

Communicating with Hunters and Ranchers to Reduce Lead Available to California Condors

Final Report

to

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And

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Submitted by:

D.J. Case & Associates
317 E. Jefferson Blvd.
Mishawaka, IN 46545
(574) 258-0100
phil@djcase.com

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Executive Summary

The issue of lead poisoning in California condors has been a topic of much discussion among condor biologists for many years. However, until recently, very little effort has been directed toward communicating with hunters and ranchers regarding this issue and what actions hunters and ranchers could take to help prevent lead poisoning in condors. This report represents the beginnings of the first systematic effort to communicate with hunters and ranchers on this issue. To be successful, this communication effort will require identification of messages that work with hunter and rancher audiences, followed by repeated delivery of these messages over a long-term time frame. A five-year time frame is anticipated, although success among various segments of the target audiences is likely to be achieved in a much shorter time frame.

The results obtained from all three telephone surveys and 11 focus groups suggest that a targeted communications effort can be effective in reducing condor exposure to lead from lead bullets, bullet fragments or lead shot pellets from unretrieved animals or in the gut piles of big game animals taken by hunters.

This assessment is based on the relatively low level of current hunter awareness of the issue of lead poisoning in California condors. While current awareness is low, a majority of hunters and ranchers surveyed or interviewed in this study indicated a willingness to take some action to help prevent lead poisoning of condors. However, very few knew what actions to take.

California hunters had a higher awareness than Arizona or Utah hunters. When directly asked, "Are you aware that lead poisoning is a problem currently faced by condors?", 45 percent of California hunters said "Yes," compared to 23 percent of Arizona hunters and 12 percent of Utah hunters.

However, only 24 percent of the California hunters responded "Yes" to the question, "Are you aware of any educational efforts to try and reduce the deaths of condors from lead poisoning?" This is compared to only 9 percent in Arizona and 2 percent in Utah.

Between 77 percent and 98 percent of hunters indicated that they would be "very willing" or "somewhat willing" to take action to help condors (it varied by state of residence and by the particular action being requested).

These results bode very well for achieving the goal of reducing condor poisoning and deaths from lead bullets, bullet fragments and/or lead pellets remaining in unretrieved animals or gut piles of big game animals.

In the past, a few communication efforts have been undertaken to address this issue. However, these well-intended efforts have not been based on research, not been strategic in scope, and in several instances, not been well implemented. It is telling that based on a survey of 200 California hunters (who hunt in condor range), only 24 percent were aware

of educational efforts to address this issue. Nonetheless these educational efforts have begun to raise awareness among hunters and ranchers.

The exposure pathway, (condors consuming lead bullets, bullet fragments or lead shot pellets from unretrieved animals or in the gut piles of big game animals taken by hunters), has been *viscerally known*, with some empirical evidence, by condor biologists for some time. However, only recently have scientific efforts been undertaken to clarify this pathway and demonstrate its extent and importance in the long-term survival of condors. While visceral knowledge may be compelling to condor biologists to convince them that this is a major issue, a doubting public demands more concrete evidence. This evidence should clearly establish a cause-and-effect relationship before regulatory actions are undertaken.

The science of establishing this cause-and-effect relationship is rapidly advancing, especially with the use of satellite telemetry devices to track condors and determine their foraging habits in the wild. While efforts are being made to determine scientifically how significant lead poisoning is to the survival of condors in the wild, there is enough evidence to indicate that this is an issue jeopardizing the well-being of condors, and that hunters and ranchers should take this issue seriously. However, much research remains to be able to scientifically describe the exact nature and importance of this exposure pathway.

A large portion of this report discusses the results of 11 focus groups. The focus groups allowed the researchers to test messages and explore the values of hunters and ranchers. The results were extremely insightful in providing information on the level of understanding and range of values held by hunters and ranchers on this issue.

One critical conclusion that came across very clearly in the research was:

If hunters and ranchers can be convinced that lead from bullets or shot is truly part of the problem and if they are ASKED by a credible source to become involved, they would do so.

In addition, it became very clear that, in conveying the message to achieve the buy-in needed, three elements were critical: ***what was said, how it was stated, and who delivered the message.*** While these are critical elements in successfully communicating with hunters and ranchers, they are not particularly difficult to achieve. However, to be successful, a solid communications plan needs to be developed and implemented by all stakeholders in this issue. Ad hoc communications, conducted outside of the communications plan, may not be effective and may actually damage the overall effectiveness of the communications plan.

The second major portion of the report is the development of a communications strategy. A communications strategy is different than a communications plan in that it identifies what core messages need to be delivered to each audience. A communications plan takes the next step and identifies how those messages will be delivered.

This report identifies: Priority messages, Supporting messages, and Priority messages for specific audiences. Additional detail on Supporting messages and Priority messages for specific audiences can be found on pages 24-26 of this report. For brevity only the Priority messages are listed here.

The focus group research suggests that the Priority messages listed below will be effective with a broad cross-section of hunters and ranchers.

Priority Messages

Given limited time, space, and/or budget, these messages are the priorities for each target group. They are the *first* things that should be mentioned in any communication event.

For big game hunters, varmint hunters and ranchers:

1. Hunters/Ranchers have a long history of caring for the land and conserving all kinds of wildlife. They can continue this tradition and help prevent lead poisoning in California condors by taking one or more of the following simple actions:
 - Using non-toxic ammunition where possible.
 - Hiding carcasses or gut piles by covering them with dirt, rocks, or brush, or placing them where condors can't get to them.
 - Retrieving all animals shot (including coyotes, other varmints, and livestock, where possible) from the field (Note: it is already required to retrieve all big and small game from the field).
2. A number of organizations, such as the Safari Club International (SCI), National Rifle Association (NRA), National Shooting Sports Foundation (NSSF), Sporting Arms and Ammunition Manufacturer's Institute (SAAMI), Wildlife Management Institute (WMI), state wildlife agencies, and others, have joined a partnership to try to reduce the amount of lead from spent ammunition available to condors. We can help by taking one or more of the following simple actions: [insert actions from above].
3. Some anti-hunting organizations may try to use the lead poisoning issue as a reason to close hunting seasons or reduce hunting opportunities in condor habitat areas. Voluntarily addressing this issue may reduce the risk of lawsuits and restrictions. We can be proactive by taking one or more of the following simple actions: [insert actions from above].

Lastly, it is important to note that this research did not occur in a vacuum. As research results were identified, they were shared with the cooperating state agencies so that they could be used in the state's communications with hunters and ranchers. A list of activities conducted by Arizona and California agencies while this research was being conducted is attached in Appendices F and G. These activities were influenced by and benefited from this research project.

Introduction

A number of free-ranging California condors are known to have elevated blood-lead levels, which could have major negative long-term impacts on the recovery of the species. There are several potential sources and pathways for this lead, and scientists are investigating all of them. One source being studied is ingestion of lead bullets, fragments of bullets, and/or lead shot pellets by condors.

In California, the condor is treated as an endangered species under the Endangered Species Act. In Arizona, the condor is covered under the 10(j) rule of the Endangered Species Act, which does not allow any non-voluntary changes to land management practices or other activities such as hunting to be made in the interest of the species.

Because this lead ingestion pathway involves hunters and ranchers, the CRT and leaders from the hunting community were interested in determining what role hunters in condor habitat areas might be willing to play to help reduce the exposure of lead bullets and shot to condors.

In September 2003, the Wildlife Management Institute (WMI) hired D.J. Case & Associates (DJCA) to gather baseline information about hunter knowledge and attitudes about this issue, conduct focus groups with hunters and ranchers to test messages that could potentially adjust behaviors to reduce the amount of lead available to wild condors, and develop a communications plan that identifies how to most effectively deliver the messages to the key target audiences.

This effort was an outgrowth of the work of the California Condor Lead Exposure Reduction Steering Committee (Committee), a Subcommittee of the California Condor Recovery Team (CRT). To guide its work the Committee adopted the following:

Statement of Purpose

The Committee's purpose is to develop a strategic plan to disrupt lead exposure pathways to condors from ammunition by fostering awareness and encouraging voluntary actions among firearms users.

Operating Principals and Guidelines

The following principles and guidelines will guide the Committee's operation and formulation of the strategic plan:

- We are not anti-hunting or anti-firearm ownership and use.
- We recognize the contribution of firearm users to conservation efforts; the hunting community is a valued and necessary partner, and their help is essential to this endeavor.

- We are working at the request of USFWS through the CRT.
- We recognize the relevant authority of state wildlife agencies.
- We acknowledge the differences in condor management under 10(j) and non-10(j) agreements and will adhere to commitments made in 10(j) agreement.
- We have a long-term commitment to this issue.
- Our focus is on eliciting voluntary cooperation and avoiding regulatory controls.
- We recognize lead as a toxin that affects other wildlife in addition to condors.
- While we recognize that there may be other sources of lead in the environment, we will focus our efforts on reducing lead poisoning from ammunition sources.
- Information we distribute will be science-based and represent the most current state of knowledge.
- We seek partners that commit to our key messages and whose organizational messages do not conflict with our operating principals.

These operating principles and guidelines are useful reference points to guide future efforts in communicating to hunters and ranchers on this issue.

Methods

From September 2003 to December 2004, DJCA coordinated the following project activities:

1. Phone Survey

The WMI and the U.S. Fish and Wildlife Service (USFWS) subcontracted Responsive Management (RM), (a public opinion and attitude survey research firm located in Harrisonburg, VA, that specializes in natural resource issues) to conduct phone surveys of hunters hunting in condor range in Arizona and Utah, to assess hunters' knowledge of and attitudes toward threats to condors. Chico State University (CSU) conducted a similar survey of California hunters under a contract with the WMI. The objective for the phone survey was to establish a baseline to measure subsequent changes in hunter/rancher knowledge and opinions regarding this issue, and obtain information that would be useful in the message development and testing phase of the project. All of the survey data was analyzed and RM wrote summary reports. The survey methodology is described in Appendices C-E. These reports are published separately.

2. Situation Analysis

In order to develop key messages for testing in focus groups, we gathered and reviewed background information from the following sources:

- Phone and in-person interviews with state wildlife agency personnel from Arizona, California, and Utah, and other condor technical experts.
- Phone interviews with CRT members and other stakeholders.
- Final Report: *Assessment of Lead Contamination Sources Exposing California Condors* (Fry and Maurer 2003).
- *A Report from the California Condor Lead Exposure Reduction Steering Committee, a Subcommittee of the California Condor Recovery Team* (2003).
- News releases, state agency hunting regulations information, newspaper articles, Internet and other news sources.

3. Message Development

Based on the situation analysis and initial phone survey results, we developed seven messages that we felt would communicate the most important or meaningful information about the California condor lead poisoning issue to hunters and ranchers. We wanted to find out what we could say to hunters and ranchers to best convince them to take action(s) to help conserve condors. The messages were written in non-technical, conversational style. We also developed four open-ended questions to help us gain a better understanding of hunter and rancher opinions and attitudes regarding the messages and condors in general. The Committee reviewed these messages and questions, and we incorporated their suggestions into the final versions that were tested in focus groups.

4. Focus Groups

After developing the messages, we recruited well-known hunters and ranchers from local communities to participate in focus groups. We worked with the state wildlife agencies in Arizona, California, and Utah to actively seek out participants who were perceived to be “influentials” or “early adopters” within their local areas. These are the type of people we hope to persuade with our final messages and communications strategy, so we wanted to get their firsthand reactions to our information. We gave each participant a \$50 stipend for offering his/her time and opinions in focus groups.

We tested the messages and open-ended questions in a series of 11 focus group discussions conducted in Arizona, California, and Utah (states with free-flying condor populations).

- Fredonia, AZ (hunters), 12-8-03
- Flagstaff, AZ (hunters), 12-10-03
- Phoenix, AZ (hunters), 12-11-03
- Monterey, CA (hunters), 5-19-04
- San Luis Obispo, CA (hunters), 5-20-04
- Santa Clarita, CA (hunters), 5-21-04
- San Diego, CA (hunters), 5-24-04
- Fillmore, CA (hunters), 7-6-04

- Bakersfield, CA (ranchers), 7-7-04
- Kanab, UT (hunters), 7-8-04
- Kanab, UT (ranchers), 7-9-04

5. Communications Strategy

The ultimate goal of this project was to develop a communications strategy that persuades hunters and ranchers in condor habitat areas to take action that minimizes lead from ammunition available to foraging condors. The phone surveys, situation analysis, message development, and focus group testing all were tools to help us identify the right things to say and the specific times and places to say them to convince hunters and ranchers to alter their behaviors, ultimately reducing the amount of lead available to condors.

Upon completion of the steps above, we reviewed the background information and research results, and created a draft communications strategy. We consulted with technical experts and state wildlife agency personnel to ensure that our proposed actions were realistic, and incorporated their suggestions into the final strategy.

Results

1. Phone Surveys

RM conducted phone surveys of hunters hunting in condor range in Arizona and Utah, to assess hunters' knowledge of and attitudes toward threats to condors. A similar survey of California hunters was conducted by CSU. Selected results are presented in Appendix A. Full survey reports are published separately as Appendices C-E.

The results obtained from all three of the telephone surveys indicate a high potential for a well-designed hunter education program to be successful. This assessment is based on the relatively low level of awareness among hunters of the issue of lead poisoning of California condors from lead bullets, bullet fragments and/or lead pellets remaining in unretrieved animals or gut piles of big game animals. However, the majority of hunters in each of the surveys indicated a very high willingness to take some action to prevent lead poisoning of condors if they knew what actions to take.

California hunters had a higher awareness than Arizona or Utah hunters. When directly asked, "Are you aware that lead poisoning is a problem currently faced by condors?", 45 percent of California hunters said "Yes," compared to 23 percent of Arizona hunters and 12 percent of Utah hunters. However, only 24 percent of the California hunters responded "Yes" to the question, "Are you aware of any educational efforts to try and reduce the deaths of condors from lead poisoning?" This is compared to only 9 percent in Arizona and 2 percent in Utah.

Depending on the particular action identified and state surveyed, between 77 percent and 98 percent of hunters indicated that they would be “very willing” or “somewhat willing” to take action to help condors.

These results bode very well for achieving the desired results of reducing condor poisoning and deaths from lead bullets, bullet fragments and, or lead pellets remaining in unretrieved animals or gut piles of big game animals.

2. Situation Analysis

We conducted informal interviews and gathered and reviewed background materials to give us an increased understanding of the issue and the stakeholders involved in it. A few of the major points are included here.

Condors are large, impressive birds that have captured the attention and the imagination of many people throughout the country. During the 1970s and 1980s, about half of the known condor population disappeared from the wild, and the total population was reduced to 22 birds. All remaining wild birds were captured in 1987 and an intensive captive reproduction program was begun. Reintroductions began in the early 1990s, and more than 100 birds have been reintroduced into the wild in Arizona, California, Utah, and Baja California, Mexico. The total population of both captive and free-flying birds at this writing is 246 birds.

Condors appear to be particularly susceptible to lead poisoning. With minor exceptions, all of the birds that have been released into the wild are recaptured annually for physical examinations and blood tests. Blood analysis has revealed that as much as 60 percent of these free-ranging condors have elevated blood-lead levels (higher than background levels). Several dozen with high levels of blood lead have received emergency chelation treatment to reduce toxic lead levels, and at least six (two in California and four in Arizona) are known to have died from lead poisoning.

The CRT is developing a stand-alone document providing an up-to-date breakdown of condor mortality and medical treatments required as a result of lead ingestion. This information is critical in communicating with hunters and ranchers on this issue.

The precise amount of lead required to kill a condor is as yet unknown, but it appears to depend on the initial amount ingested, length of time that the lead remains in the bird’s gut, and possibly the surface area of particles of lead that were ingested as determined by the size and number of fragments.

Lead poisoning is clinically determined by elevated levels of lead in the blood and other tissues, and/or by retrieval of lead pellets, bullets or fragments from condor digestive tracts. Blood lead levels are measured in micrograms of lead per deciliter of blood ($\mu\text{g}/\text{dl}$).

Lead contamination from leaded gasoline exhaust, natural lead deposits in the soil, mine tailings, and disposal of items that contain lead likely explains the background (chronic) levels of lead found in captive and free ranging condors. These background levels range from 2 to 20 µg/dl. Scientists have determined that for condors, a background level is below 20 µg/dl; an exposed level is between 20-59 µg/dl; a clinically affected level is reached at 60 µg/dl; and an acute toxic exposure to lead is 100 µg/dl or higher.

Condors found with lead levels more than 60 µg/dl require intensive chelation therapy to purge the lead. Biologists have found lead shot pellets or lead bullet fragments in the digestive tracts of several (but not all) condors that had this acute level of lead poisoning.

Condors that have been released to the wild in the U.S. are fed every few days with stillborn dairy calves. These calves have been tested and shown to be free of lead. Recently, the carcass of a burro that had an embedded lead bullet in it was used to feed condors in a pen in Baja California that were being prepared for release into the wild. Emergency medical treatment was required to save the bird. The Baja release program is now testing all carcasses fed to pre-release birds.

While these “safe” food sources are provided at release sites, some condors venture away from the sites and forage on their own. Little is currently known about the details of their food habits and foraging preferences when they are away from the feeding sites, but they are known or presumed to feed on dead cattle, deer, elk, bighorn sheep, coyotes, and hunter-killed big game gut piles. Satellite telemetry tracking systems are now being used on condors, and their use will shed more light on condor feeding behavior. Answering this question regarding the food habits of free-flying condors is critical in getting hunters and ranchers to voluntarily change their behaviors to reduce lead exposure to condors.

The entire picture of the causes and pathways of lead exposure in condors is not clear. However, we know that released condors have fallen ill and several have died from lead poisoning after feeding on food sources contaminated with lead from spent ammunition. Because of this potential pathway, the hunting community has taken a positive, proactive approach to this issue. This project was conducted to determine what messages would be best suited to encourage hunters and ranchers to alter their behaviors so as to make lead from spent ammunition less available to condors in the wild.

This project is designed to complement ongoing efforts to educate hunters regarding this issue and not supplant them. Our results and experience will be shared with these programs and, hopefully they will be able to benefit from our research as well.

3. Message Development

Following are the messages that we developed for testing. The actual messages are in italics. In brackets following each message is a series of short probing questions that

facilitators asked in the focus groups. [Note: These messages have modified as a result of the feedback obtained in the focus groups. The recommended messages are presented and discussed in the Communication Strategy on page 22.]

Test Messages

- (1) *The California condor is a rare and unique species that is part of our natural heritage.* [Overall impression of this message? Do you agree with it? Would you be willing to take action to conserve condors based on this message?]
- (2) *California condors are on the comeback from the brink of extinction.* [Overall impression? Do you agree with it? Does it matter to you? Would you be willing to take action to conserve condors based on this message?]
- (3) *Many of the California condors in the wild are suffering from lead poisoning. At least some of this lead is known to come from bullet fragments or lead shot.* [Do you believe this? If not, what would it take to convince you? Does this concern you? Would you be willing to take action to try to change this?]
- (4) *Although other sources of lead exposure may exist, some condors are known to have eaten bullet fragments or lead shot when feeding on animal carcasses. Several condors have died from this and many more have required medical treatment for lead poisoning.* [How does this compare to the previous message? Does the added information make this more believable? If not, what would it take?]
- (5) *Some anti-hunting organizations may try to use the lead poisoning issue as a reason to close hunting seasons or reduce hunting opportunities in condor habitat areas. Voluntarily addressing this issue may reduce the risk of lawsuits and restrictions.* [Overall impression? Do you believe it? Does this threat increase or decrease your motivation to do something proactive? Do you think proactive action is warranted?]
- (6) *Hunters have a long history of conserving all kinds of wildlife. They can continue this tradition and help prevent lead poisoning in California condors by:* [Before we consider the specific actions you could take, what do you think of this base statement? Is the wildlife conservation tradition of hunters important to you? Do you care? Is it a good reason to take further action on behalf of conservation?]

[Now tell me what you think about each of these four voluntary actions you as a hunter/rancher could take to help conserve condors in the wild. Are any of these actions reasonable? Are they compelling? Would you do them? Is there anything we could say differently that would make it more likely that you would do them?]

- a) *Retrieving all animals shot (including coyotes, varmints, small game and livestock) from the field, or*

- b) *Hiding carcasses or gut piles by burying them, covering them with brush or rocks, or placing them where condors can't get to them, or*
 - c) *Removing bullets and surrounding affected flesh when leaving carcasses or gut piles in the field, or*
 - d) *Using non-toxic ammunition.*
- (7) *A number of natural resources agencies and sportsmen's organizations have joined a partnership to try to figure out how to reduce the amount of lead from spent ammunition available to condors. [Overall impression? Is this a good thing or a bad thing? Does it matter to you which organizations are involved?]*

For each of the following organizations or groups, please tell me whether its participation adds or detracts from the credibility of the message:

- State wildlife management agencies (e.g., AZ Game and Fish Department)
- Federal wildlife or land management agencies (USFWS, USFS, BLM)
- Scientific organizations (CRT, university researchers)
- Firearms industry (NSSF, SAAMI, ammo manufacturers)
- Shooting sports organizations (NSSF, NRA)
- Hunting organizations (SCI, NRA, DU, PF, QU, RMEF, Varmint hunting groups)
- Conservation organizations (WMI, TWS, NWF, Audubon, Defenders of Wildlife, Peregrine Fund)
- Any other organizations that you suggest become part of this project?
- Any other organizations that you suggest NOT become part of this project?

Open-ended questions

- (1) *Do you think hunters/ranchers in general care about California condors? Enough to take any of the actions we've been discussing?*
- (2) *As a hunter/rancher, how do you get your information about hunting/ranching issues? What would be the best way to communicate the messages about condors to other hunters/ranchers? Who would be the most credible person or organization to deliver these messages? Are there any particular types of messengers or ways of communicating that would NOT be credible with you?*

[Let participants give unsolicited opinions first, then prompt with examples if they don't mention the following:

- Television
- Radio
- Newspaper
- Magazines
- Posters
- Counter displays
- Retail inserts]

- (3) *Do you have any concerns about California condors that have not been addressed in this meeting?* [e.g., do you fear that they prey on livestock?, etc.]
- (4) *Can you think of other actions hunters could take to reduce the risk that condors will be exposed to lead?*

4. Focus Groups

It is important to recognize that focus group research is qualitative in nature. That is, unlike the phone survey results, we cannot say with any statistical certainty that the results we found here would be the same for hunters/ranchers in other regions or in other groups of hunters/ranchers in the same region.

However, focus group results are extremely useful for asking probing questions and gaining insights and information that cannot be collected in an unbiased, statistically valid phone survey. It was very instructive to sit down with people who hunt and ranch where California condors live and to get their candid opinions about the birds, the lead issue, and what they might be willing to do about it.

As previously indicated, the test messages were read to focus group participants and each participant was asked to rate that message's effectiveness. They were then asked to share their opinions with the group regarding that message. This process was used for all of the test messages.

It is important to note that numerous participants asked the facilitator probing questions regarding the content of the messages. These questions were not answered at that time. The facilitator explained that this was a research project and that answering their questions at that time would provide them additional information that other hunters may not have and could influence their responses. All questions were answered at the end of the session by either a condor biologist or an observer. Prior to answering their questions, an observer made a summary statement on the importance of this issue and explained that their answers would be used to craft a communications strategy directed toward other hunters and ranchers.

Test Message Results

Following is a brief summary of the focus group results for each of the seven test messages and the four open-ended questions. This summary is based on the discussions we had with the focus group participants, the ranking they ascribed to each message, and the comments they wrote about each message. For a compilation of all ranking results and a synopsis of comments and discussion, see Appendix B. Participants rated all test messages from 1 to 5, where 1 = very effective and 5 = very ineffective. Therefore, the LOWER the average rating of each message listed below, the MORE effective the participants thought it was.

Message 1. The California condor is a rare and unique species that is part of our natural heritage.

Average Rating: 3.03 (n=96)

Nearly all participants agreed that condors are rare and unique, but there was disagreement as to whether they are part of our natural heritage. Many felt that natural heritage should only apply to animals that are capable of self-sustaining populations, and that condors would already be extinct if it weren't for intensive human intervention. Most felt that this message would only be marginally beneficial in convincing hunters to take action.

Message 2. California condors are on the comeback from the brink of extinction.

Average Rating: 3.08 (n=96)

Most participants believed this is true (with some notable exceptions), but few thought it would be a very compelling message with hunters. Many felt that the comeback of condors is artificially sustained, and that extinction is probably inevitable without permanent, intensive management.

Message 3. Many of the California condors in the wild are suffering from lead poisoning. At least some of this lead is known to come from lead shot or bullet fragments.

Average Rating: 3.69 (n=96)

This was the lowest-rated of the test messages. Some participants did not believe the statement, and many were suspicious of the source of the information. All wanted to know more information. They didn't like the word "many." They wanted firm facts. Most said that if this statement was presented by a source they found credible (see message 7 below), it would be much more compelling to them, but as a stand-alone message, it was ineffective. Nearly all said that IF they were convinced that this were true, they would be willing to take action to help create a solution.

Message 4. Although other sources of lead exposure may exist, some condors are known to have eaten bullet fragments or lead shot when feeding on animal carcasses. Several condors have died from this, and many more have required medical treatment for lead poisoning.

Average Rating: 3.44 (n=96)

This was the second-lowest rated test message. Again, the primary reason they rated it poorly was they didn't believe it. Most thought it was an attempt by anti-hunting groups to force closure of large areas of hunting land or to ban the use of lead ammunition. They wanted solid information with a lot of details. However, IF convinced this was true, they would be willing to take action to help create a solution.

Message 5. There are some anti-hunting organizations that may try to use the lead poisoning issue as a reason to close hunting seasons or reduce hunting opportunities in condor habitat areas. Voluntarily addressing this issue may reduce the risk of lawsuits and restrictions.

Average Rating: 2.61 (n=95)

There was unanimous agreement that the first part of this message was true. Participants were less certain that voluntary action would reduce the risk of lawsuits. Some felt that nothing hunters could say or do would be of any benefit in reducing risk of lawsuits, while others thought that taking proactive action was the logical next step. Some did not think it would help, but felt it was worth a try. A few thought it would be dangerous to use this message—it might draw attention to a sensitive area.

Message 6. Hunters have a long history of conserving all kinds of wildlife. They can continue this tradition and help prevent lead poisoning in California condors by:

Average Rating: 1.89 (n=89)

This was the highest rated of all the test messages. Hunters considered themselves the “original conservationists” and were very proud of their contributions to conservation. Most thought this was the best message to “lead” with, and then follow it up with some of the other messages as back up. Some recommended putting this message in first person to make it more effective.

[After rating the base message above, we asked participants to rate four separate actions that they could take to help make lead less available to condors. Responses for these four proposed actions are listed (a-d) below.]

- a) *Retrieving all animals they shoot (including coyotes, varmints, and small game) from the field.*

Average Rating: 2.88 (n=96)

Participants made it clear that they already retrieve everything they shoot except varmints (primarily ground squirrels, jackrabbits, and sometimes coyotes). Most thought it was unreasonable to expect hunters to retrieve ground squirrels, with the threat of disease issues and the fact that many varmints were shot at long range. Many believed they were doing the environment a service by leaving varmint carcasses for scavengers. However, a surprising number said that, IF they could be convinced by a credible source that it would help condors, they would do it (a few said they would not, no matter what).

- b) *Hiding carcasses or gut piles by burying them, covering them with brush or rocks, or placing them where condors can't get to them.*

Average Rating: 2.76 (n=96)

Participants ranked this action second (out of the four actions we tested). Most thought that burying or covering gut piles was ill conceived, because they believed that coyotes would find the spot and dig it up in very short order. However, IF they could be convinced by a credible source that it would help condors, nearly all said they would do it. In Arizona, the state could not encourage hunters to bury carcasses because of the potential for disturbance of historical sites.

- c) *Removing bullets and surrounding affected flesh when leaving carcasses or gut piles in the field.*

Average Rating: 3.35 (n=96)

This was the lowest-rated of the four potential actions. Most participants said that bullets they shot at big game animals usually passed through the animal,

so little if any lead was left in the carcass. Bullets shot at varmints were high velocity, highly frangible type designed to break into many tiny pieces upon impact. Participants felt that these tiny pieces would not be enough to “worry about,” and/or that it was impossible to collect them from a carcass even if they wanted to. (Note: as a result of this rating, this suggested action was dropped from the Primary and Supporting messages.)

d) *Using non-toxic ammunition.*

Average Rating: 2.46 (n=96)

This was the highest rated of the four potential actions. Surprisingly, many participants proposed this as a solution even before we got to this message during the focus group. Some were suspicious as to whether this could be used by anti-hunting forces as a precursor to banning all lead bullets, but most were willing to try non-toxic ammunition in areas where it was a concern for condors. Most said they knew that non-toxic ammunition was available for big game, and of the participants who had used it before; most said they thought it performed well (with at least one notable exception). One problem that was identified was that there was no good non-toxic substitute yet available for small-caliber varmint bullets.

After reviewing all four of the potential actions, many participants recommended giving hunters a choice as to which of the actions they wanted to take. Don't make it mandatory, just tell hunters the information and let them decide how they can help. One group in Arizona said the state agency should just tell them what they needed to do in the regulations, and they would do it.

Message 7. A lot of natural resources agencies and sportsmen's organizations have joined a partnership to try to figure out how to reduce the amount of lead from spent ammunition available to condors.

Average Rating: 2.48 (n=93)

This was the second-highest rated test message. Participants said that having a variety of organizations involved in this partnership made them feel a lot more comfortable about it. However, this was only true if the list of organizations included ones that they felt were credible (supported their interests). See below for a list of organizations they would find credible.

We asked participants what they thought of the following list of agencies and organizations. Although there certainly was variability among the responses, we have tried to give an “average” response and pertinent notes for each below.

For each of the following organizations or groups, please tell me whether its participation adds or detracts from the credibility of the message

State wildlife management agencies

Highly variable responses. Some felt their state agency was very credible and trustworthy, while others had their doubts. In general, the state agency was rated higher in Arizona and Utah than in California. Some participants in each state thought

the agencies as a whole were credible, but that certain individuals within the agencies were suspect.

Federal wildlife management or land management agencies (USFWS, USFS, BLM)

The federal agencies received low marks from participants in every state. There were some differences among participants as to which federal agency was the “worst,” but it was clear that messages about condor conservation would be much better received from sources other than the federal government.

Scientific organizations (CRT, university researchers)

Depended on who they were and who funded the research. In general, participants thought research was credible if it was sponsored by agencies (with a few key exceptions) or the firearms industry. State agencies were more credible than federal.

Firearms industry (NSSF, SAAMI, ammo manufacturers)

Nearly all participants found industry to be a credible source of information. One thought perhaps this whole effort was just an industry ploy to try to sell non-toxic ammunition at much higher cost than lead.

Shooting sports organizations (NSSF, NRA)

All participants thought these organizations would be credible.

Hunting organizations (SCI, NRA, DU, PF, QU, RMEF, Varmint group)

All participants thought these organizations would be credible.

Conservation organizations (WMI, TWS, NWF, Audubon, Defenders of Wildlife, Peregrine Fund)

This topic got mixed responses. It really depended on the organization. Many participants did not know anything about the organizations we asked them about. If they were not familiar with the organization, they tended to be suspicious of it.

Any other organizations that you suggest become part of this project?

Local hunting groups were mentioned, such as state deer hunters associations.

Any other organizations that you suggest NOT become part of this project?

Animal rights groups such as PETA, HSUS, and Fund for Animals. Grand Canyon Trust, Sierra Club, Southern Utah Wilderness Alliance, Earth First, Southwest Center for Biodiversity were suggested.

Open-ended Question 1. Do you think hunters/ranchers in general care about California condors? Enough to take any of the actions we've been discussing?

Although this question was part of our focus group script, we did not ask it. By this time in the focus group, we had already covered this question in the follow-up from previous test messages. **In every focus group, it was nearly unanimous that hunters cared enough to take SOME type of action IF they could be convinced that hunter lead was a problem and that by taking action they could be part of**

the solution. Even those participants who thought that society should let condors go extinct still said they would help be part of the solution because of the potential for providing hunters with the opportunity to demonstrate to the public their broad conservation concerns.

Open-ended Question 2. As a hunter/rancher, how do you get your information about hunting/ranching issues?

Hunters:

Other hunters, club newsletters, conservation organizations, state wildlife agency and its publications (especially the hunting regulations booklet).

Ranchers:

Other ranchers, Cattle Grower's Association, Farm Bureau, Cattleman's Association, NRCS staff, Canyon Country Ranchers.

What would be the best way to communicate the messages about condors to other hunters/ranchers?

Hunters:

Have meetings like this that give solid information from credible sources. Put information in club newsletters, magazines of conservation organizations, hunting regulations booklet.

Ranchers:

Distribute information through publications of Cattle Grower's Association, Farm Bureau, Cattleman's Association, NRCS, and Canyon Country Ranchers.

Who would be the most credible person or organization to deliver these messages? Are there any particular types of messengers or ways of communicating that would NOT be credible with you?

Hunters:

The most credible sources are other hunters and local hunting personalities.

Ranchers:

The most credible sources are the presidents or key representatives from any of the organizations listed above.

Non-credible sources identified by both hunters and ranchers include:

Animal rights groups such as PETA, HSUS, and Fund for Animals; other groups identified include Grand Canyon Trust, Sierra Club, Southern Utah Wilderness Alliance, Earth First, and Southwest Center for Biodiversity.

Open-ended Question 3. Do you have any concerns about California condors that have not been addressed in this meeting?

We did not receive any responses to this question.

Open-ended Question 4. Can you think of other actions hunters could take to reduce the risk that condors will be exposed to lead?

We did not receive any responses to this question.

Benefits of the Methodology

Unlike a lot of message testing techniques that strive for representative samples of the “general population,” in this project we purposefully targeted hunters/ranchers who are likely to use lead ammunition to hunt (deer, elk, varmints, etc.). While this methodology yields an admittedly biased sample of participants, it has several advantages over traditional methods:

First, the messages are tested among the very people we hope to persuade to change behaviors. This methodology provides firsthand information about how to reach ranchers and hunters to encourage them to change their behaviors. This methodology was purposely chosen to focus on our target audience. If we had conducted focus groups among a representative sample of all adults, the results would have been “diluted” by input from people who do not hunt, ranch, or even shoot. Therefore, although our results give no insight into what might be effective for city dwellers, children, or other demographic groups, it speaks volumes to what might be effective for ranchers and hunters that use lead ammunition.

Second, the very act of testing these messages and asking these questions was in fact an outreach effort—a detailed, high-impact, and effective outreach effort. Consider these points:

1. Getting large numbers of the key target audiences together for a meeting to discuss the California condors and the impacts of lead ammunition could be difficult. While it would be possible to get people who were interested in condors or conservation to come to such a meeting, the research forum (and the stipend) allowed getting disinterested people to attend who would probably not attend under other circumstances. This forum allowed the researchers to discuss this issue with representatives of the specific people that will be targeted these messages.
2. Because we (staff from DJCA) introduced ourselves as “researchers from a communications consulting firm,” participants saw us as neutral observers and were comfortable in speaking their minds to us with great candor. If an agency biologist who develops hunting regulations were to ask the same questions, it is unlikely that the participants would disclose their opinions on increased hunting regulations to protect the condor, or feel comfortable discussing how they feel about the possibility of the condors becoming extinct, or provide other similar insights that are critical to true understanding of the issues that are important to hunters and ranchers.
3. Although this is purely an anecdotal observation, it was amazing to us how much the participants changed their opinions about condor conservation in a 2-hour meeting. We told them at the beginning that we were not condor biologists, but that we were passing on information that was given to us by experts. They seemed very willing to accept this information as credible and persuasive. Our

- impression was that all but a couple of the focus group participants had a more positive image of condors and how to change their behaviors to save these birds.
4. On at least two occasions, where focus groups were held on successive nights, the researchers heard about the focus group held the previous night from non-participants. This indicated that the hunter/rancher “grapevine” was engaged and that information regarding these issues was being exchanged among these groups. While this is an anecdotal observation and impossible to quantify, it does indicate an informal network exists among hunters and ranchers that should not be underestimated.
 5. One of our focus groups was “piggybacked” onto an International Hunter Education Association meeting. We held another focus group for Hispanic hunters in California.
 6. The people who attended focus groups were known to be opinion leaders in the local community. If, during the course of the focus group, they actually became more inclined to change their behavior, then there is a reasonable probability that they will pass this information along to their neighbors, friends, and associates. Putting reinforcing background information (such as media placements) into their hands as soon as possible will be important to ensure that the information they pass on is accurate.

Shortcomings of the Methodology

Overall, we believe this methodology was very effective, given the objectives and budget for the project. However, there are some potential weaknesses:

1. The research and its results are qualitative. That is, we are making assumptions and drawing loose conclusions based on things that a very small group of people said and did. It is possible that these assumptions and conclusions could be false in other areas or among other people.
2. The research was very localized. This project did not have enough funds to conduct focus groups in every region where condors live. Therefore, we cannot predict to what degree these assumptions and conclusions are valid beyond the local areas where these people reside.
3. Although we attempted to get cross-sectional representation from within hunting and ranching groups, we may not have been successful, and views of some elements of those groups may not be represented in these results.

In spite of these potential weaknesses, the research results provide tremendous insights into the ways that the target audiences view condors, making the resulting communications strategy much more effective at delivering the agencies’ key messages.

5. Communications Strategy

The ultimate goal of this project was to develop a communications strategy that persuades hunters and ranchers in condor habitat areas to take action that minimizes lead from ammunition available to foraging condors. The phone surveys, situation analysis, message development, and focus group testing all were tools to help us identify the right things to say and the specific times and places to say them to convince hunters and ranchers to alter their behaviors, ultimately reducing the amount of lead available to condors.

Upon completion of the steps above, we reviewed the background information and research results, and created a draft communications strategy. We consulted with technical experts and state wildlife agency personnel to ensure that our proposed actions were realistic, and incorporated their suggestions into the final strategy, which follows.

Communications Strategy

The phone surveys and focus group results suggest that hunters and ranchers will be willing to change behaviors and/or take actions to help conserve condors:

If they can be convinced that lead from bullets or shot is truly part of the problem and if they are ASKED by a credible source to become involved.

Therefore, the communications strategy is designed to get them solid scientific information from credible sources so they will voluntarily make the behavioral changes needed. Messages and actions are based on phone survey and focus group results.

Goal

Disrupt lead exposure pathways to condors from ammunition by fostering awareness and encouraging voluntary actions among firearms users.

Objectives

1. Implement a hunter awareness campaign in 2005 and measure changes in hunter awareness levels in 2007. The baseline of hunter awareness is the telephone surveys conducted in 2004.
2. Build a coalition of hunters and ranchers who advocate taking action(s) in the field that will result in less lead becoming available to foraging condors.
3. Publish X articles about hunter and rancher efforts to conserve condors by 200X.
4. Facilitate accurate, effective and strategically coordinated communications about the condor-lead issue by state and federal wildlife and land management agencies.

Target Audiences

All communications and education efforts will be focused on the following target audiences in Arizona, California, and Utah (note: outdoor writers and other media outlets will be used as a vehicle to deliver these messages and will require specific, targeted outreach effort.)

1. Big game hunters and ranchers
2. Varmint hunters
3. Hunting guides and outfitters
4. Upland game hunters
5. Hunter education instructors and youth leaders
6. Sheriffs, game wardens, brand inspectors, APHIS - Wildlife Service officers
7. Hunting and conservation organizations
8. Rancher and landowner organizations
9. State fish and wildlife agencies
10. Federal natural resources management agencies
11. Ammunition retailers and wholesalers
12. Specific environmental and academic organizations

Messages

A critical component of an effective outreach effort is the consistent use of messages that “ring true” with the target audiences.

Below are:

Priority messages,
Supporting messages, and
Priority messages for specific audiences.

The messages that will be most effective in achieving outreach objectives will vary, depending on who the target audience is, the medium of communication used, the source of the information, the context, and many other variables. Therefore, specific objectives require specific messages. However, focus group research suggests that the “Priority” and “Supporting” messages listed below will be effective with a broad cross-section of hunters and ranchers.

Priority Messages

Given limited time, space, and/or budget, these messages are the priorities for all target audiences, especially for big game hunters, varmint hunters and ranchers. They are the *first* things that should be mentioned in any communication event.

1. Hunters/Ranchers have a long history of caring for the land and conserving all kinds of wildlife. They can continue this tradition and help prevent lead poisoning in California condors by taking one or more of the following simple actions:
 - Using non-toxic ammunition where possible.
 - Hiding carcasses or gut piles by covering them with dirt, rocks, or brush, or placing them where condors can't get to them.

- Retrieving all animals shot (including coyotes, varmints, small game and livestock where possible) from the field. (Note: it is already required to retrieve all big and small game from the field).
2. A number of organizations, such as the SCI, NRA, NSSF, SAAMI, WMI, state wildlife agencies, and others, have joined a partnership to try to reduce the amount of lead from spent ammunition available to condors. We can help by taking one or more of the following simple actions: [insert actions from above].
 3. Some anti-hunting organizations may try to use the lead poisoning issue as a reason to close hunting seasons or reduce hunting opportunities in condor habitat areas. Voluntarily addressing this issue may reduce the risk of lawsuits and restrictions. We can be proactive by taking one or more of the following simple actions: [insert actions from above].
[Note: Due to the 10(j) rule in Arizona, no restrictions on hunting can be put in place. However, some groups may still push for that, and certainly could use the issue to make hunters look bad.]

Supporting Messages

Following are Supporting messages that can be used to expand on and *explain* the key messages if needed and if time and/or space is available. It is important to keep in mind that these messages can help explain and support the Priority messages, but they are not necessarily stand-alone messages.

The Priority messages that were listed before are listed below (#s 1-3), with appropriate supporting messages listed beneath each one.

1. Hunters/Ranchers have a long history of conserving all kinds of wildlife. We can continue this tradition and help prevent lead poisoning in California condors by taking one or more of the following simple actions:
 - Using non-toxic ammunition where possible.
 - Hiding carcasses or gut piles by covering them with dirt, rocks, or brush, or placing them where condors can't get to them.
 - Retrieving all animals shot (including coyotes, varmints, small game, and livestock where possible) from the field. (Note: it is already required to retrieve all big and small game from the field).
- a. Not all of these actions will be appropriate in all situations. Use whichever one best suits your situation.
- b. The SCI, NRA, the NSSF, and many other hunting and conservation organizations support use of these voluntary actions to help conserve condors.
- c. Our efforts can keep this rare and unique species part of our natural heritage.
- d. By taking these simple actions, we can help condors come back from the brink of extinction.

2. A number of organizations, such as the SCI, NRA, NSSF, SAAMI, WMI and others, have joined a partnership to try to reduce the amount of lead from spent ammunition available to condors. We can help by taking one or more of the following simple actions: [insert actions from above].
 - a. These pro-hunting organizations realize that we can play an important role in keeping this rare and unique species part of our natural heritage.
 - b. These pro-hunting organizations encourage their members and all hunters to help reduce the amount of lead from spent ammunition that is available to condors.
 - c. While it is clear that lead from spent ammunition is only one of the factors in condor mortality, these organizations encourage hunters to take the high ground by reducing the amount of lead from spent ammunition that is available to condors.

3. Some anti-hunting organizations may try to use the lead poisoning issue as a reason to close hunting seasons or reduce hunting opportunities in condor habitat areas. Voluntarily addressing this issue may reduce the risk of lawsuits and restrictions. We can be proactive by taking one or more of the following simple actions: [insert actions from above].

[Note: Due to the 10(j) rule in Arizona, no restrictions on hunting can be put in place. However, some groups may still push for that, and certainly could use the issue to make hunters look bad.]

 - a. It is clear that our society has a strong interest in conserving condors. We can show society that we are part of the solution by taking these simple actions.
 - b. While it is clear that lead from spent ammunition is only one of the factors in condor mortality, we can take the high ground by voluntarily reducing the amount of lead from spent ammunition that is available to condors.
 - c. Most people aren't aware of the many ways that hunters support conservation. By these simple actions, we can show how hunters are part of the solution, not part of the problem.

Priority Messages for Specific Target Audiences

The Priority messages and Supporting messages listed above are appropriate for use with all target audiences, especially hunters, ranchers, and their associated organizations (target audiences 1-3). Some additional messages have been developed for state and federal agencies and some specific environmental and academic organizations:

State fish and wildlife agencies

1. When given sound, science-based information, hunters and ranchers are willing to take actions to help reduce lead from spent ammunition that is available to condors in the wild.
 - a. While the exact nature and magnitude of the problem is not well defined, it is clear that lead from spent ammunition plays a role in condor mortality. If

- convinced of this fact, hunters and ranchers would be willing to do their part to try to reduce the amount of lead available to condors.
- b. Sound science is needed to clarify what role spent lead ammunition plays in condor poisoning and death.
 - c. Agencies should seek out and distribute accurate information on actions that hunters and scientists are taking to minimize this lead exposure pathway to condors.
 - d. The source of scientific information about condors must be neutral—hunters won't trust research results from anti-hunting or anti-lead organizations or institutions.
 - e. The information provided by agencies on condors and the lead poisoning issue must be consistent. Mixed messages will work against the desired behavior changes.
2. Many hunters and ranchers are already taking action to reduce the amount of spent lead ammunition available to condors. Publicizing these efforts through agency communications will help encourage more of these efforts.

Federal natural resources management agencies

See #1 under "State fish and wildlife agencies" above, plus:

1. Federal agencies can best communicate about condors with hunters and ranchers through hunting organizations, or through the state wildlife agency.
 - a. Hunters and ranchers find information most credible when it comes from a local source.
 - b. Whenever possible, federal agencies should form communication partnerships and work through local hunting/ranching organizations, clubs, etc. to formulate and deliver messages on this issue to hunters and ranchers.
 - c. Federal agencies should develop or enhance partnerships with state wildlife agencies and deliver information about condors through these agencies as appropriate.

Specific environmental and academic organizations

See #1 under "State fish and wildlife agencies" above, plus:

1. Scientific research findings from credible sources would convince hunters and ranchers to take actions to reduce the amount of spent lead ammunition available to condors. There is a need to learn more about the relationship between lead ammunition and condors.
2. Many hunters and ranchers are already taking action to reduce the amount of spent lead ammunition available to condors. Publicizing these efforts through newsletters and other communications will help encourage more of these efforts.

Tips for Communicating with Target Audiences

The following “Dos and Don’ts” will be helpful in all communication efforts:

Do highlight the important conservation heritage that hunters and ranchers have. Hunters and ranchers are rightfully proud of their involvement in conservation issues. This is a deeply held core value that should be used to base other messages on.

Do Not begin any communications by referring to the rare or endangered status of condors. This is important supportive information, but is not the first message that should be presented.

Do emphasize that this is a pro-condor, conservation initiative.

Do Not characterize this effort as an anti-lead campaign.

Do emphasize that lead, while it has toxic characteristics, can be managed to reduce its risks. The suites of voluntary actions identified are risk management activities designed so that hunters and ranchers can choose the best action based on the specific circumstances they are facing.

Do Not characterize non-lead ammunition as the only potential solution to this issue.

Do emphasize that if hunters and ranchers want to continue to use lead-based ammunition they will have to take greater responsibility for lead’s unintended consequences.

Do Not insinuate that hunter/rancher lead is the only vector for lead poisoning in condors.

Do emphasize a coalition of hunting and ranching organizations are working together to resolve this issue.

Do Not use generalizations such as "many" "few" "some" etc. Hunters/ranchers are suspicious of these and are looking for supported facts from credible sources.

Do identify credible spokespersons to relay condor facts to hunters and ranchers. Participants repeatedly said they would take action if they could be convinced by credible sources that action was needed.

Do Not use federal agency representatives as information sources—they are not seen as credible by these target audiences.

Do emphasize that the best way hunters and ranchers can avoid a regulatory solution to this issue is to embrace the voluntary actions identified.

Do focus on one-on-one communications whenever possible.

Ongoing Activities

It is important to note that this research did not occur in a vacuum. As research results were identified, they were shared with the cooperating state agencies so that they could be used in the state’s communications with hunters and ranchers. A list of activities conducted by Arizona and California, while this research was being conducted, is attached in Appendices F and G. These activities were influenced by and benefited from this research project.

Action Plan

Based on the survey and focus group results reported above, following is a list of recommended actions for communicating with hunters and ranchers about the lead issue in condors.

(Note: The budget to implement these proposed actions is limited. Additional funds will be solicited. Details on “who” and “when” will be developed once this proposed plan is accepted.)

| Action | Who | When |
|---|------------|-------------|
| 1. Create a larger coalition of hunters and ranchers to address this issue. | | |
| 2. Enhance the communications among state and federal agencies working on condor issues. Formal MOUs should be reviewed and modified, if necessary, to ensure condor communications are mutually supportive and well coordinated with the aforementioned priority and supportive messages. | | |
| 3. “One Voice” Communication Training Workshops (development). Focus group results suggest that workshops would be a highly effective way to deliver information to target audiences. With this potentially controversial topic, there is no substitute for the face-to-face approach. We propose two tracks: one for hunters, ranchers and their respective organizations; and a separate one for state and federal agency personnel. This action requires development of customized workshop and presentation materials for each of the two tracks. Communication Training Workshop (delivery). A series of 4-hour workshops for each of the two tracks (hunters/ranchers and state/federal agency staff) in each state is recommended. | | |
| 4. Develop and distribute updated information packets on the condor-lead issue to state and federal wildlife and land management agencies. [HUNTERS MADE IT CLEAR THAT THEY NEED RESEARCH INFORMATION TO BE CONVINCED TO HELP—SEE “FUTURE RESEARCH NEEDS” SECTION BELOW.] | | |

| | | |
|---|--|--|
| <p>5. Print material development. Similar to #4 above, but customized for non-agency partners. Turn-key, customizable materials (fact sheets, news releases, posters, etc.) that incorporate the key messages listed in the Results.</p> | | |
| <p>6. Media/communications plan. Plans need to be customized for each state and federal agency in each state (AZ, CA, UT), to guide them in communicating effectively with the media on the condor issue. Ideally, such plans would be developed in cooperation with the state and federal I&E department, immediately after a communication training workshop (#3 above) and then distributed throughout the agency. They would include the key messages, critical media outlets, referral list (who to contact in the agency for specific types of questions), damage control responses, etc.</p> | | |
| <p>7. Media placement. Generating media coverage that delivers the key messages <i>and</i> presents hunters as part of the solution will be a critical step toward convincing hunters to participate. However, the media and the stories must be very carefully crafted and presented in order to prevent miscommunication and backlash. A two-pronged approach is recommended. One track would require: identifying and creating a database for selected general-media outlets in top 10 designated market areas in AZ, CA, and UT, working with agency staff to develop feature stories and news releases, and distributing them to media via agency outlets; personally pitching stories to selected media; tracking and preparing compilations of clips from the media campaign; and preparing an executive summary of the media campaign.</p> <p>The second track would be coordinating the placement of articles in specific hunter/rancher publications. The hunter/rancher coalition members would assist in their development and placement to ensure that the priority and secondary messages are included in the articles.</p> | | |

Additional Actions

It has been suggested that free/subsidized non-lead ammunition be made available to hunters or ranchers in condor range. While this activity is outside the scope of this report, it is an excellent strategy to ensure that hunters and ranchers have non-lead ammunition available. However, to optimize effectiveness, it should be coupled with the communications strategies outlined in this report. Any free/subsidized non-lead ammunition distribution strategy should be viewed as a mechanism to get hunters and ranchers attention and as a vehicle to communicate other important messages to them. Simply giving away free non-lead ammunition without a well-defined communications strategy is a lost opportunity.

Ideally, hunters or ranchers would demonstrate some level of commitment in order to receive this benefit. That commitment could be in the form of exchanging other lead-based ammunition for non-lead ammunition; taking an additional step such as mailing in

a coupon in order to receive the non-lead ammunition; viewing a video on this issue; participating in a short orientation program; simply reading a pamphlet on additional actions that they could participate in; or other actions. In addition, contact information should be obtained from individuals participating in a free non-lead ammunition program so that a follow-up evaluation may be conducted.

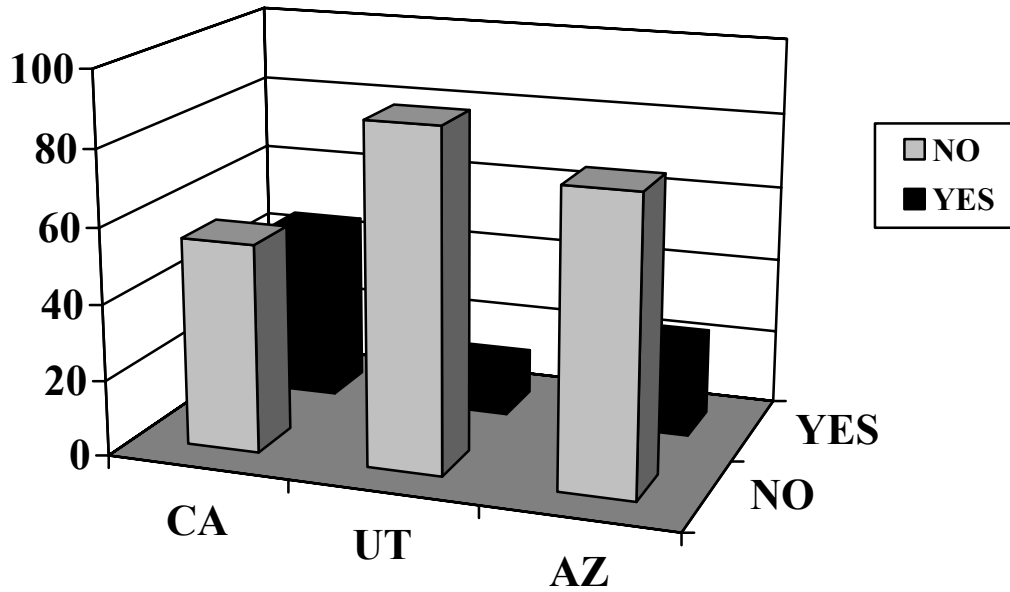
Future Research Needs

The majority of focus group participants made it clear that they would be willing to take action to help conserve condors IF they could be convinced that their bullets and shot were truly a part of the problem. Most of them also made it clear that they were not currently convinced that is the case. Therefore, a critical part of this communication strategy must be to continue to gather valid scientific information and communicate it to hunters and ranchers. Some of the most immediate and critical research needs include:

1. Document and scientifically verify spent ammunition's role as a source of lead poisoning in condors.
2. Document and scientifically verify the extent and nature of condor sickness and mortality in the wild.
3. Document and scientifically verify the food sources of condors in the wild.
4. Document and scientifically verify how much lead it takes to sicken or kill a condor.
5. Document and scientifically verify much lead is left in shot carcasses.
6. Conduct isotope analysis of lead found in condors and condor feathers to help verify the sources of lead.

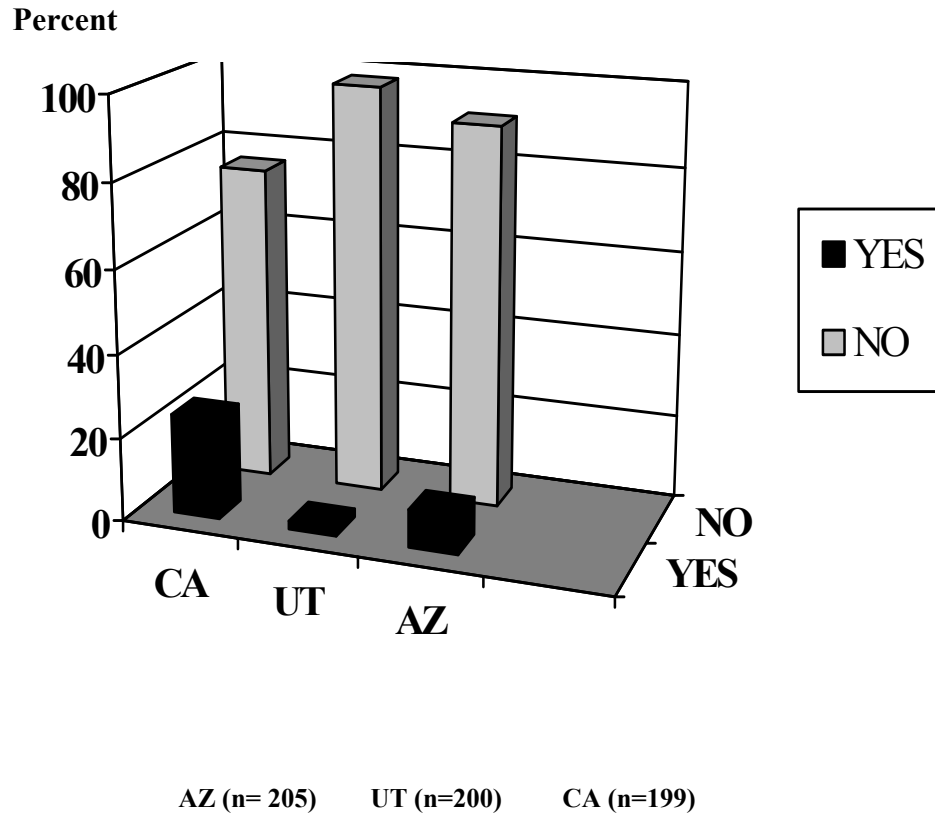
Appendix A. Selected Responses from the Phone Survey of Arizona, California, and Utah Hunters (for complete survey results, see Appendices C-E)

Are you aware that lead poisoning is a problem currently faced by condors?

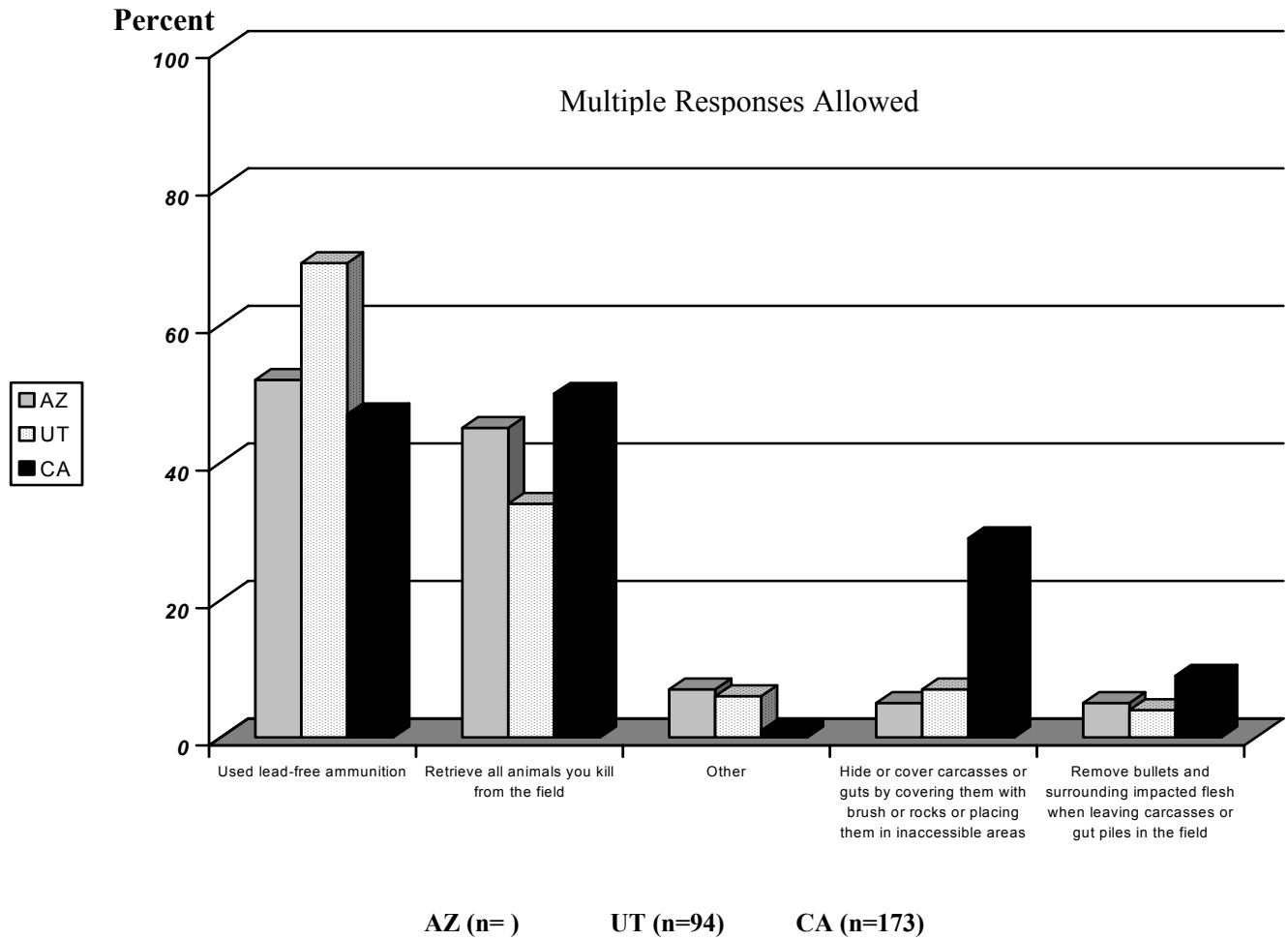


AZ (n= 205) UT (n=200) CA (n=201)

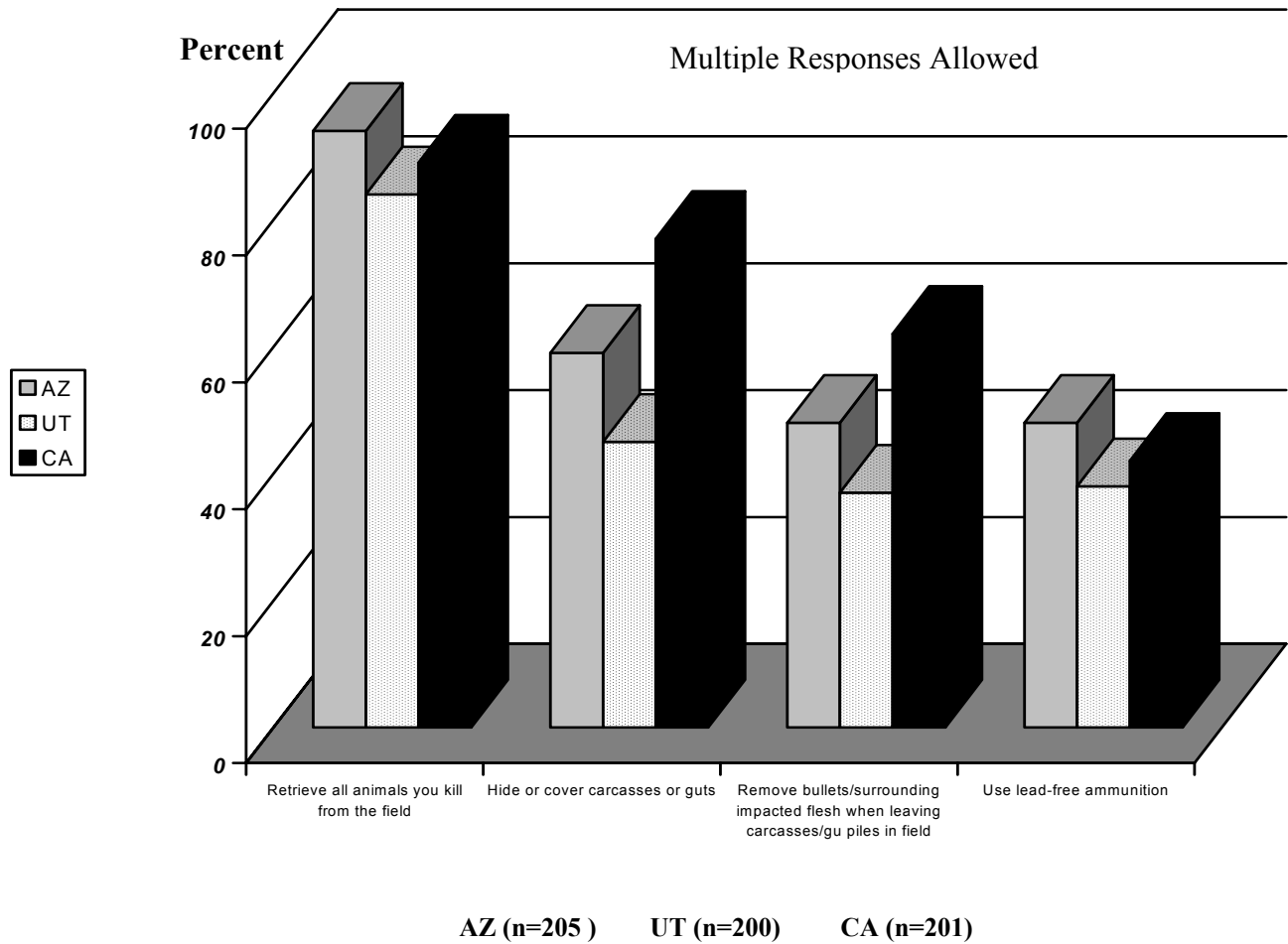
Are you aware of any educational efforts to try and reduce the deaths of condor from lead poisoning?



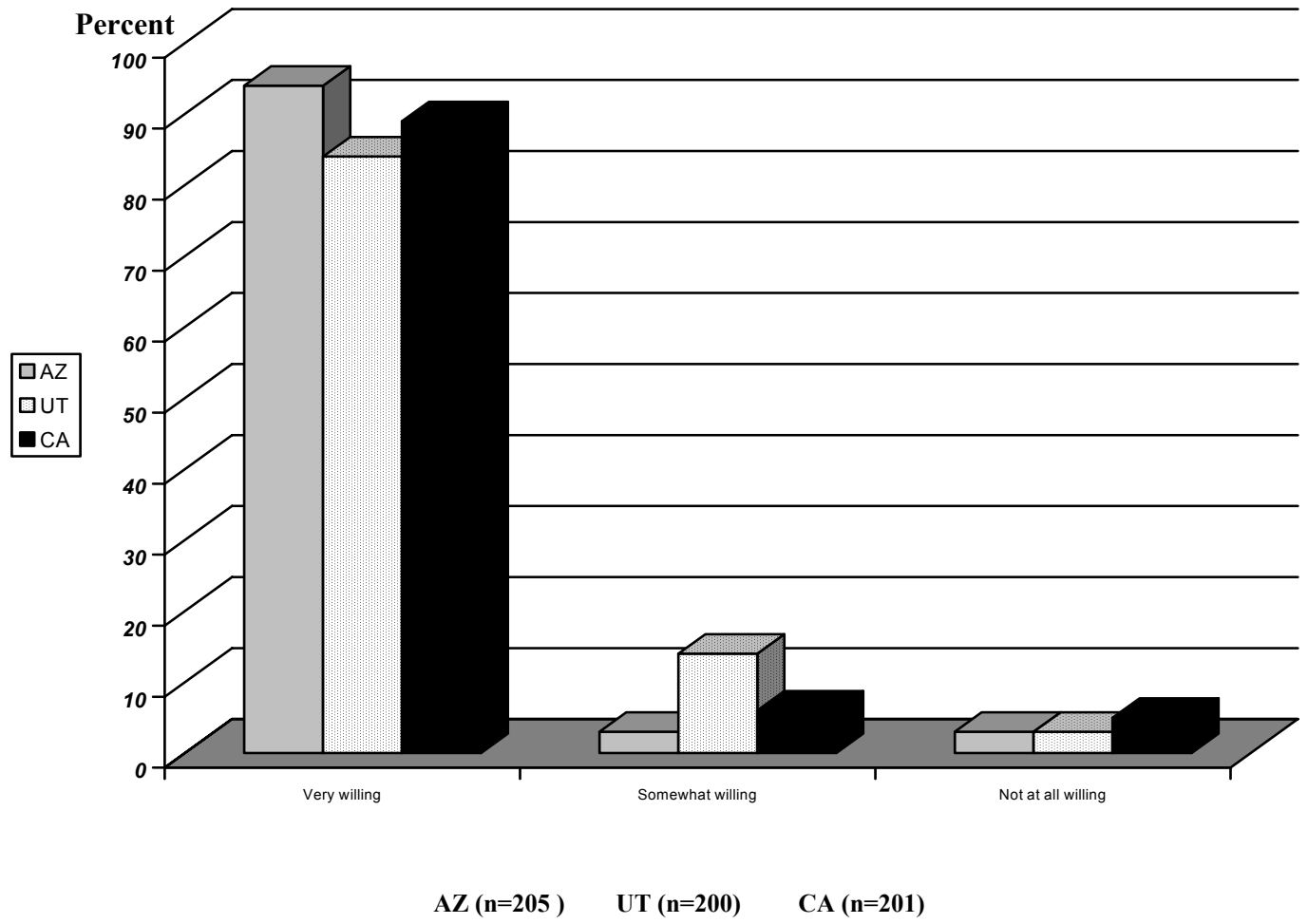
What types of actions can hunters take to reduce the risk that condors will be exposed to lead? (Asked of those who indicated that they were aware of actions that hunters can take to help reduce the risk to condors of exposure to lead.)



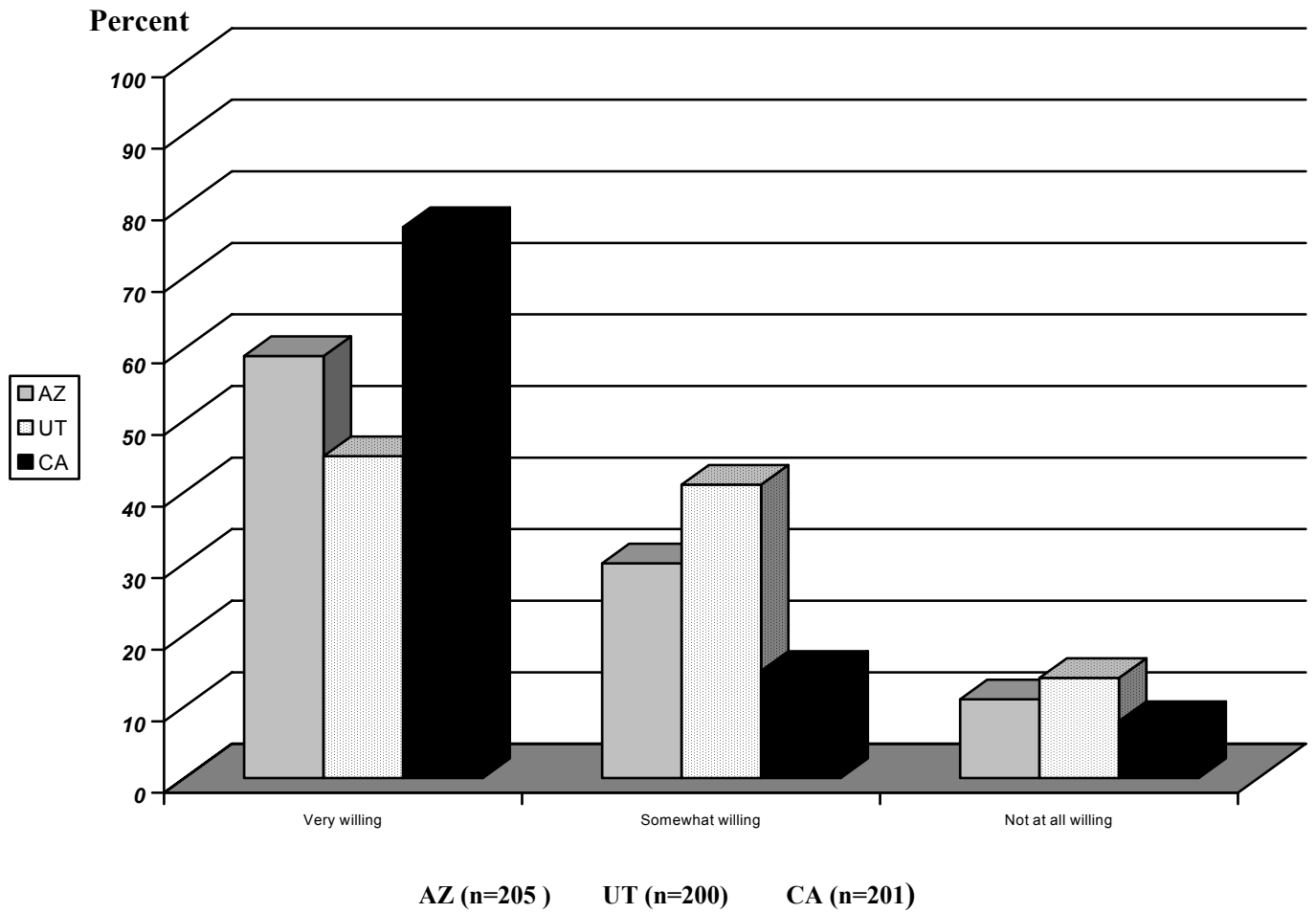
Percent who would be very willing to take the following actions.



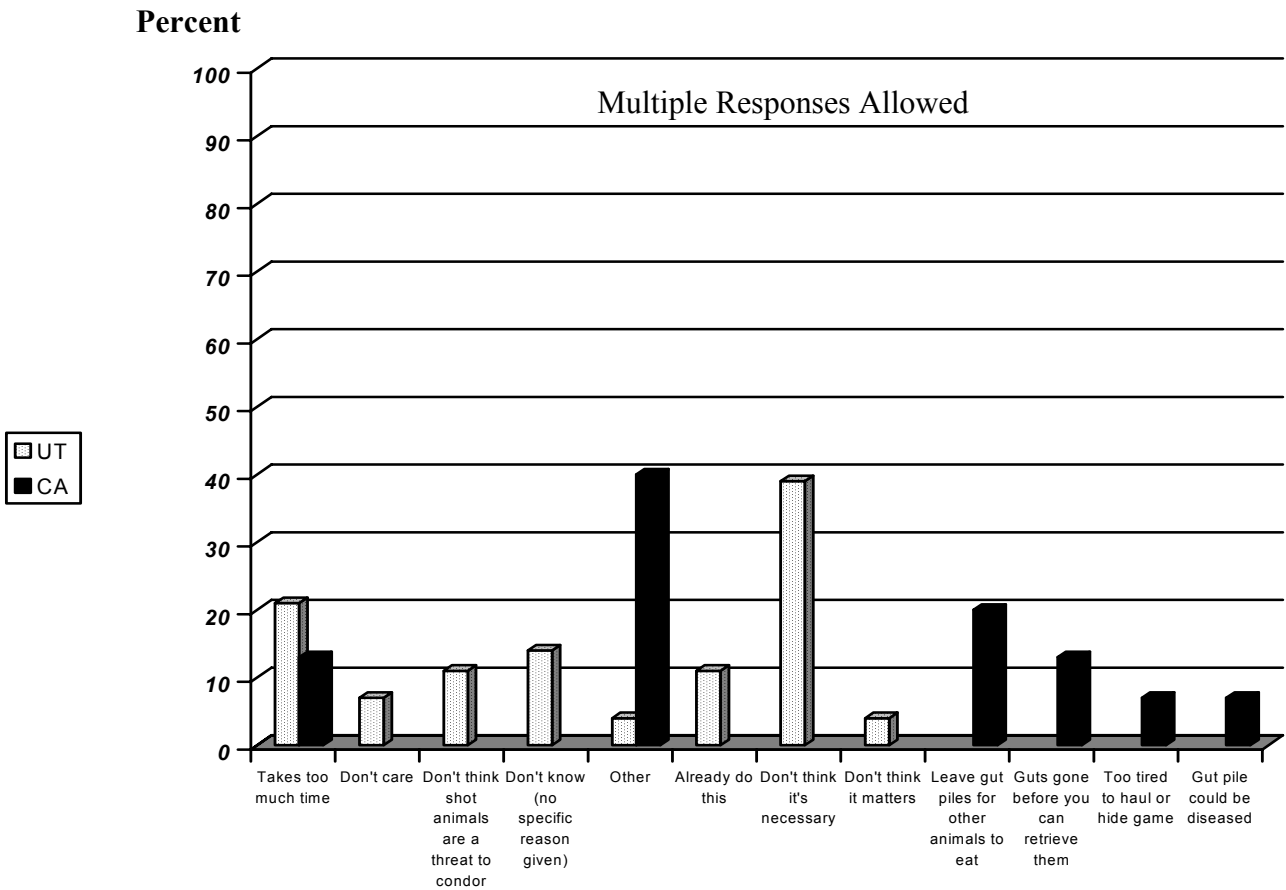
Would you be very willing, somewhat willing, or not at all willing to retrieve all animals you kill from the field?



Would you be very willing, somewhat willing, or not at all willing to hide or cover carcasses or guts by covering them with brush and/or rocks or by placing them in inaccessible areas?



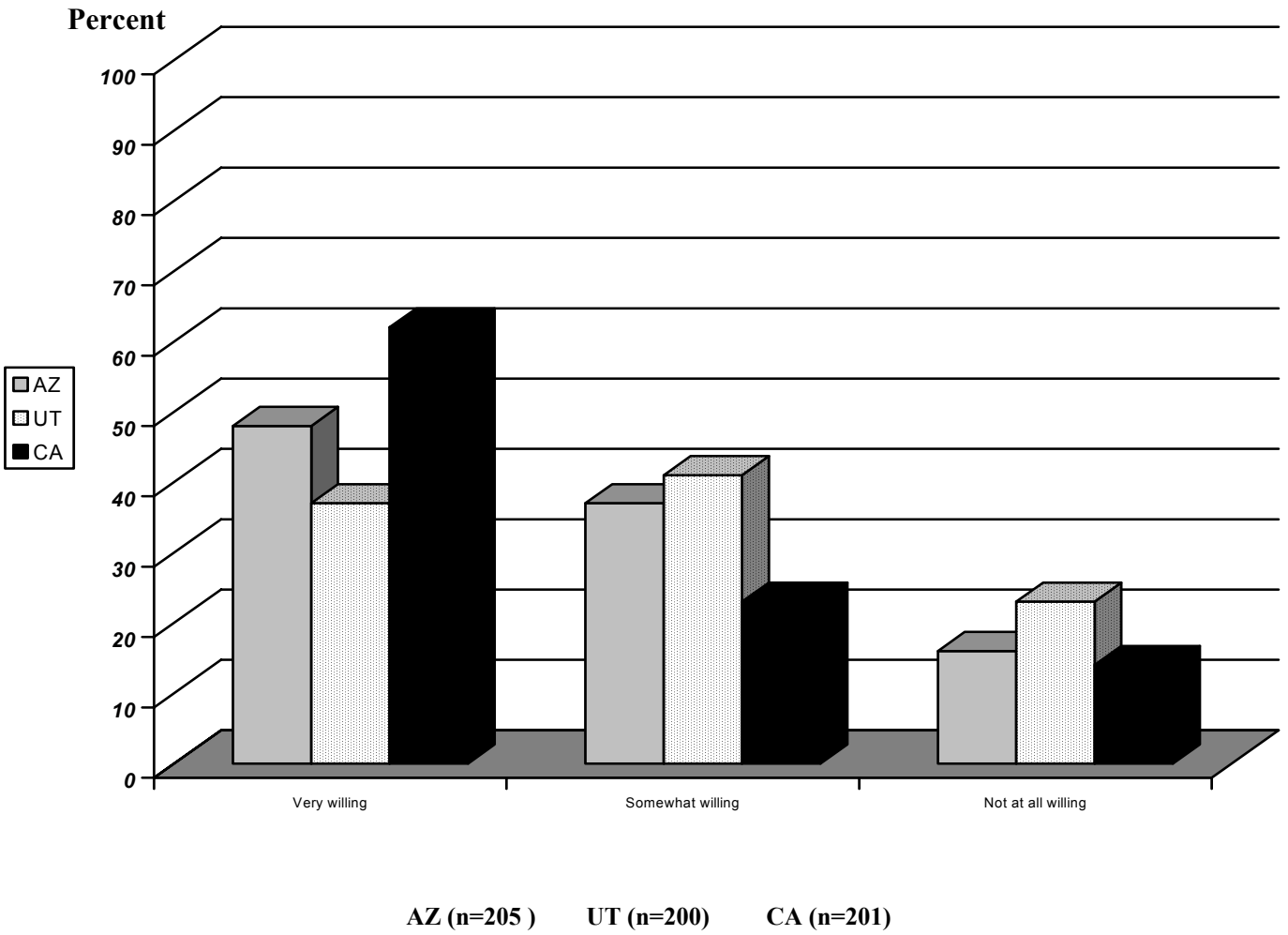
You commented that you would not be willing to hide or cover carcasses or guts by covering them or placing them in inaccessible areas. Why are you reluctant to do this? (Asked of those who indicated unwillingness to hide/cover or place them in inaccessible areas.)



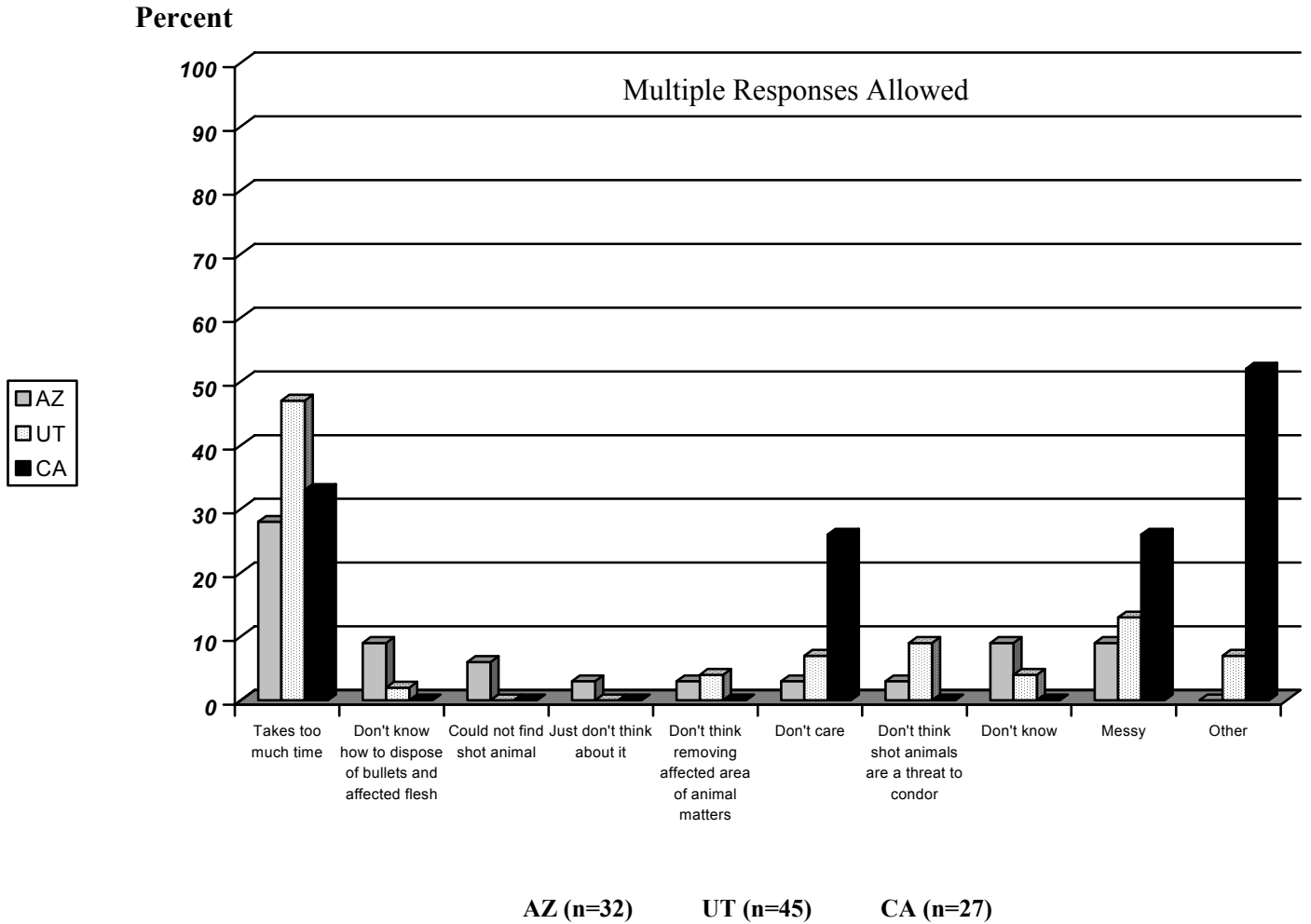
UT (n=28)

CA (n=15)

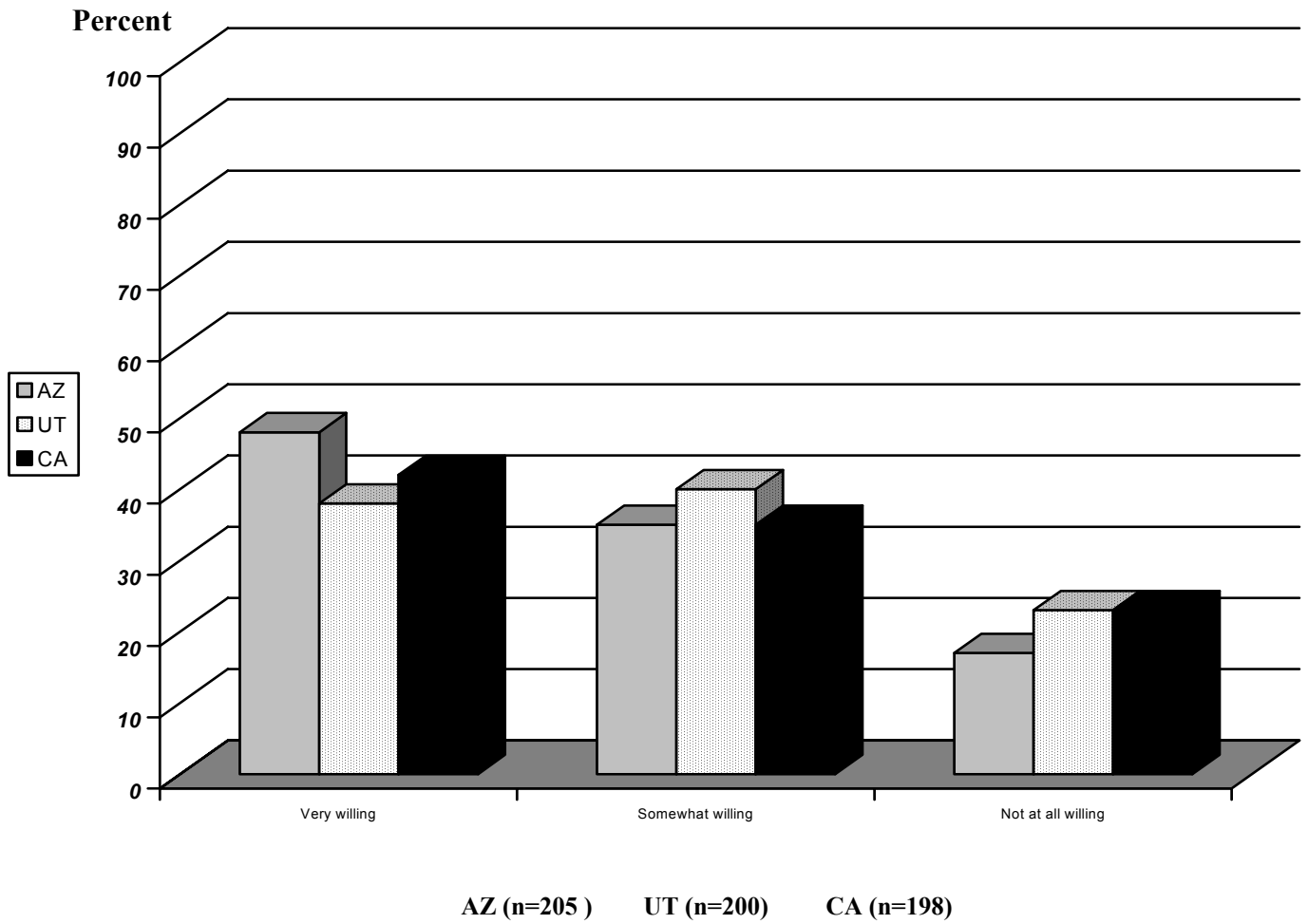
Would you be very willing, somewhat willing, or not at all willing to remove bullets and surrounding impacted flesh when leaving carcasses or gut piles in the field?



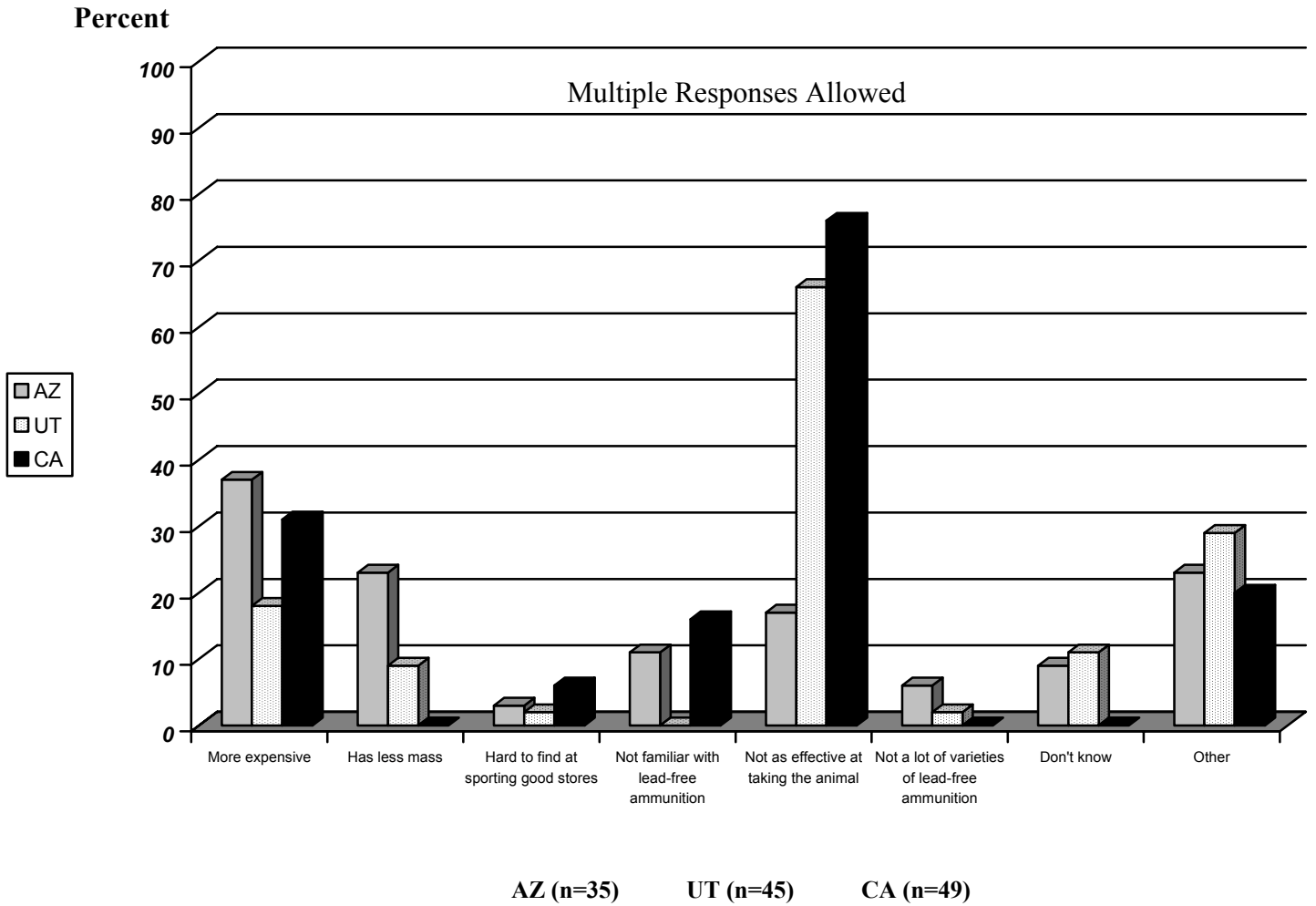
You commented that you would not be willing to remove bullets and surrounding impacted flesh when leaving carcasses or gut piles in the field. Why are you reluctant to do this? (Asked of those who indicated unwillingness to remove bullets and surrounding impacted flesh when leaving carcasses or gut piles in the field.)



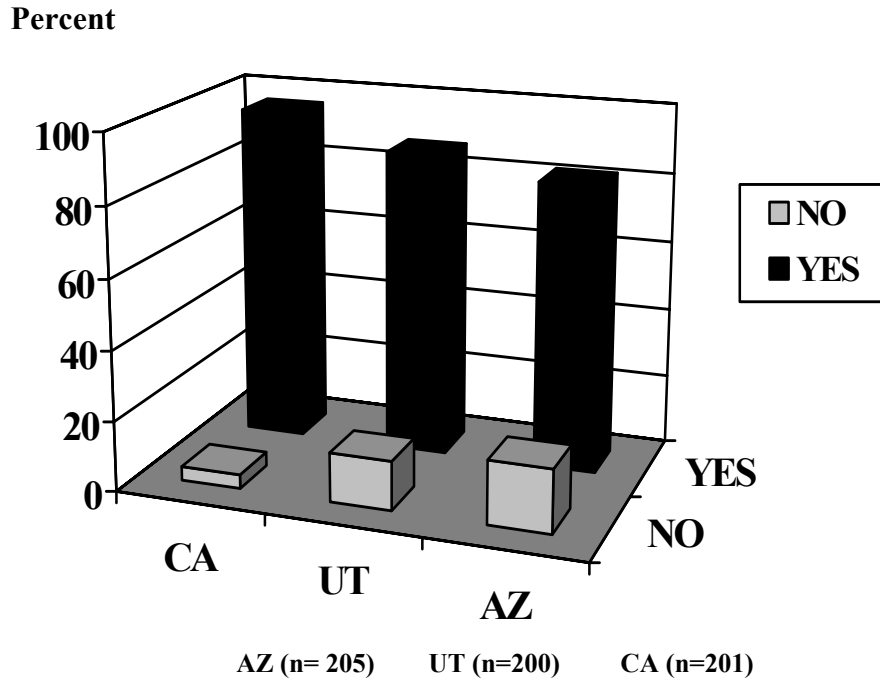
Would you be very willing, somewhat willing, or not at all willing to use lead-free ammunition?



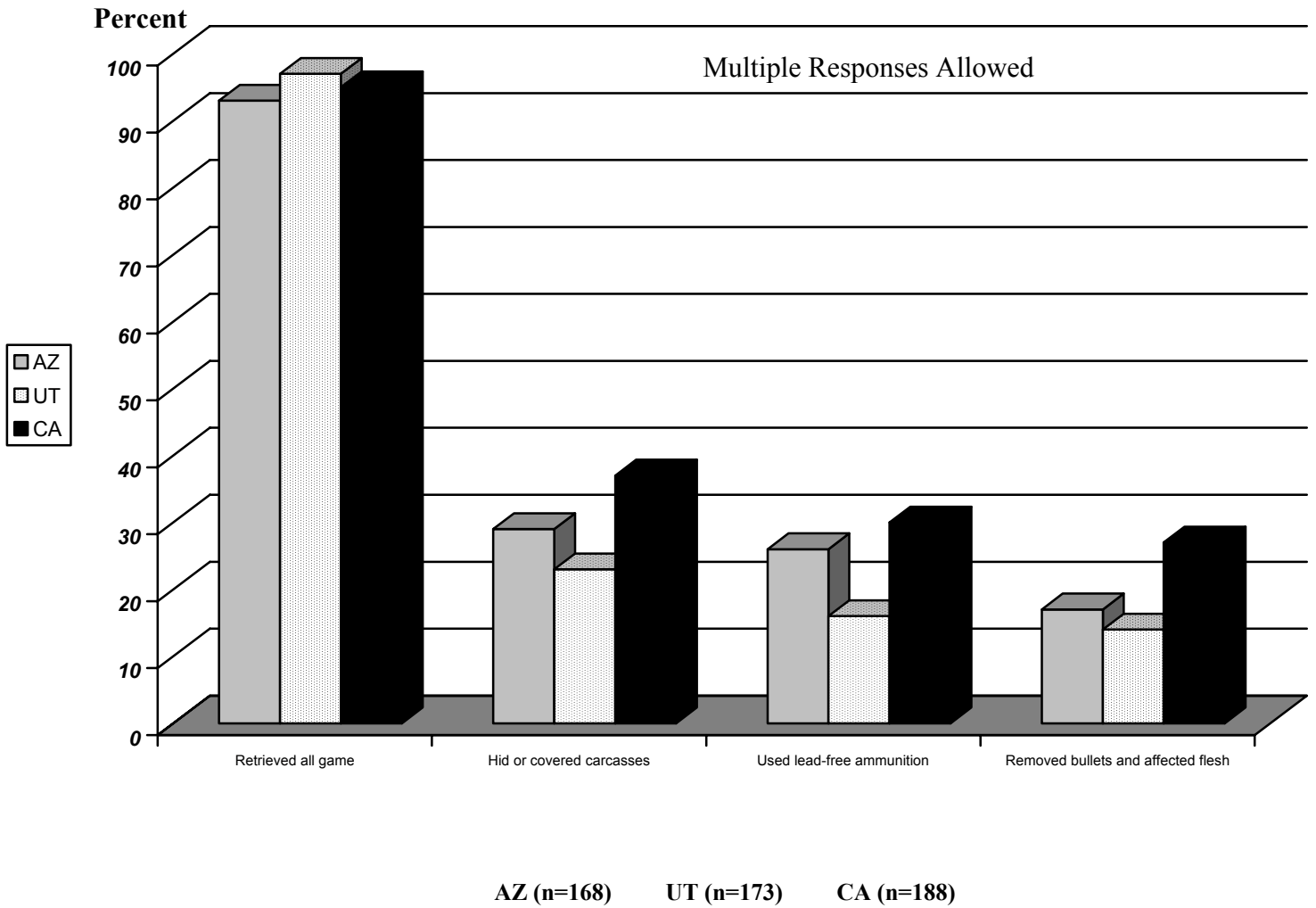
You commented that you would not be willing to use lead-free ammunition. Why are you reluctant to do this? (Asked of those who indicated unwillingness to use lead-free ammunition.)



Have you taken any of these four actions during recent hunts (retrieved all game, hide or cover carcasses, remove bullets and affected flesh, use lead-free ammunition?)



Which of these actions have you taken during recent hunts? (Asked of those who indicated that they took one of the four actions during recent hunts.)



Appendix B. Summary of Focus Group Responses

Following are results compiled from all 11 focus groups in all three states.

Please rate how effective the following DRAFT MESSAGES are at convincing YOU that action is needed to help conserve California condors.

- 1 – Very Effective
- 2 – Somewhat Effective
- 3 – Neutral
- 4 – Somewhat Ineffective
- 5 – Very Ineffective

1. _____ The California condor is a rare and unique species that is part of our natural heritage.

| |
|---|
| Average =3.03 (n=96) |
| 11.5% of the respondents felt that this message was Very Effective |
| 20.8% of the respondents felt that this message was Somewhat Effective |
| 32.3% of the respondents were Neutral about the effectiveness of this message |
| 24.0% of the respondents felt that this message was Somewhat Ineffective |
| 11.5% of the respondents felt that this message was Very Ineffective |

2. _____ California condors are on the comeback from the brink of extinction.

| |
|---|
| Average = 3.08 (n=96) |
| 5.2% of the respondents felt that this message was Very Effective |
| 31.3% of the respondents felt that this message was Somewhat Effective |
| 30.2% of the respondents were Neutral about the effectiveness of this message |
| 16.7% of the respondents felt that this message was Somewhat Ineffective |
| 16.7% of the respondents felt that this message was Very Ineffective |

3. _____ Many of the California condors in the wild are suffering from lead poisoning. At least some of this lead is known to come from lead shot or bullet fragments.

| |
|---|
| Average = 3.69 (n=96) |
| 8.3% of the respondents felt that this message was Very Effective |
| 14.6% of the respondents felt that this message was Somewhat Effective |
| 11.5% of the respondents were Neutral about the effectiveness of this message |

| |
|--|
| 31.3% of the respondents felt that this message was Somewhat Ineffective |
| 34.4% of the respondents felt that this message was Very Ineffective |

4. _____ Although other sources of lead exposure may exist, some condors are known to have eaten lead shot or bullet fragments when feeding on animal carcasses; several condors have died from this and many more have required medical treatment for lead poisoning.

| |
|---|
| Average = 3.44 (n=96) |
| 6.3% of the respondents felt that this message was Very Effective |
| 16.7% of the respondents felt that this message was Somewhat Effective |
| 15.6% of the respondents were Neutral about the effectiveness of this message |
| 50.0% of the respondents felt that this message was Somewhat Ineffective |
| 11.5% of the respondents felt that this message was Very Ineffective |

5. _____ There are some anti-hunting organizations that may try to use the lead poisoning issue as a reason to close hunting seasons or reduce hunting opportunities in condor habitat areas. Voluntarily addressing this issue may reduce the risk of lawsuits and restrictions.

| |
|---|
| Average = 2.61 (n=95) |
| 31.6% of the respondents felt that this message was Very Effective |
| 25.3% of the respondents felt that this message was Somewhat Effective |
| 11.6% of the respondents were Neutral about the effectiveness of this message |
| 13.7% of the respondents felt that this message was Somewhat Ineffective |
| 17.9% of the respondents felt that this message was Very Ineffective |

6. _____ Hunters have a long history of conserving all kinds of wildlife. They can continue this tradition and help prevent lead poisoning in California condors by:

| |
|--|
| Average = 1.80 (n=89) |
| 52.8% of the respondents felt that this message was Very Effective |
| 28.1% of the respondents felt that this message was Somewhat Effective |
| 7.9% of the respondents were Neutral about the effectiveness of this message |
| 9.0% of the respondents felt that this message was Somewhat Ineffective |
| 5.6% of the respondents felt that this message was Very Ineffective |

- 6a. _____ Retrieving all animals they shoot (including coyotes, varmints, and small game) from the field;

| |
|-----------------------|
| Average = 2.88 (n=96) |
|-----------------------|

| |
|---|
| 18.8% of the respondents felt that this message was Very Effective |
| 28.1% of the respondents felt that this message was Somewhat Effective |
| 16.7% of the respondents were Neutral about the effectiveness of this message |
| 19.9% of the respondents felt that this message was Somewhat Ineffective |
| 16.7% of the respondents felt that this message was Very Ineffective |

6b. _____ Hiding carcasses or gut piles by burying them, covering them with brush or rocks, or placing them where condors can't get to them;

| |
|---|
| Average = 2.76 (n=96) |
| 19.8% of the respondents felt that this message was Very Effective |
| 36.5% of the respondents felt that this message was Somewhat Effective |
| 12.5% of the respondents were Neutral about the effectiveness of this message |
| 10.4% of the respondents felt that this message was Somewhat Ineffective |
| 20.8% of the respondents felt that this message was Very Ineffective |

6c. _____ Removing bullets and surrounding affected flesh when leaving carcasses or gut piles in the field;

| |
|---|
| Average = 3.35 (n=96) |
| 13.5% of the respondents felt that this message was Very Effective |
| 21.9% of the respondents felt that this message was Somewhat Effective |
| 15.6% of the respondents were Neutral about the effectiveness of this message |
| 13.5% of the respondents felt that this message was Somewhat Ineffective |
| 35.4% of the respondents felt that this message was Very Ineffective |

6d. _____ Using non-toxic ammunition.

| |
|---|
| Average = 2.46 (n=96) |
| 25.0% of the respondents felt that this message was Very Effective |
| 36.5% of the respondents felt that this message was Somewhat Effective |
| 17.8% of the respondents were Neutral about the effectiveness of this message |
| 9.4% of the respondents felt that this message was Somewhat Ineffective |
| 11.5% of the respondents felt that this message was Very Ineffective |

7. _____ A lot of natural resources agencies and sportsmen's organizations have joined a partnership to try to figure out how to reduce the amount of lead from spent ammunition available to condors.

| |
|--|
| Average = 2.48 (n=93) |
| 20.4% of the respondents felt that this message was Very Effective |

| |
|---|
| 35.5% of the respondents felt that this message was Somewhat Effective |
| 25.8% of the respondents were Neutral about the effectiveness of this message |
| 11.8% of the respondents felt that this message was Somewhat Ineffective |
| 6.5% of the respondents felt that this message was Very Ineffective |

Please give a brief answer to the following open-ended questions:

8. Do you think hunters in general care enough about California condors to take any of the actions listed above? Please explain.

Yes. But education of the masses needs to cover more than just hunters.

I think everyone cares about extinct or endangered species.

Yes! Because we are all conservationist and don't want to loose what we got so our kids can enjoy.

Yes, but need more solid facts.

Yes, I think most hunters would be willing to use non-toxic ammunition or cover kills/parts to save condors.

We will do our best to improve condor existence if hunting lead is the cause of their demise. I believe it would be to our advantage to take issue off the table by going the extra mile for the bird & doing away with lead bullets if industry makes available.

In general, most hunters care, but depending on how professional a hunter is would depend on the action he would take.

They care, but a realistic approach would be needed to get their support. 1-6 are not realistic.

Yes, with proof most people in general will try to conserve wildlife

Yes, but what is the price to keep them around and the fear of what would happen to the farm or ranch because of the endangered species.

Hunters are conservationists and would take action to help the condor's chances for survival.

They would take action if they had all the facts that were proven.

Most

Yes, I believe informed hunters do care. Magazines, internet, national magazines, weekly publications

Yes if given good info.

Yes, they know if they don't they won't hunt fairly soon.

Yes, but I think they would want lead poisoning reduction for all species.

Yes, ranchers are always involved with conservation and will do a lot to help.

I think most ranchers would do almost anything within reason to protect condors unless we are told we must do something unreasonable.

Yes, the sensible ones.

Yes (8 people gave this 1-word response)

No (2 people gave this 1-word response).

No, because most don't know a lot about them! Lack info.

In general, I don't feel that all hunters would take the means or actions to protect or save the condor.

Most care about all wildlife, most won't take action.

No. I think the range for condors is limited to the southern area of the state and northern California hunters may not be concerned.

No because don't know enough

9. How do you get your information about hunting issues?

AZGFD, newspaper, PBS-TV, hunting shows, several Internet sites.

AZGFD New letter, Deer Times, AZ. Wildlife News, RTAFF (?), AZ. Republic

North American hunting organization.

NRA, Mule Deer Association, outdoor magazines.

Regional & State newsletters

Deer Times, AZ. Wildlife news, NRA, American Hunter, AZ game & fish.

Monthly New Letters, RMEF, Muley Crazy, Ax. Republic, AZ. Bow Hunters, AZ. Game & Fish.

Friends, Family

Word of mouth, Internet, magazines.

Sporting Magazines, meetings, and some TV coverage.

Word of mouth

Through the AZ. Predator callers & wildlife conservation council newsletters, AZ. Game & Fish regulations.

Personal contacts, club meetings, and WCC meetings.

Sporting magazines, newspapers, TV, conservation, organizations, sporting websites

hunt regs, newsletter, and websites

Meeting, AZ Game & Fish reg's.

AZ Game & Fish Professionals

Hunting organizations; SCI, DU, Rocky Mountain Elk. Some online -chat forums - hunting magazines.

Magazines, News Papers, other hunters, Fish & Game magazines.

State proclamations (hunting regs), magazines, hunt clubs, other hunters.

Internet, reading, attending meetings and talking to other hunters.

Hunting magazines, Fish & Game Dept. info. & Commission meetings.

Internet, magazines, pro-hunting groups.

Publications

Western Hunter.com, press, periodicals, clubs associations, SCI

Magazines, Internet, books

Hunting publications, other hunters.

Computer, meetings, magazines, government agencies, clubs, other hunters.

Magazine subscriptions = 5 related to hunting/shooting. Internet.

Fish & Game and other sportsman's groups and publications.

Email, Cal Deer, North American Hunting Club, Mule Deer

Cal Deer, Mule Deer

News (Western Outdoor New), The Mule Deer Found, California Deer Assoc.

From fellow hunters, email, western outdoors

Hed (sp?) Quarterly. Fish & Game should add this to the journal to inform instructors each month

Internet, publications, DFG and others.

NRA, DU, WON, CDFG publications

National magazine, Fish & Game.

Magazine, Fish & Game agencies, Internet, newspapers, basically anywhere I can find it.

Through magazines, info from Dept. of Fish & Game.

Radio, Paper

Local magazines & papers

Texas Target Talks, IHEA, TPWD, IAWA, NRA, Websites.

Various

News, books, friends and hunters

Hunters, books, magazines

From my father

American Hunter, Guns and Ammo, Hunting regulations

Hunting news and magazines

Hunting magazines

Hunting magazines, friends

Magazines, Internet, fish and game department

Tracker, word of mouth

Western Outdoor News

Outdoor news, books, etc.

Petersen hunting, Outdoor Life, American Rifleman, American Hunter

Magazines, newspapers

AZ Republic, Range Magazine

Farm Bureau (Utah), Word of mouth

Farm Bureau, Cattle Growers, and direct contact with government officials

Magazines (3)

Cattleman's Association, other ranchers

- a. What would be the best way to communicate these messages about condors to other hunters?

Newspapers, radio & TV ads.

AZ Republic

Newsletters, proof of the issue

Radio, TV - Hunting Group

Word of mouth.

By word of mouth and AZ Game & Fish.

Game & Fish regulation booklet, flyers with tags.

AZ. Game & Fish publications

Through Government agencies, Fish & Game probably the best source.

Tracks magazine

Put a major ad campaign in Cabela's, local newspapers & sportsmen groups.

Thru sportsmen's clubs, hunting magazines, Internet.

Get realistic

Open forums, mailers

TV, Print Media

Outdoor publications

Magazines, email.

Western Hunter.com, CDFG "Tracks" publications.

Factual meetings with proof that the lead is a problem.

Other Hunters

Brochures in paper articles.

Use forest service or postings at forest entrance stations.

Hunter Education classes.

Sportsman's magazines, hunter education courses, & hunting clinics.

Paper, Radio, Magazines

At update seminars, websites

Hunting Regulations.

Fish and game

Hunting regulations

IN the tags, gun stores, gun shows

Sporting goods stores

Education

Tags - gun shops

Media, Brochures, pamphlets, literature

Government agencies

Flyer with tags

Proclamation. DWR web site.

Farm Bureau, state agriculture extension agent

Extension service

Agriculture Magazines, Cattlegrower Association Publications.

Cattleman's Association, NRCS-NRCD, magazine

- b. Who would be the most credible person or organization to deliver these messages?

Knowledgeable person, casual & faithful.

State Game and Fish Department (13)

A regular Joe that is well educated on the issue.

State Game and Fish Department biologist (2)

Local hunting organizations, local wildlife manager.

Professionals as localized as possible

My father. Loyal hunter for 40 years.

This is a regional issue - Needs to be tackled by regional spokesman & groups.

Not sure

I don't think there is one right now. The message at this meeting is not credible.

Pro-hunting organizations.

"Celebrity Type", recognizable figure, SCI, other pro-hunting conservation groups.

NRA

Charlton Heston

Charlton Heston - Jamison Parker

Don't know any at this time.

California Fish & Game and any other recognized organizations.

Some type of pro-hunting conservation organization, maybe California Deer Association.

Every responsible hunter.

Game wardens (2)

Farm Bureau president, Utah Cattleman's President

Farm Bureau

Doug Miller - Salt Lake City

Charlton Heston, George Bush

Arizona Cattleman's Association

NRCS-NRCD

- c. Are there any particular types of messengers or ways of communicating that would NOT be credible with you?

Actors

Anti-hunters. One-sided people!

Anti-hunting groups and "green" types with bias are not credible. Good science is what we need to present to the sports community.

Fish & Game or any conservation group = Sierra Club, PETA, Wildlife conservation.

Flyers

Force

From radical environmental groups

Like to know more facts

No (5)

Nothing comes to mind-except PETA publications and the like.

Ones without solid scientific facts.

Paid celebrities

PETA and other anti-hunting organizations.

Popular/More Star-type spokesmen

Scare tactics

Sierra Club, Grand Canyon Trust, P.E.T.A, any radical anti-hunting organization.

Sierra Club

Special interest groups.

Sport Picayune

The anti-hunting groups.

The zealots that don't look at the big picture.

TV personalities, kiosks, certain key organizations like Sierra Club.

10. Do you have any concerns about California condors that have not been addressed in this meeting?

But we need the true facts.

By individualizing the condor, are you further endangering other species affected by lead poisoning?

Encroachment

Headed for extinction, not enough proper habitat here.

Just concerned about my hunting rights.

Need more information to other hunters, such as in schools.

No (14)

Not really

Solid facts about the lead related deaths & injuries, especially the lead ingested issues. How many do die from lead, cars, other.

The issue is not lead of any kind. The condor is a unique species that requires tremendous amount of land & habitat similar to the way it was hundreds of years ago and the current world are never going to get back to this state so the artificial zoo is their only hope to survive in the future. What is the cost/benefit?

What is the cost and what are the odds for survival with or without lead.

What may happen in the future? Regulations? Restrictions?

Yes, who has control of the ranchers who use all types of poison to control of the type of squirrels? All of them use poison all year.

11. Can you think of other actions hunters could take to reduce the risk that condors will be exposed to lead?

Archery only

Marksmanship requirements & training to be licensed & certified.

Captive breeding - no release.

Existentialism

Find the truth for the death of condors and get this information out to both hunters & non-hunters alike.

I think the most practical solutions have been covered.

I wish I could.

Just be more conscientious in the field

Make sure you have a good kill shot so you don't lose the animal.

Need the know where all the lead in vultures comes from.

No (8)

No comment, see #10

Put them all in the zoos.

Run more test to see what died and from where.

Use trade organization just like the waterfowl issue.

Additional comments

Q(1) leaves a concern for a loss of hunting in some avenue. Q(6d) if the cost were made reasonable.

Q(1) Makes me think of endangered species act which I fear has been abused., Q(4) Better than #3 but still need more specifics., Q(5) Dangerous message to use- might give arguments to anti-hunting groups., Q(6d) I have a large investment in existing lead-core bullets.

Q(1) Rare & Unique....yes, but not considered part of "Natural Heritage" to my way of thinking.

Q(3) 1992 144 released, 17 lead poisoned, 4 died

Q(3) Red Flag!

Q(6) A little education.

Q(6) Being aware of the potential for lead poisoning in Condor areas, and taking steps to minimize the possibility of being a source of that poisoning.

Responded split Q(5) into two questions. They made the last sentence its own statement and responded with a #1.

Respondent added (1) "If National" in place of "Natural" on Q(1).

Respondent added, "Change some wording" to Q(3).

Respondent added, "There have been documented cases" and crossed out "Many" and "The" in the 1st sentence.

Crossed out "At Least" and capitalized "S" in some on the 2nd sentence. Added the word "Will" between "Issue" and "May", then crossed out "May" and added "Help" on the last sentence of Q(5). Wrote "Eliminate if possible" next to Q(5).

Started Q(6) with, "As sportsmen we" and crossed out, "Hunters". Changed "They" to "We" at the beginning of second sentence. Changed "They" to "We" in Q(6a).

Respondent circled "A rare" and "Unique" in Q(1). Added "Optional use of" to Q(6d). Underlined "Out how to reduce the amount of lead from spent ammunition available to condors".

Respondent circled "Part of Our Natural Heritage" with a ? Over it in Q(1). Added "Non" over "Anti" in the 1st sentence of Q(5). Circled "Hiding" and "Covering them with brush" in Q(6b). Underlined "Other" in Q(11) with no response.

Respondent circled #10, but left no response.

Respondent underlined "Extinction" in Q(2).

Respondent underlined "Rare" "Unique" & "Natural Heritage" on Q(1). Underlined "Comeback" & "Brink of extinction" on Q(2). Added "+ more proof. Political correctness involved?? Negative statement, basically. Other fowl?" to Q(3).

Underlined "Some condors", "Several" & "Many More" and added, "Other species?" "Geared against hunters." "Several versus many More?" on Q(4). Added, "Good lead in statement" on Q(6). Asked, "What type?" on Q(6d).

Respondent underlined, "At least some" in Q(3) and "May", "Some" and "Several" in Q(4).

Respondent wrote, "Add more species to this statement" on Q(3). Circled "May" and added "Will" to Q(5). Underlined "Of conserving" and added a \$ sign before Q(6). Underlined "Small Game" on Q(6a).

Respondent wrote, "Raises red flag & starts out the lie!" and underlined "Rare" in Q(1)

Threat minority to Q(5), 30y to Q(6), Dump to Q(6a.), voluntary to Q(6d.), people first to Q(7.), People first at end of survey

Appendix C. [Arizona] Hunters' Knowledge of and Attitudes Toward Threats to California Condors

(Published under separate cover by Responsive Management, Harrisonburg, VA, 2003.)

Appendix D. California Hunters' Knowledge of and Attitudes Toward Threats to California Condors

(Published under separate cover by Responsive Management, Harrisonburg, VA, 2004.)

Appendix E. Utah Hunters' Knowledge of and Attitudes Toward Threats to California Condors

(Published under separate cover by Responsive Management, Harrisonburg, VA, 2003.)

Appendix F. Summary of Actions Taken in Arizona to Raise Awareness of Lead Issues Associated with California Condors

2003

- Full-page article on the issue in the 2003-2004 Hunting Regulations Book. This information was placed adjacent to the turkey hunting regulations due to some concern over misidentification of condors during turkey seasons.
- Sent letters to 3,700 hunters who drew turkey, deer, elk and bighorn sheep tags in areas north and south of the Grand Canyon where condors could be encountered. This mailing included a copy of the page from the hunting regulations.
- Conducted hunter interviews at our mandatory Jacob Lake Check Station (on the Kaibab Plateau north of the Grand Canyon and west of the condor release site) asking hunters if they received information about lead or read about it in the regulations and if so, did they modify their behavior as a result of what they read.
- Posted notices to varmint hunters on the Kaibab Plateau to notify them of condors in the area and issues associated with lead in carcasses.
- Provided copper slugs to our Wildlife Managers in the condor area and other law enforcement officers (sheriff, Forest Service, Brand Inspector) to use for dispatching injured big game to avoid deposition of lead.

2004

- Full-page article on the issue in the 2004-2005 Hunting Regulations Book. Information about lead and condors was included as this was something hunters in the focus groups requested, including the number dead from lead and number chelated.
- Sent letters to 7,800 hunters who drew turkey, deer, elk and bighorn sheep tags in areas north and south of the Grand Canyon where condors could be encountered. One unit south of the Grand Canyon with lots of hunters was added which accounted for most of the increase in numbers. This mailing included information about availability and prices of non-lead ammunition.
- A section was added to our Department web page (www.azgfd.gov) under the condor recovery section to allow download of information on non-lead ammunition and prices.
- The Department and Grand Canyon National Park hosted a meeting with representatives of the National Park Service, the Department, the Arizona Department of Transportation, the Sheriff's office, the Highway patrol, etc. to discuss road kill/animal dispatch issues in the condor area south of Grand Canyon. Non-lead ammunition was distributed for their use.
- Provided input into an article in Sedona Magazine on condors with a good discussion on lead issues.
- Created a display on condors for the Jacob Lake Forest Service Visitor Center. A large section of this display is an ATTENTION HUNTERS section with information similar to the Hunting Regulation piece. Additionally, there are handouts with this information for distribution.

Appendix G. Summary of Actions Taken in California to Raise Awareness of Lead Issues Associated with California Condors

2003

- June 2003 – California Department of Fish and Game (CDFG) disseminated the final report entitled, “Assessment of Lead Contamination Sources Exposing California Condors” by Dr. Michael Fry. The report is available at: http://www.dfg.ca.gov/hcpb/info/bm_research/bm_pdfrpts/2003_02.pdf
- June 6, 2003 - CDFG and USFWS issued a press release requesting hunters to assist in the condor recovery effort by taking voluntary steps to reduce the potential exposure of condors to lead ammunition.

2004

- January 2004 - CDFG assisted the Wildlife Management Institute and Responsive Management in drafting the hunter interview questionnaire, "Hunters' Knowledge of and Attitudes Toward Threats to California Condors."
- Early 2004 - CDFG published an article in the Department's online hunter outreach magazine "Big Game Tracks," describing the issue of lead in condor range, together with a map showing the condor range in relation to county boundaries. The article is available at: http://www.dfg.ca.gov/coned/tracks/tracksbiggm2004_5.pdf
- Summer 2003 and summer 2004 - The DFG license office enclosed a copy of the June 6, 2003 condor/lead news release in all mailings of deer tag information to hunters of big game in condor range.
- Annual - Tag holders for special elk hunts must attend a mandatory hunter orientation. For those hunter orientations in areas of the condor range, information on how to reduce the potential exposure of condors to lead ammunition is provided to attendees. Those areas include the Fort Hunter-Liggett Hunt Area in Monterey County and the La Panza Elk Hunt Area, covering portions of San Luis Obispo, Kern, Monterey, Kings, Fresno and Santa Barbara counties. Next year, condor/lead information will be part of the hunter orientation for deer and pig hunters on the large Chimineas Ranch property that CDFG recently acquired in San Luis Obispo County.
- Currently, CDFG, USFWS, and VWS are making a concerted effort to compile all records of high lead exposure and of all blood lead samplings.
- Status of released condors in California in 2003 and 2004:
In past two years, the wild population has increased from 38 birds (11/1/02) to 54 (11/1/04). During that period there have been 11 losses, all in 2003 (1 permanent removal for a hip injury, 1 shooting death, 1 predation death, 1 emaciation, 2 powerline deaths, 1 lead-related death, and 4 missing/presumed dead). There have been no losses of released birds since October 2003, although one bird has been missing the past two weeks, which is too soon to be presumed dead.
- Breeding in the wild:
One pair nested in the wild in 2003, but the nestling died from ingestion of trash brought to the nest by parents. Three pairs nested in 2004, and all eggs hatched. One nestling fledged recently, the first wild nestling to fledge in California in 22

years. One other nestling died from ingesting trash, and another fell from the nest, broke a wing; it was treated for trash ingestion and the wing injury and is expected to be released.