trail station, or that you talked with at the trailhead during your roving interpretation. You don’t have to estimate the number of people attending an event or natural area. We are interested in counting those *you* interacted with.



Indoor Programs and Slide Shows

Most indoor programs are for adult audiences and usually involve a slide show. Slide shows are often presented to audiences who are not frequent visitors to natural areas, so you have an opportunity to make a big impact on a segment of our population that we might not otherwise reach.

Prepare a slide show in much the same way as you would prepare any other presentation. Please check out the equipment well ahead of time and practice at home. Time your presentation. You may need to re-arrange your talk, or shorten or lengthen it but you won't know unless you practice. Plan on plenty of time to prepare - it can take many hours of preparation for a one-hour slide presentation.

Powerpoint presentations are fantastic tools if used correctly. We have some slide templates and guidelines to assist you. We also will provide as many pictures as we can, along with the laptop, flash drive and the projector.

At the beginning of the presentation, introduce yourself and your theme before dimming the lights. Slide projectors have a motor so remember to talk loudly - especially important when giving programs to seniors.

You can take questions during the slide show, or wait until the end when the lights are up and you can make eye contact. Please remember to repeat the questions so everyone is included in your response.

Don't forget that slide shows can have an interactive portion - pass around a skull or skin before or after the show, use handouts, ask questions, etc. Plan for participation and make time to include it.

Smile and have fun!



Education Stations

Stations are set up when we have large groups - usually school children and are lesson plan-based. Typically there are 3-5 stations and the students travel from one to another. The naturalist stays in the same location and repeats the activity for each group.

The students are divided into groups by the teacher and each group is accompanied by an adult. Enlist the adults' assistance if you have behavioral problems or assistance with carrying out the activity. Ask the schoolchildren to help with carrying or passing out materials. At the end of the activity, direct the group to the next station and be watching for your next group. Stations usually last 20-40 minutes with large groups; 45 minutes-one hour for older students or smaller groups. Transition time is built into the time frame.

The organization of the stations will be provided to you, so you know what the other stations are doing and where they are located. This helps ensure that there's no overlap. The MNs and MNAs should discuss who is picking up and returning equipment.



Wildlife Watching

Radios, tape players and loud boisterous noise are out of place in our natural areas, as is harassing wildlife (e.g., children are notorious for throwing rocks at flocks of birds to see them fly off, or startling an animal to make it turn for a better view.)

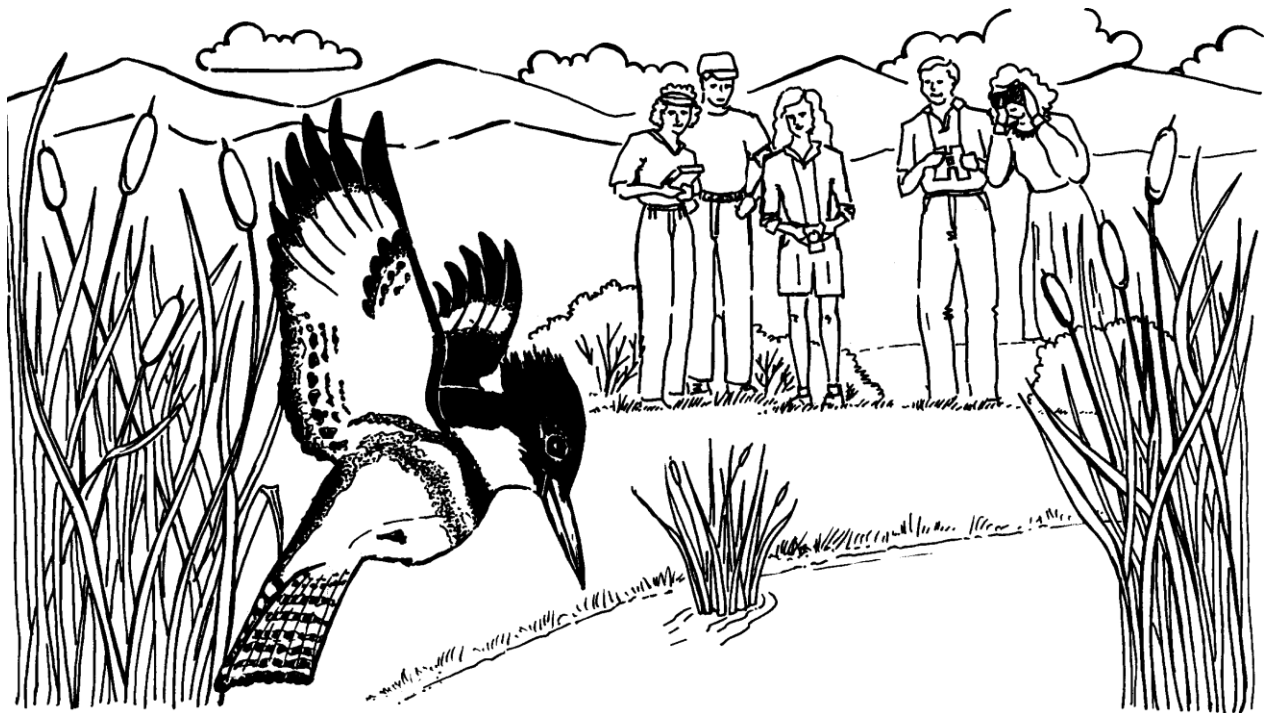
There is a fine, but distinct, line between watching wildlife and intruding upon it. Most animals perceive humans as a threat and are aware of human presence long before we are aware of them. If people get too close for comfort, wildlife will flee, which can burn up a lot of energy. Repeated episodes of disturbance begin to cut into energy reserves that animals need for escaping from real predators, raising young, or keeping warm. Use of binoculars and spotting scopes is essential for keeping this distance be-

tween you and wildlife at a comfortable level, yet allowing observation of their behavior.

You are getting too close if a bird or mammal raises its head, looks at you, shows signs of skittishness, or moves away and lowers its head. Other signs of disturbance in birds are excessive preening, bill wiping or pecking at food, alarm calls, repeated chirping, and distraction displays. Mammals may play dead, slap the ground with a paw, bare teeth or snort when their space has been invaded. Reptiles will play dead or hiss. Snakes will coil and open their mouths. Obviously if an animal charges or strikes, you are way too close. If you have inadvertently invaded an animal's space, avert your eyes and back away slowly.

Move toward wildlife in a roundabout manner instead of directly toward them. Avert your gaze and use your peripheral vision as many animals interpret a direct look as a threat.

Following these guidelines will increase the chances of encountering wildlife. There is nothing quite as rewarding as watching an animal go about its activities undisturbed by your presence.



THE RESOURCE ROOM AND FIELD EQUIPMENT

There is just as much beauty visible to us in the landscape as we are prepared to appreciate - not a grain more.

- Henry David Thoreau

The equipment and tools you take into the field greatly enhance your field trips. Equipment doesn't need to be expensive or sophisticated. The simplest tools are often the best.

The Master Naturalist Program has outreach materials and field equipment available on a check-out basis from the Resource Room. These include ready-made lesson plans, handouts and worksheets. Equipment such as binoculars, hand lenses, clipboards, art supplies, books etc. are also available. We have several lessons in boxes as well as additional material. These include educational activities as well as props and background materials. We also have a resource library. Call or email ahead to reserve materials or if you need help with programs. It's important to check materials in and out on the form provided and return the items promptly when finished.

Binoculars

Attempting to observe plants and animals without optical aid is to doom oneself to endless frustration. One of the most essential pieces of field equipment is a good pair of binoculars.

The Poudre School District and the City of Fort Collins Natural Areas Program have several classroom sets of binoculars available for check out.

Please have the students follow this procedure:

Hand out the binoculars in their cases. Have the students take

the binoculars out of the cases and leave them in the crates in your car, on the bus, or in the classroom. It is much easier for students to handle only the binoculars and not worry about the cases. When finished, participants need to put the binoculars back in the appropriate cases according to number and color.

It is very important that binoculars are not tossed back into the crates! This often ruins them. Please have students place them in the crates or hand them to you to return to crates. It's helpful if you count the number of binoculars and books that go out and recount them as they come back in to prevent loss.

How to Use Binoculars
Using binoculars proficiently may take some practice.

The larger end of the binocular is the *objective lens*. The lens of the eyepiece is the *ocular lens*. The numbers stamped on the shoulder plate indicate the magnification power and the diameter of the objective lens. For example, 7 x 35 indicates that the binoculars magnify everything seven times, and that the objective lens is 35 mm in diameter. The larger the diameter of the objective lens the greater the light gathering power or "brightness." A 7 x 50 binocular will deliver more light to the eye than a 7 x 35 binocular.

The obvious advantage of increased magnification is that enlarged objects are easier to see. While it magnifies the desired items, it also magnifies undesir-

able items — haze, dust, vibration, heat waves. As magnification is increased the frustration of holding the binoculars steady also increases. Breathing, a beating heart, and tired arms all contribute to unsteadiness and a resulting decrease in what is actually seen.



To fit the binoculars to your eyes, first adjust the “width” or interpupillary distance between the eyes. Block the left objective lens of the binoculars with your hand (or close left eye) and turn the right eyepiece until that side is in focus. Look at how the numbers and dots under the right eyepiece line up. This is now set for your eyes and you are ready to begin using your binoculars. The middle focusing wheel is for zooming in and out. This method adjusts for any difference in vision between your eyes. If you wear glasses, try rolling the rubber eyecap down and leave your glasses on.

Finding Stuff

It is especially exasperating to fail to find an object through binoculars that you can see without them. When focusing on a distant object visible to the naked eye, raise the binoculars to just below eye level while looking at the object, then raise the binoculars to your eyes and look through them. It takes only a bit of practice and patience to master and any effort is amply rewarded. Practice finding distance objects with your binoculars. Look at the object in the distance, then without moving your head, raise the binoculars to your eyes.

Spotting Scopes

Spotting scopes are useful in open areas, but can never replace binoculars. Scopes magnify from 20-60 times. The unsteadiness problem disappears because scopes are mounted on tripods.

Lots of people can take a peek through a scope. If the object of your attention moves, the scope can accommodate slight adjustments to track the animal.

The disadvantages of spotting scopes are that they are awkward to carry, and they are not maneuverable in close quarters. On an outing with a vehicle to a lake or prairie, a spotting scope adds greatly to the experience. In the close confines along rivers or through forests they are best left at home.

