



**Digging For the Best Bones**

# An Application of the Delphi Process At Hagerman Fossil Beds

By Ron West

The Delphi process is a procedure of written commentary and expanding feedback designed to gather information and ideas that otherwise would be impossible to amass without a common discussion group. It can be an inexpensive way to generate a great deal of valuable discussion on a wide range of topics.

The process works like this:

1. Determine what aspect of an issue needs looking into:
2. Compose a short list of open-ended questions to be presented to the participating group:
3. Determine who should be involved in the first iteration:
4. Solicit written answers to the first questionnaire, including a request for names of other colleagues who should be involved in the process:
5. Compile all comments anonymously, ask follow-up questions, and return to all participants for a second iteration, again requesting more participants:
6. Compile these new comments and return for a third and fourth iteration if necessary.

Participants need to understand that this is an open, subjective process, the only goals being to exhaust the possibilities of ideas and perhaps to reach a consensus on the issues represented by the questionnaire. The iterative process allows participants *anonymously* to evaluate and prioritize all suggestions generated by the group. The anonymity also helps to focus debate on content rather than source. Based on our Hagerman experience, it works.

## Application at Hagerman Fossil Beds

Newly-designated Hagerman Fossil Beds National Monument in southern Idaho is possibly the first park unit to have a clear, legislated mandate for research that equals its mandates for preservation and visitor use. In fact, the legislation calls for construction of a "center for continuing paleontological research," and for "orderly and regulated use of and research in the monument by qualified scientists." Since NPS expertise in paleontology is limited and the geologic time frames of the science are vast, we decided at the outset of the general management planning process that we needed professional help. We began by using the Delphi process.

A letter of introduction and a list of 5 questions was developed. Questions included those on a research facility, curatorial storage of specimens, protection of the deposits, interpretive ideas, and significance of the site. Most questions had a short lead-in statement for background, but the questions themselves were stated in an open, even naive, manner to generate a wide-ranging response. Participants were asked to reply with whatever level of detail they saw fit. Of the 19 participants originally sought, 10 were from universities, 5 from the NPS, and 4 from other federal or state agencies. We received responses from 12 of the 19; these respondents recommended 10 additional participants.

The only time-consuming part of the process proved to be compilation of the responses into a rational package for redistribution. For each question asked, we compiled the responses in a slightly different manner, attempting to summarize and organize the responses so as to elicit further questioning while not losing pertinent information.

For some questions, such as the one for interpretive ideas, we simply organized and listed all ideas and asked that they be ranked in priority order. For other questions we reiterated the responses verbatim, then posed a summarizing question asking for the participant's level of agreement with it. We used a sliding response of "strongly disagree, disagree, neutral, agree, and strongly agree." In this way we could more easily compile the next set of responses.

For one question—the type of research facility needed—the issue appeared to be so complex that the Delphi approach was inadequate to address it. This realization spawned a workshop at the park, involving 5 of the professionals. When such a workshop grows out of the Delphi process, it becomes a broad avenue rather than the blind alley it might otherwise be.

The 12-page second questionnaire was sent to 29 participants; we received responses and/or workshop participation from 18. (Copies of all Delphi documents are available on request.) Of these, 13 indicated they would be interested in serving on a long-term advisory group for the monument.

## Recommendations Emerge

The third (and in our case the last) iteration compiled the new responses into an 18-page document which was returned to the now 34 participants as information only. At this point, through a combina-

tion of meeting our primary objectives and losing GMP funding, we decided not to pursue further refinement of the discussions. This last document presented the consensus of the professionals involved and, for the first time, recorded in writing the planning team's recommendations on the various issues. It also summarized for the entire group the conclusions of the earlier workshop.

We believe the process was very useful, particularly given the modest outlay of time and money required. We were successful in getting the attention and involvement of many of the paleontologists who specialize in Hagerman's Pliocene environment, establishing an open dialogue with the professional community, eliciting a great deal of specific information and concerns, and in some cases diffusing inherent mistrust of the NPS in such a research endeavor.

## The Possibilities of the Delphi

I highly recommend this process. Its potential applications are limited only by our imaginations. The idea of using a Delphi surfaced in one of our first team meetings, and within a couple of hours we had typed out the first questionnaire. The process snowballed easily from there. Large quantities of information suddenly were ours for the asking. Except for the compilation of responses, all of the "effort" was generated by motivated, professional volunteers who wanted to have input and were interested in seeing us manage the monument well. From the outset, it is a captured audience, but the choice to be involved is theirs.

Conceivably, the process could be used anytime the NPS doesn't have enough information on an issue, a problem, an interpretive approach, a methodology, or whatever we're looking for. All that is necessary is that we admit we want some help and that we be open to input. Workloads being what they are, we probably should seek such assistance whenever it is in keeping with our processes and values. There are no strings attached that require us to follow suggestions or Delphi consensus if we have rational reasons for pursuing other approaches. The process also can work well with participants who are antagonistic toward one another and who thus might not work well face to face.

Some possible Delphi examples: resource specialists could be asked about management techniques for a given resource; superintendents of a given type of park (say, national seashores) could be asked how to approach a management concern in a similar unit; local professors could be asked if a certain resource is or is not significant, based on their own or our criteria; conservation biologists could be asked how to manage an area from an ecosystem perspective; or certain publics or user groups could be asked how best to meet their needs while meeting our mandates.

Extensive possibilities are there if we acknowledge them. So with this example of a successful Hagerman Fossil Beds exercise, I'll leave these bones in your backyard. Good luck with your digging.

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