2001

# "VERTEBRATE PESTS OF AGRICULTURE, FORESTRY AND PUBLIC LANDS" 2001 ANNUAL MEETING

WCC-95

# "VERTEBRATE PESTS OF AGRICULTURE, FORESTRY AND PUBLIC LANDS"

# 2001 ANNUAL MEETING

MINUTES
ABSTRACTS

NOVEMBER 13-15, 2001
RENO, NEVADA

Vertebrate Pests of Agriculture, Forestry and Public Lands
November 13-15, 2001
Reno, Nevada

## 2001 Officers

**Chair:** Dallas Virchow
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**Vice-Chair:** John Baroch
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**Secretary:** Dale L. Nolte
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**Arrangements:** John O'Brien
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# MINUTES

**Number and title of the regional project:**

WCC-095 Vertebrate Pests Of Agriculture, Forestry and Public Lands

**Location and dates of the meeting:**

Reno, Nevada
November 13-15, 2001

**Attendees (n=30):**

| Participants Attending: | Representing: |
|---|---|
| L. Askham | Bird Shield Repellent Corporation, Pullman, WA |
| R. Baker | California State Polytechnic University, Pomona, CA |
| J. Baroch | Genesis Laboratories, Inc. Fort Collins, CO |
| K. Fagerstone | USDA/APHIS/WS/NWRC, Fort Collins, CO |
| D. Freeman | Rodent Control Outfitters (RCO), Harrisburg, OR |
| E. Marshall | Lipha Tech, Inc., Milwaukee, WI |
| D. Nolte | USDA/APHIS/WS/NWRC, Olympia, WA |
| J. O'Brien | Nevada Division of Agriculture, Reno, NV |
| T. Salmon | University of California, Davis, CA |
| R. Schmidt | Utah State University, Logan, UT |
| J. Shelgren | California EPA, Sacramento, CA |
| M. Sullins | Montana Department of Agriculture, Billings, MT |
| L. Sullivan | University of Arizona, Tucson, AZ |
| J. Thompson | HACCO, Inc., Madison, WI |
| R. Timm | Hopland Research and Extension Center, Hopland, CA |
| D. Virchow | University of Nebraska, Lincoln, NE |
| D. Whisson | University of California, Davis, CA |

| **Others Attending:** | **Representing** |
|---|---|
| A. Berentsen | UC-Davis, Davis, CA |
| R. Eng | California Department of Food and Agriculture, Sacramento, CA |
| E. Foster | Nevada Department of Agriculture, Reno, NV |
| P. Gadd | Sonoma County Agriculture Commissioner, Santa Rose, CA |
| J. Green | USDA/APHIS/WS, Lakewood, CO |
| W.P. Gorenzel | UC-Davis, Davis, CA |
| B. Hagen | South Dakota Dept. of Agriculture, Pierre, SD |
| W. Howard | UC-Davis, Davis, CA |
| S. Hygnstrom | University of Nebraska, Lincoln, NE |
| R. Marsh | UC-Davis, Davis, CA |
| P. Nash | USDA/APHIS/WS/NWRC, Fort Collins, CO |
| D. Schnabel | California Department of Food and Agriculture, Sacramento, CA |
| G. Ziegltrum | Washington Forest Protection Association, Olympia, WA |

ADOPTED AGENDA

**Convening of Sessions (Tuesday 13 November)**

| | |
|---|---|
| 1:30–2:15 PM | **Working with the Media**<br>Special Speaker: Ed Foster<br>Agriculturist and Public Information Officer, Nevada Division of Agriculture |
| 2:15–3:05 PM | **Science and Public Affairs**<br>Teresa Howes<br>USDA Wildlife Services, Fort Collins, CO |
| 3:05–3:15 PM | **Break** |
| 3:15–3:50 PM | **Lessons from Discussion Concerning the Media and Pigs** (not to be confused with discussions concerning the media as pig-headed)<br>Robert H. Schmidt<br>Department of Fisheries and Wildlife, Jack Berryman Institute Utah State |
| 3:50–4:30 PM | **Public Relations Lessons Learned from the Prairie Dog Interagency Task Force**<br>Dallas Virchow, Project Coordinator<br>Wildlife Damage, University of Nebraska |
| 4:30 PM | **Announcements** |

**2001 Business Meeting (Wednesday November 14)**

8:30 – 10:30 AM Business Meeting

The Chair, Dallas Virchow, welcomed participants to WCC-95 business meeting and called the meeting to order.

The Chair reviewed last year's minutes asking if there were any questions or comments. There were none and the minutes were approved by unanimous vote. Monty Sullins moved to accept the minutes. Howdy Howard seconded the motion and the motion carried to accept the minutes.

Old Business Action Items

*Printing of Minutes, and Brochure Distribution*

Dale Nolte announced the NWRC Olympia Field Station will prepare the minutes. Ray Sterner, NWRC in Fort Collins, will handle printing and mailing of the minutes.

WCC brochure examples were distributed among participants. Kathy Fagerstone offered to provide additional copies to those who wanted them. This information also will be posted on the web-site.

Rex Baker exchanged copies of the WCC-95 brochure with the citrus industry. The citrus industry has indicated that they plan to follow the example provided by the brochure.

*Advance Distribution of Meeting Agenda*

The agenda was distributed to participants in October of this year.

*Committee to Develop White papers on Wildlife Damager Management Issues*

In place of white papers, the forum *Working with the Media* was presented at this meeting. No white papers have been prepared.

*Developing Meeting for 2001*

Working with the Media

Agenda and call for papers

Organizing meeting changes? Open to discussion? None

New Business

*Vertebrate Pest Group Forming in the East*

Kathy Fagerstone asked whether a Northeast WCC group had been formed. Scott Hyngstrom provided information on a Northeast Cooperative that had been created, but was unsure whether another WCC had been formed. Dallas Virchow offered to follow up on this issue.

*Financial Report*

It was agreed during the 2000 WCC-95 for attendance fees to be increased to $35.00. It was also suggested the 2000 and 2001 budget report be published in this year's minutes.

The financial report for 2000 is as follows:

| | |
|---|---|
| Balance | $ 180.40 |
| Income from Registrations | $1,390.09 |
| Circus Circus Expense | <$1,342.81> |
| Current Funds | $ 227.68 |

The financial report for 2001 is as follows:

| | |
|---|---|
| Balance from 2000 | $ 227.68 |
| Income from Registrations | $ 980.00 |
| Circus Circus expense | <$ 888.77> |
| Current Available Funds | $ 318.91 |

Howdy Howard acknowledged John O'Brien for all of his efforts in making the logistical arrangements to facilitate the 2001 WCC meeting, followed by unanimous agreement.

Dallas Virchow motioned to accept the financial report and Howdy Howard seconded the motion. The motion carried.

Robert Schmidt suggested a plaque be created and presented to Grant Vest to show appreciation for his past work with WCC. He proposed the plaque be wooden with a ground squirrel attached.

Robert Schmidt related Fee Busby's positive thoughts toward WCC-95. Fee Busby, representing Utah State University, was not able to attend because of activities (compact planning).

Dallas Virchow stated he preferred that the majority of persons attending the meeting be members.

Robert Schmidt stressed the positive benefits of multiple groups interacting with each other.

The question arose: Can we add participants every year? John Baroch thought it was possible to add members every year. Howdy Howard suggested if we are not adding new members on a regular basis that the group should make that a goal.

*Funds Reports*

*Nothing to report.*

*WCC-95 Committee Charter*

*Nothing to report.*

*Probe Editor*

*Nothing to report.*

*Discussion of Forum Topics for 2002 Meeting*

John Baroch offered to contact someone who works with wildlife disease to discuss the role of damage management with diseases.

Robert Schmidt suggested veterinarian perception/animal management and human health perception/problems caused.

Robert Schmidt also suggested exotic and invasive species management. Identify problems, and the need to come up with new management schemes to correct these problems.

Desley Whisson expressed concern that the public and animals rights groups would get involved. She also commented on the need to avoid non-target issues, particularly those that may result in lawsuits.

Robert Schmidt proposed the new trapping technologies as a possible topic. He commented that NWRC has taken a primary role in developing these technologies and suggested asking John Shivik to present information on best management practices.

Rex Baker suggested inviting the California Director of Agriculture to present the current direction and intent of wildlife damage issues in California.

Theresa Howes said she is developing wildlife damage management classes for introducing to school systems. Her plan is to make the information interactive on the internet and have students interact with experts. Currently there are three existing programs:

- Coyotes and bears
- Airports
- Urban Deer

Kathy Fagerstone asked if it was possible for Theresa to present some of the information today, which Theresa agreed if time permitted.

Another suggestion was to discuss bio-terrorism with wildlife, and potential of monitoring wildlife species as indicator species. It was suggested that someone from CDC be invited to discuss this topic.

The group concurred with these suggested topics for 2002.

Topic Summary:
- Wildlife Diseases
- New Trapping
- Exotic and Invasive
- Youth Education

Desley suggested creating a topic list based on input and asking the upcoming WCC elected officers to decide which topic was to be pursued based on availability of potential speakers.

*Election of Officers*

Dallas Virchow asked for nominations for secretary. Kathy Fagerstone nominated Paul Nash. Howdy Howard seconded the nomination. The group concurred with the nomination of Paul, Howdy motioned for the nomination to be closed and Kathy seconded the motion. The group voted to elect Paul Nash as incoming secretary.

*Year 2002 WCC-95 Meeting Date and Location*

The 2002 WCC-95 Meeting will be held at Circus Circus. John O'Brien will organize the activities.

Larry Sullivan motioned for the meeting to be held on November 19-21, 2002. Rex Baker seconded the motion. Group voted to hold the meeting at this time.

*Announcements*

Robert Schmidt announced 2002 VPC will be held the first week of March. The preliminary program should be in the mail soon. Bismark, ND, Wildlife Society meeting is putting together a session on blackbirds with proceedings. Wildlife Damage conference, combination of eastern and great plains meetings is being planned for 2003.

Michael Conover's new book, Resolving Human-Wildlife Conflicts is now available. Flyers were distributed to the group.

Rex Marsh and Bobby Corrigan have prepared a book on Commensal Rodent Control.

Dallas Virchow reported that there is now a web page for the WCC.

Kathy Fagerstone distributed a list for people to sign if they wanted to participate.

Editors for the Prevention and Control of Wildlife Damage book will be Bob Timm, Dallas Virchow, Jeff Green and Scott Hygnstrom. The book currently has 75 chapters and the editors plan to add 20 new chapters. Authors for 14 of these chapters are being sought, persons from within the meeting volunteered suggestions for potential candidates.

Rex Baker motioned for the meeting to adjourn, John O'Brien seconded the motion and the group voted to adjourn.

The Remainder of Wednesday's activities consisted of presentation (See Abstracts).

**Presentations (Wednesday 14 November)**

10:30-11:00 AM **Progress Report on Two Methods of Contraception for Population Control in Rodents** Paul Nash and Lowell Miller, USDA National Wildlife Research Center, Fort Collins CO

11:00-11:30 AM **Marking and Efficiency of DuPont Oil Blue A Dye on Steam-rolled Oat Groat Bait for Pocket Gophers** Craig Ramey, George Matschke and Richard Engemann, USDA National Wildlife Research Center, Fort Collins CO

| | |
|---|---|
| 12:00-1:20 PM | **Lunch** |
| 1:20-1:50 PM | **The Brown Tree Snake: Averting Additional Ecological Disasters** **Kathleen Fagerstone** USDA National Wildlife Research Center, Fort Collins CO |
| 1:50-2:20 PM | **Javelina Jassels...Living with Pesky Peccaries** Larry Sullivan, University of Arizona, Tucson, AZ |
| 2:20-3:00 PM | **Ricefields and Rats in Southeast Asia** Dale Nolte, USDA/APHIS/WS National Wildlife Research Center, Olympia Field Station, Olympia, WA |
| 3:00-3:20 PM | **Break** |
| 3:20-3:50 PM | **Mountain Beaver Control—With and without Access to the Conibear® Trap** Georg Zielgtrum, Washington Forest Protection Association, Olympia, WA |
| 3:50-4:20 PM | **Impacts of Wolves in Utah: A Preliminary Assessment** Robert H. Schmidt, Trey Simons, Adam Switalski, Shiree McCarty, Adrease Chavez, Claudia Anderson, Jim Steitz, Bill Bower, Andrea Sline and Sonny McBride, Department of Fisheries and Wildlife, Utah State University, Logan, UT |

**Convening of Third Session (Thursday 15 November) 8:30-9:00 AM**

**Continuance of Presentations**

9:00-9:30 AM **Methyl Anthraniliate Results** Leonard Askham, Bird Shield Repellent Corporation, Pullman, WA

9:30-10:00 AM **Songbird Nest Predators in California** Desley Whison, UC Davis

10:00-10:15 AM **Break**

10:15-11:30 AM **Research Update by Members**

*Research Updates*

Monty Sullins reported on the Montana Prairie Dog Management Plan. Their target is to improve pocket gopher bait acceptance. He is using same tools as before, working with Rozol, concentrations down to 50 ppm, no field results are available yet.

Doug Freeman reported that RCO, in absence of strychnine bait, came up with a buffet bait-real deal Monty. Organize insecticides and fungicides? He is working on obtaining a 24C for squirrel bait in Oregon. There was a shortage of strychnine, due to a poor harvest year. Current demand is not being met, but they are providing zinc phosphate as an alternate. Potential exists for this problem to not be resolved until next harvest.

Kathy Fagerstone is not hearing much from the EPA on rodenticides for registration. She provided update information on the Brown Tree snake. She also commented on nicarbozen contraception research for, birds, geese, rodents and deer. Protection works but clears the body within 48 hours, therefore it requires repeated exposure. Recent study indicated that urban geese are turning over, populations may remain constant but individual geese are not the same everyday. Work continues with rodent repellents. NWRC is becoming involved with disease projects such as tuberculosis in Michigan; research to determine whether deer are carriers of tuberculosis. Rabies is another disease issue being addressed by the Center. Invasive species issues: pigs taking endangered turtle eggs, and rats. Behavioral work continues with coyotes, including reproductive inhibitors and early absorption, efficacy of test compound has been low. Research ahs demonstrated territorial behavior of coyote alpha males are keeping other coyotes away.

Paul Nash deferred.

Dale Nolte reported that the bear research targeting damage to forest resources is nearing completion. Several studies assessing non-target impacts of underground baiting with either cholecalciferol or strychnine have been completed. Although, baiting regimes may be detrimental to some individual rodents these studies indicate minimal impact to rodent populations or secondary hazards.

Ron Eng provided an update on problems with turkeys. At present, not able to obtain depredation permits. Economic impacts to small growers can be substantial. Damage generally localized so large landowners generally have a small percentage of their crop damaged. They have taken videos to help document losses. He is developing materials to show public how to identify and treat problem animals, particularly with invasive species.

Howdy Howard discussed the need for research to focus on influencing the minds of people including biologists, not all animals can live to old age. A large proportion of animals need to die prior to reach reproduction success. People understand predators and the changing environment but don't accept the idea that humans serve a role as predators and work to keep populations low.

Robert Schmidt acknowledged he had made substantial comments throughout the meeting and had nothing more to add, although he encouraged everyone to visit the 2002 Winter Olympics, and spend money.

Bob Timm offered copies of California Agriculture. California Agriculture is looking at different plants and nutrition cycles. He reported observations that gophers sought out and readily ate invasive wheat "barb goat's" grass. Bob informed us of the opportunities for people wanting to work on Hopland and Sierra research sites. He noted there are long-term work resources available for people to capitalize.

Duane Schnabel commented he is working on quality assurance programs to make sure baits are correctly produced. In addition he is working on an ecological risk assessment. Attempts are being made to revitalize the Vertebrate Pest Control handbook and prepared it for publication.

John O'Brien reported on invasive species. Several roof rats have been found in some exclusive residential developments. Disbelief is a common reaction to homeowners on discovering roof rats in homes. John has been providing information on rat control methods. John also mentioned the wild horses, mini head that John's group manages.

Rex Baker reported on the concern of by-standers being exposed to aluminum phosphide use in heavily infested campgrounds. Rex did not recommend placing a tent over these sites for at least 48 hours after treatment and commented on the need for more research. Problem with detection badges, exposed to one or two levels when received and some were out beyond expiration date when received from company. Company offered to send new badges but research had already been completed. Seven coyotes attacks have been reported during the first nine months of this year. Both adults and children have been attacked. Kathy asked whether the tentative new label for aluminum phosphide would require a respirator under conditions that are safe. Rex stated his work demonstrated if label instructions are followed, then the risk is minimal. The group discussed using an enclosed dispenser to disperse tasblets, Rex is working with the company on a new design.

Are Berentsen reported on a coyote attractant that to be paired with a CLOD (coyote lure operative device) to deliver a sterilizing agent or toxicant. Robert Schmidt has a grad student looking at DNA to determine who is taking bait. CLOD, coyote lure operative device.

Georg Ziegltrum reported on seven years cooperative research on supplemental feeding program. The bear feeding program appears to have reached a threshold, the last several years the program has delivered 500,000 pounds. Georg related concern over beef products expressed by the Washington Department of Agriculture. Concerns relate to mad-cow disease and the need to label feed warning against feeding to ungulates (for bear use only). Chicken-based pellets were accepted as well by the bears as beef-based pellets.

Larry Sullivan is teaching the first Wildlife Damage management class at the University of Arizona to a group of seven students. The class includes a weekly lab where students set traps, use pyrotechniques and other devices. Larry is working in Yuma, Arizona on woodrats in citrus, working with Leonard on bird damage to citrus crops. Larry is currently editor of Probe and writes the lead story. He is looking for people tocontribute articles, contributions should not be more than 1,000 words.

Ed Marshall is working on re-registration: environmental work, efficacy and risk assessment of paste formulations generated by parent company in Europe primarily for commensal rodents. Marketing has suggested a change in colors of some dyes, prolonging activity under field condition, adding preservatives to help winterize (high humidity). Research is being conducted on a mole gel bait and ungulate repellent.

Leonard Askham, defers.

Rex Marsh reported working on revising manual on current and antique mole traps.

John Baroch is developing white papers on history and biology of nutria in Louisiana. Nutria are causing large-scale marsh die-back, 20,000 acres have been lost with another 100,000 acres vulnerable.

**Adjournment:**

The annual meeting was adjourned at 12:00 by Chair Dallas Virchow.

## PARTICIPANTS/ATTENDEES

Asterisked names (*) are participants (submitted request for membership to Advisor):

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## ABSTRACTS

### WHAT DOES THE MEDIA WANT?

By
Ed Foster
Nevada Department of Agriculture

1. **Your Honesty** - The media's job is to provide the public news in as unbiased a manner as possible. If a reporter, news editor, or staff person cannot trust the information you provide, you will not get to first base.

2. **Your Integrity** – Today's media professionals have spent years studying and working. Much of their work relies upon sources-albeit unnamed sources often-to get the news. Keeping their word, and you keeping yours, ranks right up there with honesty. Your reputation can open or close doors. Make sure your reputation opens doors...and keeps them open.

3. **Your Accuracy** - Do not expect the media to check your work for mistakes, errors, typos, misspellings, etc. A mistake can mean countless phone calls from irate readers, viewers, or listeners. Once a major blunder occurs, a reluctant editor whittles your chances to slim or none-and they're already slight.

4. **The Newsworthiness of Your Story** - Any editor will tell you the most important criteria in deciding whether to use a story or not is newsworthiness to its audience. Although you may feel the opening of a new building on your campus is news, the editor may not. But, if the Governor is attending the opening of your new building, that would be news because the activities of the Governor are news.

5. **Use of the Right Format** - Your release will have a better chance of being used if it is in the format a station or particular publication wants. Length is usually the big thing. Also, if they want your story or release on one page or a particular type of tape or transfer...do it.

6. **Knowing the Deadlines** - Public affairs and news directors work under constant deadlines and need time to process the volumes of releases received daily. I usually send out a release 7 to 10 days before the event. I'll send another copy several days later and follow it up with a phone call.

7. **Knowing Who to Contact** - The chances you will open a letter are better if it is addressed to you. There is no greater flattery than to know that the person who wrote the release spent enough time to find out to whom to send it. On the other hand, a release sent to the previous editor or reporter on that beat is just as likely to receive the opposite reaction. Be sure to stay current on who works where.

8. **Know Where to Direct Your Press Releases** - Most of the major media companies are compartmentalized into departments that have different areas of responsibility. When in doubt, call and ask which department handles your particular type of story.

9. **Pay Attention to Detail** - If a reporter has to make even one phone call for additional information, they make "chuck" your story.

10. **Ask Yourself**: **Why would the media want to use this story?** Is my release relevant? Is it of general interest to the public or only a select audience? Have I provided all the details that the media needs to print or broadcast my story? If you gloss over the facts and don't pay attention to detail, your story will never see the light of day. Reliability is the essence of successful media relations. Never be in such a hurry that you forget to ask "Why?" It's the very first question the editor will ask.

# RESEARCH SCIENTISTS AND PUBLIC AFFAIRS SPECIALISTS WORKING TOGETHER: WHY?

By
Teresa Howes, Legislative and Public Affairs

What is public affairs and who the heck cares?

Public affairs is the professional communications arm of an organization. It works to conduct a variety of internal and external tasks that involve verbal nonverbal communications to a variety of audiences. The professionals who work in this field are constantly gathering information from a variety of sources. They research, assess, and analyze communication and information. In addition, they assist scientists to simplify information so that members of the general public, who on average read between a fifth and eighth grade level, understand how the information applies to them. Usually public affairs specialists are both advocates for an organization as much as they are for the press. They work to plan, prepare, question, listen, anticipate, access, analyze, remain objective, coach, train, react, provide guidance, and coordinate information. For federal public affairs officers, and scientists our challenge is to ensure public goodwill through accurate and simple information so that not only members of the general public understand their tax dollars are being used wisely, but also, that they have useful information that helps them with problems they might need to solve, like human-wildlife conflicts, for example.

Why should public affairs professionals and scientists/researchers work together? Research and science is one of many elements that decision makers can use in reaching important decisions. In terms of the public, science is difficult to understand, yet, it is relied upon to resolve issues that face our society: coyotes eating pets, deer and autos colliding, aircraft and birds colliding, threatened and endangered species restoration, etc. When scientists and public affairs professionals work together, the information we all wish to communicate can be simplified enough for so that today's public can consume it: understand it, discuss it, use it to solve a problem, debate it, and reach a point where they believe it should or should not be supported through legislation and tax dollars.

Most of today's society prefers to think ideally rather than critically. As a result, they are unable to adequately research issues that affect them. The media moguls have become more entertainment and sensational driven, rather than information and accurate driven. In addition, the popular press provides information that is in short sound bites, rather than in detail. For public affairs professionals and scientists, this can create a dilemma in providing lengthy information.

There is a lot of science out there. Some of it is useful, some of it is not. Our job is to work together. We need to provide accurate information to people in such a way so they can decide which information is useful and which is not. Moreover, we must realize that members of the general public do not receive their information from scientific journals. In June of 2000, the Pew Research Center for the people and the press released a report that found that only 48

percent of Americans follow national news closely most of the time, a new low. Although daily newspaper readership was down slightly from 68 to 63 percent since 1998, TV network news viewership dropped from 65 percent in 1995 to 50 percent in 1999. One third of adults now regularly get their news on-line; among those younger than 30, some 46 percent go online for news at least once a week. But just like any other medium, the internet can be a misinformation tool, if people do not research where a homepage and information originates. What is the most amazing is that we (since "we" are all members of the public as well) continue to consume the misinformation and feed upon it, without questioning where it originated and why.

According to the Federal Communications Network, news resources are dwindling. Media mergers and cost cutting mean that there are fewer reporters who have the luxury of doing detailed in-depth stories. Many times, the reporter writing a story about your agency is not familiar with it. It is important then, to look at this as an opportunity to get accurate information to people to let them know: first, there are professionals researching human wildlife conflicts or wildlife damage management; second, what organization these professionals belong to; third, that they are working to solve problems by obtaining knowledge through research and that they are doing this efficiently and environmentally responsibly. Further, as noted by the Federal Communications Network, the information we provide must be in simple, digestible chunks, because our society is experiencing information overload.

Good communication is difficult because it requires a lot of effort, time and patience.

Refer to ed Foster's points what does the media want. The popular press–meaning network TB, and magazines like TIME, NEWSWEEK, and various tabloids are interested in science. CNN and the cormorant story here. In fact, much of the information they get, are from scientific publications, and they will usually look for a way to sensationalize the information .i.e. make a mountain out of a mole hill, and more importantly provide misinformation.

Some successes:
Every time you provide information to the scientific journals, etc. you are successful. Getting information into the popular press takes time, preparation, patience, analysis and coordination.

Wildlife Services receives on average, 15 media queries per week. A sampling of national mediums that have queried us over the past two years 1999-2001: U.S. News & World Report, CBC, BBC, National Geographic, FOX News, Audubon, Smithsonian, NBC, The Discover Channel/Animal Planet, PBS, Scientific Frontiers, NPR, Associated Press (national), CNN,

Coverage that has been fair/accurate, that is providing information to help consumers of information make fair, informed decisions about their government include: CNN, NPR, AP, Audubon, CBC

We control only our input to the news coverage: through policy and guidance of how the agency will respond; the message coming from our lips; our emotion; our feedback to a reporter/editor; and we offer information for the public debate in different ways beyond the popular press.

What can you do as we work together:
Recognize that human-wildlife conflicts are not an everyday thought for most Americans, yet more and more Americans are coming in contact with wildlife and that, that contact can be of a conflicting nature.

That most Americans do not know who to contact regarding wildlife issues, and tend to be confused by the government bureaucracy of who does what. Most have a belief system in place about wildlife that is idealistic.

The media is NOT the only avenue of approach in assisting the public in understanding human wildlife conflicts. It is simply one tool in a big toolbox of delivery systems to provide information.

Understand and work within your organization's policies and guidelines with the public affairs specialist assigned to you. They are there for a reason. While you are experts about human-wildlife conflicts, the need for adhering to agency protocols are important.

Recognize that not every popular media query is worth answering and that it is only a small percentage of how we communicate with our audience.

People want to know how something affects them and their loved ones and need to know what they can do about it.

Human-wildlife conflict (wildlife damage management) is an issue within a larger debate and it has not yet been debated appropriately.

Eighty percent of our day is spent communicating, are you making your point in such a way that people can make good decisions based upon the information you are providing? Does your message need to be adjusted to the internal or external audience that is receiving it?

Let us work together to insure American good will and informed citizens that can resolve human-wildlife conflicts in effective ways.

# LESSONS FROM DISCUSSIONS CONCERNING THE MEDIA AND PIGS (NOT TO BE CONFUSED WITH DISCUSSIONS CONCERNING THE MEDIA AS PIG-HEADED)

By
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**Abstract:** In Hawaii, the pro-pig and anti-pig camps have a message they want to share with the media. They have experienced mixed results in getting this message out. They both seem to blame 1) reporter bias, 2) the focus of media on sensationalistic issues, and 3) the failure of reporters to distinguish expert opinion and research-based facts from self-serving opinions and irrelevant "factoids". Both sides of the pig argument agree on this. They concur that the media must change. I disagree with this conclusion, for reasons listed below:

1. The "I'm right, you're wrong" message implicit or explicit in either the pig or media debates signifies a belief that complex problems have simple solutions.
2. There is no consistent, non-variable message being shared with the media.
3. Reporters hear what they are told, not what you are thinking.
4. It is a reporter's responsibility, and not his or her failure, to find alternative but credible perspectives, to bring balance to reporting.

What we, as scientists and managers, need to remember is:

A. Scientists and managers need to distinguish between science and value judgments.
B. We need to speak to a non-specialized audience.
C. We need to write our own stories.
D. We need to understand that good ideas don't always equate into action.
E. We have our own biases.
F. Reporters often have codes of conduct to follow.

Fundamentally, time and energy spent "fixing" the media are time and energy not spent on more efficacious programs. If our resources are limited, and our message is important, then we must utilize these precious resources in the most effective, economic, and dynamic ways possible.

# NEBRASKA'S PRAIRIE DOG TASK FORCE—LESSONS LEARNED

By
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**Abstract:** In 1999, a committee was created to develop a black-tail prairie dog management plan for Nebraska. It consisted of representatives of twenty different stakeholder groups. The committee was formed by the Nebraska Game and Parks Commission in response to a memorandum of understanding (MOU) signed by them and nine of eleven states within the geographic range of the species. The MOU was a response to a petition by the National Wildlife Federation and other groups to the U.S. Fish and Wildlife Service and the finding of that body to list the species in question as "warranted but precluded" for threatened status. As stated in the support document of the MOU, it was to have as its goal to bring "local governments, private landowners, and NGO's directly into...[the] management [process]."

The overall lessons that this member learned as a part of the process was the need to 1) develop a clear and succinct mission with specific objectives very early in the process 2) approach the process in a positive and proactive way 3) identify other stake holder groups that have similar objectives, management philosophies, and essential constituents 3) form strategies with such groups to push forward agendas when overall committee mission seems disingenuous and differences in philosophies seem irreconcilable and 4) push strongly for open, formal, and fully documented meetings with an independent and nonbiased facilitator and writer of the written plan. This is so that each member of the committee is on record as to his position on particular management subjects and that these can be forwarded to their respective constituents.

Lessons learned with specific regard to the public and media involvement: 1) identify the public needs and attitudes by a formal process (survey, questionnaire) prior to developing management strategies solely as a response to potential federal listing of the species 2) promote direct public involvement by advertising the monthly task force meeting times, dates, and agendas 3) hold regular and timely media events at task force meetings with opportunity for each member of the committee to submit his views and response. Do not assume that the media will respond to each stakeholder group equally or present their views proportional to the number of their constituents.

Do not assume that stakeholder representatives will willingly share information learned from other federal and state agencies and offices with other members of the task force. Assume that the overt mission and objectives of the task force are different from those of each of its members and may change over time.

# PROGRESS REPORT ON TWO METHODS OF CONTRACEPTION FOR POPULATION CONTROL IN RODENTS

By
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**Abstract:** A multi-year study on the efficacy and feasibility of gonadotropin releasing hormone (GnRH) immunization for population control of California ground squirrels was begun in the summer of 2001 at a park in the San Francisco Bay area. Immunization with GnRH induces the production of antibody against GnRH and blocks the downstream production of reproductive hormones. The study is a cooperative effort involving the NWRC and several agencies with jurisdiction in the area of the park. Baseline visual counts were performed in early summer 2001. The immunization process was initiated at the end of August. Personnel in California will continue to administer immunizations for several months to as many of the squirrels as possible. It is estimated that there are 150-200 squirrels in the park. Future efforts will include sampling animals for serum antibody titer determination, conducting visual counts of adults and young, and immunizing naive individuals (and possibly booster immunization) in year two.

Last year at WCC-95, preliminary results from studies on the use of diazacon in rats and prairie dogs was presented, showing reproductive results that were inconclusive. At that time, determination of blood levels of cholesterol and desmosterol were still pending. Diazacon (20,25-diazacholesterol) inhibits steroid hormone production by preventing the conversion of cholesterol to hormone precursors and inhibits cholesterol formation by blocking the conversion of desmosterol to cholesterol.

Six wild female rats were treated with ten consecutive daily treatments of diazacon. Blood was taken prior to treatment and three days after the last treatment. Prior to treatment, cholesterol levels were 141 µlg/ml and desmosterol was 0 µlg/ml. After treatment, cholesterol was 37 µlg/ml and desmosterol was 28 µlg/ml. The effect of treatment on cholesterol and desmosterol levels was significant at $p<0.001$ and $p<0.01$ respectively. Prairie dogs in their natural habitat were given 10 doses of bait over a three-week period at two control sites and two treatment sites. Blood was obtained from trapped animals over the course of three months beginning five days after the last dose of bait. Average values over three months were: 222 µlg/ml cholesterol and 0 µlg/ml desmosterol in prairie dogs at control sites and 131 µlg/ml cholesterol and 96 µlg/ml desinosterol in prairie dogs at treated sites. These values were significant at $p<0.001$ and $p<0.0001$ for cholesterol and desmosterol levels respectively. The results over time suggest that the effects of diazacon occurred later than expected and bait may need to be administered farther in advance of the breeding season to be effective in inhibiting reproduction. Lab studies are underway to establish the time course of the effect and clarify necessary dosages.

# MARKING EFFICACY OF DUPONT OIL BLUE A DYE ON STEAM-ROLLED OAT GROAT BAITS FOR POCKET GOPHERS

By
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**Abstract:** DuPont oil blue A has been investigated as a marker dye for pocket gophers (Thomomys sp.) since the early 1990s at the National Wildlife Research Center (NWRC). It is a fat soluble blue dye, and it has been used to demonstrate each gopher's propensity to transport and/or ingest bait. One initial laboratory study used four concentrations (0.2%, 0.4%, 0.8%, or 1.6%) of the marker on steam-rolled oat (SRO) groat baits to determine its marking effectiveness. Only the 1.6% concentration effectively marked 100% (n = 13) of the northern pocket gophers (T. talpoides) tested at 5 days after baiting; consumption ranged from 0.03g to 4.07g/day (G. Matschke et al., NWRC, unpublished report no. 289, 1993). To further evaluate this marker on SRO groat bait, a larger laboratory study was conducted. Consumption averaged 2.48g/day (n = 38), with intake ranging from 0.17g to 4.24g. Dyed fat was detected in 36 of 38 (95%) of the gophers 5 days after ingesting the marker (G. Matschke et al., NWRC, unpublished report no. 317, 1994). A field trial using 2 treatment units (TUs) each with ~ 60 burrows showed that northern pocket gophers disturbed 32 of 37 (86.5%) marker bait sites, but they consumed much less marker bait than placebo bait. Only 35% of 20 pocket gophers captured after the study in alfalfa had blue-dye in the adipose tissue around their sex organs (G. Matschke et al., NWRC, unpublished report no. 310 part I, 1994). It was hypothesized that the low consumption of marker bait was due to a seasonal preference for the growing alfalfa. Two subsequent field trials conducted in the late fall when alfalfa was dormant seemed to support this hypothesis, with increased marking rates of 87.5% and 96.0% (G. Matschke et al., NWRC, unpublished report no. 310 parts II and III, 1996, 1997, respectively). Also, Matschke felt that the baiting methodology (4g of bait at an estimated 5 locations per burrow system) might have overcome any potential for bait aversion. In the most recent field study, we investigated the addition of DuPont oil blue A to CDFA's non-toxic base bait to determine whether Valley pocket gophers (T. bottae) exhibit a seasonal marking efficacy when the availability of growing alfalfa differs during winter, summer, and fall, and in walnut orchards devoid of surface vegetation during winter and summer (C. Ramey et al., In Press). These trials were conducted in 1997, 1998, and 1999, and 78.2% of the bait sites were disturbed 4 days after baiting. However, Valley pocket gophers (n = 744) did not demonstrate the usefulness of 1.6% DuPont oil blue A marker dye with ~57% marked. There were no seasonal differences in either habitat. Potential explanations of these results involve: (1) most likely a problem with bait acceptance (i.e. aversion to the dye), and less likely (2) baiting methodology that assumed 1 gopher per burrow, (3) species specific dye properties, or (4) or availability of alternative foods.

# PHOSPHINE EXPOSURE TO APPLICATORS AND BYSTANDERS FROM RODENT BURROW TREATMENT WITH ALUMINUM PHOSPHIDE

By
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**Abstract:** An industrial hygiene study was conducted monitoring levels of phoshine gas applicators and bystanders were exposed to when entering treated fields and buildings during and after aluminum phosphide tablets were used to treat rodent burrows. State of the art Draeger Pac III monitoring units and Draeger Phosphine Badges were placed on 33 certified and non-certified applicators for 3 to 4 days of application using Pestcon Systems Fumitoxin® tablets treating both ground squirrels (Spermophilus spc) and pocket gophers (Thomomys spc). Applicators consisted of both frequent and infrequent (seasonal) users. Both agricultural and urban areas in 9 California counties were used to monitor both applicators and bystander conditions. Bystander sites were only monitored with the Pac III data logging equipment. Thirty raised foundation and slab buildings and 9 outdoor park and production type sites were monitored.

The trials were completed for submission as part of the Re-registration Eligibility Decision data and conducted according to an EPA approved protocol. No applicator exposure levels to phosphine were found above the current Permissible Exposure Limit (PEL) of an 8 hour Time Weighted Average (TWA) of 0.3ppm, or the Short Term Exposure Limit (STEL) of 1.0ppm, averaged over 15 minutes with no more than 4 STELs/day allowed. The highest exposures observed were for non-certified infrequent users. Several unsafe practices were identified and recorded for inclusion in recommended training.

Bystander sites inside residences and outside were found to be well below the 0.3 TWA with no building even reaching 10 percent of that level. In outside trials two Pac III readings out of over 100 eight hour TWA's, on very heavy ground squirrel field sites slightly exceeded 10% of the TWA that were placed right over treated burrows.

The Draeger Pac III monitoring units were more dependable than the Draeger badges under field conditions. However, they required good maintenance and much more training and experience to use than badges. They were also found to be sensitive to some cross gasses and changes in humidity; and can easily be incorrectly adjusted accidentally by employees, especially when working with unsupervised applicators. Neither device seems to be accurate and dependable enough to monitor the EPA proposed 0.03ppm TWA.

When used according to the current level, even at maximum rates and appropriate distances of 15 feet from occupied structures, the material is safe for applicators and bystanders. Additional training could reduce exposure levels for applicators.

Recommended ALP Handling Practices

Although the labeling is already very descriptive regarding handling the product it is so lengthy that I observed several QAC and grower trainers searching for the sections that they need to cover for rodent burrow applicators. It would be helpful if there was a separate label or supplemental label just for this use. The section should emphasize in part handling techniques such as:

1. Apply when there is a constant air movement (wind) so that fumes blow away from your breathing zone.
2. Use smooth leather gloves.
3. Do not pour the product directly into or on the gloves, rather use the cap or other device or pour directly into burrows.
4. The use of the smaller 100 tablet flask reduces the risk of exposure to applicators.
5. Always point and hold the flask out and away from the breathing area when the cap is not tightly in place.
6. When opening a new flask, vent it for 1-2 minutes prior to use, less time if air is moist.
7. Never apply during any rainfall, or when in areas being irrigated with sprinklers.
8. Do not mix a partial flask.
9. Use a leverage device to open new containers to prevent placing against your waist or knee for leverage.
10. Close the flask as quickly as possible using the manufacturers cap.
11. When applying for pocket gopher control always use a probed hole or open the system with a shovel, spade or similar device and re-seal properly, never place in open pocket gopher burrows.
12. Be careful not to wipe your face with your gloves.
13. Always air out your gloves overnight and between applications
14. Air out any contaminated clothing.

# DEVELOPMENT OF CHEMICAL TOOLS FOR BROWN TREESNAKE CONTROL

By
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**Abstract:** The accidental introduction of the brown tree snake into Guam after World War II has resulted in the extinction of most of the island's native bird species and many of the native species of lizards. In addition, the snakes create a potential health hazard for infants and children and cause frequent power outages that result in losses of millions of dollars due to damaged equipment, lost productivity and repair costs. The brown tree snake has the potential to impact other Pacific Islands or the U.S. mainland in a similar manner, as the snakes are well adapted for transport to other areas from Guam in military or civilian cargo. Currently, the U.S. Department of Agriculture's Wildlife Services program is working to deter the dispersal of brown tree snakes in cargo from Guam. Wildlife Service's personnel remove snakes from airports, seaports, and other cargo staging areas by trapping and nighttime fence line searches. Detector dogs are also used to search outbound vessels and cargo. Despite these methods, individual brown tree snakes have been found on several Pacific Islands and even on the U.S. mainland.

The National Wildlife Research Center (NWRC) has been conducting research since 1990 to develop control methods to prevent the dispersal of brown tree snakes from Guam and to reduce snake populations on Guam to provide habitat for declining and endangered wildlife species. NWRC research has been funded primarily by the U.S. Departments of Interior and Defense and has included research on attractants, repellents, fumigants, toxicants, and reproductive inhibitors.

Attractants: Chemical components of dead mouse odor have been identified and found to attract BTS. Research is ongoing to develop an odor retention matrix for an artificial lure as a substitute for live mice currently used to lure snakes into traps.

Repellents: Several natural compounds have been found that are highly repellent to BTS. Research is being conducted to develop vaporizing systems to generate repellent gas for driving snakes from cargo.

Fumigants: Methyl bromide has been registered with the EPA for use in fumigating cargo. Additional fumigants will be registered as methyl bromide use is fazed out.

Toxicants: A dermal toxicant has been developed that could be used as a spray delivery device for use in warehouses, etc. Acetaminophen tablets placed in dead neonatal mice have killed over 80% of the snakes that ingested the mice in both laboratory and field tests; an emergency use permit has been obtained from the EPA for this use.

Reproductive Inhibition: The NWRC has up a BTS breeding colony and is studying reproductive behavior and physiology to look for areas where BTS could be vulnerable to reproductive inhibition. Reproductive inhibitors are being tested on African House Snakes, a surrogate species that breeds readily in captivity.

# JAVELINA JASSLES - LIVING WITH PESKY PECCARIES

By
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**Abstract:** The collared peccary (*Pecari tajacu*), commonly called javelina (have -a-LEEN-a) ranges from South America, through Mexico and is found in the United States only in Arizona and parts of New Mexico and Texas. The name javelina likely derives from the resemblance of this animal's spear-like canine teeth to a "javelin", the Spanish word for spear or lance. Collared peccaries are the most widely distributed of the three living peccary species - the chacoan, white-lipped, and collared - and have a range that extends from Argentina to Arizona, New Mexico, and Texas. The physical appearance of these mammals resembles that of domestic and wild swine. As a result, they are sometimes referred to as "wild hogs" or "pigs". Although javelina and true pigs may share a common ancestor, they differ many ways and are not closely related.

Javelina adapt very well to human environments and increased human development into this animal's habitat has caused an increase in human-javelina interactions.

## Description

Adult javelina weigh 40 to 50 pounds, with records of some adult males reaching over 60 pounds. Adult javelina range from 18 to 24 inches tall at the shoulders and 34 to 40 inches long the snout to the end of the tail. A scent gland is located on the top of their back about 7 inches forward of the tail. Javelina have long, sharp canine teeth that are used for shredding and stripping cactus, digging for roots and tubers, and defensively.

They have long, coarse, bristly guard hairs with little underlying hair or fur and their color varies from an almost black, dark gray to brownish. White bands on the hairs give these animals a flecked, peppered appearance and long, coarse black hairs give them a grizzled appearance. Javelina have a narrow band of white hairs extending down the sides behind the neck and in front of the shoulders. This band resembles a collar - hence the name collared peccary. The collar may appear faint - especially during the summer months. New-born kits are reddish-brown with a dark strip down their backs from snout to tail.

Javelina are found primarily in desert scrub, grassland, and some forest habitats. Their range may be expanding northward, but may be limited due to their relative intolerance for very cold weather for long periods of time. This intolerance for cold may, in part, be due to the absence of underlying dense fur under their coarse hair.

## Biology and Behavior

After a gestation period of 145 to 150 days, javelina give birth once per year to one or two young, with two being common. Births may occur throughout the year, but most during the

period of June through August. Kits are weaned from six to eight weeks after birth, but the young may stay close to their mothers for up to three months.

Of the senses used to find food and avoid predators, javelina rely most on their excellent sense of smell. Their hearing is probably on par with that of most mammals but their vision is relatively poor.

Javelina usually form stable herds of from just a few animals to over 20. Herd territories average one to two square miles. Herd size, food and water sources seem to be the determining factors in territory size. A musky smelling liquid is discharged from a scent gland on the lower back. This scent is used to locate and recognize other herd members and to mark territory. This scent is quite strong and can be easily perceived by humans when javelina are present in an area.

When alarmed javelina often "bristle" by raising the hairs on their back and neck. They also may produce a barking sound like a "woof" and a popping, clicking sound with their teeth. Grunting sounds are commonly produced by undisturbed javelina while feeding.

Food Habits

Javelina feed on a variety of succulent cacti and cactus fruit, with prickly pear an apparent favorite. They feed on spiny cacti without discomfort or injury to their mouth or digestive tract. They also feed on other vegetation including grasses, seeds, forbs, some shrubs, flowers, tuberous roots, some insects, and snakes. Although they can derive most of their water requirement from succulent plants, they readily drink and are attracted to free water.

Damage and Identification

As urban development expands into desert and other wildland habitats, conflict between humans and native wildlife such as javelina increases. Often this conflict is seasonal or coincides with periods of drought and may be of short duration. Javelina can, however, at times cause significant damage to property and pose a threat to humans and pets.

Damage by javelina is most often identified by visual sighting. The presence of javelina may also be determined by their tracks, droppings, and holes they dig while rooting out plants. Javelina tracks resemble deer tracks in general shape except that they are more rounded at the forward tips and almost as wide as they are long. The shape of droppings will vary with diet and may resemble a small cow chip or look somewhat like dog droppings. Javelina defecate frequently and will often leave droppings at a feeding site. Rooting around plants by javelina will be evident by signs of digging. Depending on the type of plant, this digging may result in shallow depressions or holes that may be several inches deep and more than a foot wide.

Javelina are attracted to cultivated landscape plants including succulents, tubers, bulbs, prickly pear cactus, any plants producing fruit, and some flowers. They are also attracted to water, birdseed, pet foods, vegetable gardens, and garbage. Javelina will sometimes dig up turf in search of grubs.

Javelina readily habituate to humans and pets. Javelina that become accustomed to the presence of humans and pets behave differently than their completely wild counterparts. These "urban" javelina can become quite bold and are not always easily frightened away by humans or dogs. Javelina are not normally aggressive toward humans, but can be dangerous if they cannot see an escape route or are defending young. They have large, sharp canine teeth and can inflict serious injury to humans and pets. They have very poor eyesight and may react defensively when they are surprised or when they cannot see an escape route. For these reasons, javelina should be dealt with at a safe distance and provided with a clear escape route.

## PREVENTION AND CONTROL OF JAVELINA DAMAGE

### Habitat Modification

Modifying a habitat to discourage javelina often amounts to the removal of attractants such as food and water. The intentional feeding of javelina is dangerous and detrimental to the animals. Intentional feeding of javelina should be discouraged.

Some steps can be taken to eliminate or limit those things that will attract javelina. Feed pets indoors or remove pet food containers after pets have eaten. Use a bird feeder that minimizes spilled seed and clean up spilled seed promptly. Secure garbage container lids and place containers in a rack or frame to prevent them from being tipped over. Eliminate or minimize water sources by avoiding any standing water, repair leaky faucets and irrigation systems, and remove pet water. Harvest all vegetables as soon as they are ready and pick up fallen fruits and vegetables.

Much can be accomplished by the choice of landscape plants and how they are arranged around a property. Javelina are attracted to succulent plants, tubers, bulbs, prickly pear cactus, any plants producing fruit, and most flowers.

### Exclusion

Electric fencing can be effective in excluding javelina. One wire placed about 8 to 10 inches above ground is recommended. An additional charged wire installed 6 to 8 inches above the first may prevent the javelina from jumping the fence. Electric fencing can be used to protect isolated sensitive areas such as vegetable gardens, compost piles, or individual landscape areas or even individual plants.

Conventional fencing must be well constructed and quite strong. The types of fences most effective would be chain link, heavy wire mesh, or masonry block. Fencing should be at least three feet high and extend a foot below the surface or be strongly secured at the bottom. Javelina are quite strong and if they can get their nose under any wire fence or gate, it's likely they can gain access.

### Frightening

Javelina can be encouraged to leave the area by making loud noises such as banging pots together, throwing rocks at them, or even spraying them with a garden hose. If these animals are in an enclosed area such as a yard or a garage, be sure they have an obvious escape route. Do not closely approach an alarmed javelina.

Repellents

Currently there are no commercial repellents effective against javelina. Spreading cayenne pepper or tabasco in feeding areas has been somewhat effective as has ammonia soaked rags in resting areas.

Trapping

Javelina may be trapped in box or wire cage traps that are at least 2 feet x 2 feet x 4 feet. Baits commonly used are fresh fruits, vegetables, commercial livestock feed, salt, or natural foods known to be preferred by the target individuals.

Javelina may also be captured using corral or funnel type traps using humans to drive the animals into the trap area or to enclose a trap area that has been established as a feeding site by pre-baiting.

However, owing to their legal status as game animals, trapping and relocating javelina is generally closely regulated by the state wildlife agency.

Toxicants

There are no registered toxicants or fumigants for javelina control.

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## RICE FIELDS AND RATS IN SOUTHEAST ASIA

By
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Rice-field rats are a primary pest impacting rice production in Southeast Asia. A brief overview of rice production practices, problems inflicted by rats and management approaches to reduce these problems observed during a tour through Vietnam, Philippines, and Indonesia was reported. Rat damage commonly reduces rice harvest by 5 to 10 %, and some farmers reported crop losses exceeding 50% of anticipated harvest. Control measures varied among farmers. Implementing some cultural methods, such as maintaining small dikes and restricting habitat by removing vegetation, was common among most farmers. Surveys taken during workshops conducted in the Philippines revealed farmers tried a variety of practices including, toxicants (e.g., zinc phosphide and racumin), cleanliness, bounty, digging and flooding, electric shock, small dikes, extended fallow, alternate crops, crop timing, rat drives, traps, biological control, and fumigation. Selected approach often reflected available resources of the individual. Pictorial examples were given of a rat round-up in the Philippines, and fumigation, rat drive and burrow destruction practices applied in Indonesia. Research and demonstration plots of the Community - Trap Barrier System (CTBS) implemented by Australia CSIRO also were examined in Vietnam and Indonesia. Potential for the CTBS in Philippines was discussed with area farmers.

# LEGALITY OF MOUNTAIN BEAVER DAMAGE MANAGEMENT IN WASHINGTON STATE

By
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**Abstract:** Mountain beaver *(Applodontia rufa)* damage is a serious problem for Douglas-fir reforestation efforts along the coastal range of Washington State. Instant kill traps, such as Conibears, are traditionally used to minimize local population levels before the tree planting season starts. Damage on trees includes the clipping of terminal leaders and branches for up to 3 years as well as root and bark girdling. Untreated plantations often show damage levels of 50% and more within one year. Approximately 10,000 acres are regularly trapped on industrial forestland, west of the Cascade Mountains.

Last year, the Humane Society in Washington State, a national animal rights group, launched the anti-trapping initiative, I-713, to ban body gripping traps for recreational use. Voters approved the initiative on the ballots by 55%. The forest products industry did not "a priori" fight against the initiative but tried to protect its interests through negotiations with the animal rights groups, the Washington State Department of Fish & Wildlife, the Commission and legislators.

This presentation will explain the impacts of I-713 on forestland management, the historical events after the initiative became law, the available options industry considered to protect forest resources, the status of these negotiations and future activities to prevent additional damage.

# IMPACTS OF WOLVES IN UTAH: A PRELIMINARY ASSESSMENT

By
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**Abstract:** As gray wolves disperse away from populations established in Yellowstone National Park and central Idaho, the possibility that wolves will recolonize Utah becomes increasingly evident. This recolonization into Utah would have economic, political, social, legal, and biological effects in the state.

We are analyzing the effects of gray wolf recolonization into Utah, making both general observations and specific predictions regarding habitat suitability, population estimates, ecosystem impacts, impacts on livestock production and ungulate hunting, management scenarios, and public input processes.

This analysis was begun as a graduate policy course project, and received media attention because of the topic (gray wolves), the venue (a USU course), and the discussion of recolonization. A final project report is expected in 2002.

# POTENTIAL SECONDARY TOXICITY HAZARDS FROM UNDERGROUND STRYCHNINE BAITING TO REDUCE POCKET GOPHER POPULATIONS

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**Abstract:** Carcasses from animals killed during underground strychnine baiting programs for gopher population reduction pose potential secondary toxicity hazards to scavengers that forage above ground and to weasels that forage in gopher tunnels. We used field tests to assess above ground carcass disappearance rates, and indoor lab tests of short-tailed weasel (*Mustela erminea*) foraging behavior to assess some of these potential hazards. Carcasses from pocket gopher (*Thomomys mazama*), house mice (*Mus musculus*), deer mice (*Peromyscus maniculatus*) and prairie voles (*Microtus ochrogaster*) were used to evaluate carcass disappearance rates. Carcass disappearance rates were monitored for 4 1-week intervals with different temperature/weather regimes. An average 34 % of carcass removal was attributed to scavengers. The proportion of scavenged carcasses varied among the species of carcass and may have been related to carcass visibility. Insects, primarily wasps and ants, were the principal agents responsible for the remainder of carcass removal. Rate of carcass removal by insects varied among tests where differences in season and temperature regime influenced the species and number of insects present and insect activity. A system of interconnected plastic tunnels and boxes was used to study foraging by 10 short-tailed weasels. Each weasel was placed in the tunnel system for 3 days when it had access to 8 live gophers. The number of gophers killed, the portion of each gopher consumed, and any food caching was recorded. The test was repeated 2 more times for each weasel, once with 8 gophers that had just been given a lethal dose of strychnine (12 mg/kg), and once with a combination of 5 and 10-day old carcasses (4 each) of gophers that were also killed with strychnine. Weasels foraged on more carcasses when offered recently baited gophers ($\bar{x}$ = 2.7 gophers/weasel) than when required to kill healthy gophers ($\bar{x}$ = 1.8 gophers/weasel). However most of the difference was attributable to the fact that 2 weasels did not kill gophers. Carcass consumption declined with carcass age ($\bar{x}$ = 2.7 0-3 day old carcasses/weasel; $\bar{x}$ = 1.4 5-8 day old carcasses/weasel; $\bar{x}$ = 0.3 10-13 day old carcasses/weasel). When foraging on carcasses, weasels frequently did not forage on the head or the gastrointestinal tract—portions of the carcass that in the field, could contain undigested bait. Although weasels moved carcasses, no more than 2 animals were placed in any one location. None of the weasels died in the study or exhibited signs of illness.

# EFFICACY OF AERIAL AND HYDROSTATIC SPRAYER APPLICATION OF METHYL ANTHRANILATE IN REDUCING BLACKBIRD DAMAGE TO SWEET CORN, SUNFLOWERS, CHERRIES AND TABLE GRAPES

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**Abstract:** A number of bird species, both resident and migratory have been reported in the literature to cause significant depredation problems to sweet corn, sunflowers and cherries just prior to harvest. Over the years a number of management techniques, devices and chemicals have been developed and tested, all with limited success or with major constraints. In agriculture, as well as other areas, we are constantly striving to find the most cost-effective approach to resolving wildlife problems. Rates used to control birds in cherries and blueberries at around two to three gallons of Bird Shield repellent concentrate (4.58 to 6.87 lbs. ai./ac) can not be justified for low value crops such as sunflowers and corn. Moreover the logistics of applying hundreds of gallons of tank mix per acre are not only formidable but extremely expensive.

Field trials using methyl anthranilate, formulated as Bird Shield® repellent, was applied by aerial applicators at .474 L (1 pt) per acre on sweet corn, in Colorado and sunflowers in North Dakota in 1988 and 1999 (0.286 lbs./ac.) and .474 L to 3.80 L (1 pt. to 1 gallon) per acre on cherries in Washington in 1999 (0.286 to 2.29 lbs. ai./ac.). The nine corn fields, ranging in size from 3.6 ha. to 10 ha. (9 to 25 acres) were treated twice, at five-day intervals, prior to harvest and compared with four untreated fields. The sunflowers, along with the cattail marshes where the birds were roosting adjacent to and in the center of the fields, were treated twice, at seven-day intervals when the birds began to feed on the sunflowers. The cherries were treated once just as they began to ripen at 0.474, 0.95 and 1896 ml. (1, 2 and 4 qt.)/ac rates.

Three out of the four untreated cornfields were un-harvestable, with greater than 75% damage, because of the severe damage caused by the resident populations of red-wing blackbirds (*Agelaius phoeniceaus*) by the end of the study. Three of the treated field sustained no damage at all. The damage in the remainder was contained at pre-treatment levels (4% to 20%). The two applications of the repellent were sufficient to move the resident population of blackbird (Agelaius, spp.) out of the sunflower fields with no substantial damage to the crop. Untreated sunflowers sustained a mean damage of 78% to 90%. Treated sunflowers sustained between 2.6% to 3.4% damage. The difference in seed weights between untreated and treated plots was significant (P=0.01) with a mean weight of 0.018 g./cm$^2$ of seed per head within the former and 0.084 g./cm$^2$ of seed per head within the latter. Harvest

weights ranged from 60 Kg (133 lbs.) to 318 Kg. (700 lbs.)/ac. (mean = 156 Kg.) in the untreated plots while weights ranged from 649 to 867 Kg. (1430 to 1909 lbs.)/ac. in the treated plots. No adverse effects were noted with fish or resident populations of ducks.

The application of the repellent by helicopter reduced bird damage in cherries from just under 13% in the untreated orchard to between 0.08 and 1.0 % seven days later with 0.474, 0.95 and 1896 ml. (1, 2 and 4 qt.)/ac. rates. Greater differences were encountered when the repellent was applied at two additional sites. When 2 qt./ac. was applied bird damage was limited to 8% after 15 days when the untreated block sustained over 68%. When 4 qt./ac was used damage was limited to 4% while the untreated block sustained 58% damage.

Over 2000 acres of super sweet corn were commercially treated with the repellent between July and August 2001, with no reported crop losses. Approximately 40,000 and 60,000 acres of sunflowers, both confection and oil varieties, were treated between September and October during the same year with only about two percent of the growers reporting significant losses to their crops (approximately 480 ac.). These losses occurred because of technical errors such as applying the material when it was too hot (greater than 85°F), nozzle configurations and settings on the aircraft set incorrectly, flying speed to fast and/or height over the crop too high.

Table grape growers in California using hydrostatic sprayers as well as cherry growers in Washington using helicopters have found that one-half gallon application rates were sufficient to reduce their bird predation problems while lowering costs

These data indicate that aircraft, both fixed wing and rotor, as well as hydrostatic sprayers provide an excellent mechanism for applying the repellent at reduced concentration rates as well as costs. It may now be possible, with further studies, to reduce these rates lower where the cost of the material is lower than the application rate itself. Only additional research will verify this hypothesis.

# IDENTIFYING PREDATORS OF CUP-NESTING SONGBIRD NESTS IN RIPARIAN VALLEY OAK FORESTS OF THE COSUMNES RIVER PRESERVE, SACRAMENTO COUNTY, CALIFORNIA

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**Abstract:** The Cosumnes River Preserve (CRP) protects one of the largest remaining valley oak riparian communities and therefore provides critical habitat to approximately 31 species of migratory songbirds, many of which are undergoing considerable population declines. However, nesting success of cup-nesting songbirds in the CRP is extremely low and has been attributed to a high rate of nest predation. In 2001, only 1 of 8 spotted towhee (*Pipilo maculatus*) nests in the CRP monitored by the Point Reyes Bird Observatory (PRBO) was successful in producing fledglings (J. Hammond, PRBO, personal communication). This is of especial concern in light of recent studies that have shown that 30% of nests must be successful to simply sustain a population.

To identify nest predators, in May 2001 (during the nesting season) we placed 30 artificial nests containing 4 quail eggs monitored by Trailmaster remote camera units, in riparian forests of the CRP. Twenty nests were placed in old growth forest with a closed canopy and 10 nests were placed in a 12-year-old oak restoration area. Eighteen nests in the old growth forest were predated within 1 to 21 days of their placement. Roof rats (*Rattus rattus*) were the most frequent nest predator. Of 10 nests where we were able to identify the predator in photos, 7 were predated solely by roof rats, and 3 by a combination of roof rats, Western scrub-jays (*Aphelocoma californica*) and Eastern gray squirrels (*Sciurus carolenensis*). Live trapping and removal of rats for 4 nights within a radius of 10 m of each nest confirmed that roof rats are abundant (9% trap success) in the old growth forests of the Preserve. In the oak restoration area, all nests were predated within 7 to 21 days of placement. We were able to identify the predator for only 2 nests: a roof rat and an American crow (*Corvus brachyrhynchos*).

From our study, it is apparent that old growth riparian forests of the Cosumnes River Preserve provide ideal habitat for roof rats. Seasonal flooding of the Preserve probably selects for these climbing rodents while reducing competition from other ground-nesting species. Although roof rats are abundant and readily take eggs from artificial nests, we do not know the extent of their impacts on natural nests. However, our study results coupled with observations of poor nesting success of songbirds in the CRP suggest that their impacts are significant.

In 2002, we plan to a) extend our study to other California riparian areas to determine the potential impacts of roof rats on songbird populations throughout California, and b) implement an adaptive management strategy for roof rats in the CRP and monitor the benefits to nesting songbirds. Reducing rat populations using poison baits immediately prior

to the songbird nesting period is likely to be the most effective management strategy for reducing predation.