The Year of Science in Review

By Dr. Charles R. Berry

Science will not stop now that the Year of Science 2009 has ended. Duh!

The South Dakota Wildlife Federation (SDWF) joined the Coalition for the Public Understanding of Science to engage the public in science and to improve public understanding of science and how science works, why it matters, and who scientists are.

While the national program had monthly themes such as evolution, oceans, astronomy, and chemistry, the goal of the SDWF was to focus on science and fish and wildlife management (Table 1). Our simple definition of science was “a body of facts and a process of learning.”

The Future

Science has been and will continue to be the basis for making fish and wildlife management decisions in South Dakota. The Department of Game, Fish and Parks (GFP) staff has science studies underway that are termed “applied science and monitoring.” Most studies are funded by excise taxes that you pay when you purchase hunting and fishing supplies. Of the $10 million returned to South Dakota, the GFP spends about 15% on surveys and 11% on research. Surveys are focused on both wildlife and humans, are science-based, and lead to questions that require more comprehensive studies.

Both applied and basic research studies are underway at South Dakota State University and other state universities. A good example is ongoing research to improve the annual elk population estimates made by biologists who fly over the Black Hills in helicopters. The helicopters fly the same routes each year as biologists count elk and record the habitat conditions where elk are seen.

Graduate Student Angela Jarding is using radio-collared elk to test ways to improve elk population estimates. She compares the number of elk groups that are actually sighted to how many are missed.

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SDWF Annual Commemorative Gun Giveaway

Your chance to win a Savage .17 Caliber rifle Model # 93r17fxp

Buy a chance to buy one of the hottest new calibers to plink with, Synthetic Stock, 3-9 X 40 scope mounted and boresighted, 5 round clip. Drawing at the 65th Annual Convention in August 2010.

 Void where prohibited by law. Your presence or contribution not necessary to win. SDWF reserves the right to offer a cash settlement in lieu of the prizes.
The end of the year is upon us, most of the hunting seasons here in South Dakota have come and gone with the remainder on their last few days. I hope everyone had a safe and joyous hunting season and are already starting to plan for next year.

Camo Coalition day is planned for Monday Feb. 1, 2010 here in Pierre. Take one day out of your busy work schedule and come to Pierre to protect your hunting and fishing heritage here in South Dakota. The day starts at 7:30 AM and is over by Noon. We do make a difference when we show up in numbers and talk to our Legislators. Please plan on attending.

From my to yours, I hope you have a joyous and safe Holiday season!
The Year of Science in Review...

(upper photo) with those in the forest (lower photo). Can you see and count elk under the trees?

Angela and her major professor Dr. Susan Rupp are testing the hypothesis that habitat types (e.g., rocky hills, forest, grasslands, etc) change the sightability of elk in measurable ways, and that the sightability bias can be quantified. The researchers are developing computer models that will make a more accurate population estimate based on habitat features and sightability. Hunters, landowners, and wildlife managers want increased accuracy of elk population estimates, and Angela’s wildlife science will help.

Networks among South Dakota scientists that were developed during the Year of Science will continue, as will the national Year of Science program in some form. For example, scientists in South Dakota have a wonderful opportunity to participate in the USA Science and Technology Festival this summer. Your group could hold a local event and connect it with the national festival.

Being a Science Citizen

One of the goals of the Year of Science articles (Table 1) was to equip the public with tools that can be used to recognize key features that make science science (Box 1).

Use the checklist in Box 1 to evaluate the elk sightability study described above. All fish and wildlife science deals with the natural world. Check. The researchers stated a hypothesis and are collecting data (evidence) to test the hypothesis. Check. Angela’s research proposal was reviewed by university and state biologists, and her thesis and other science publications will receive peer review. Check.

The Year of Science website (www.yearsfience2009.org) offers more information in the section titled “Understanding Science 101”. The web site is simply the best source available for understanding citizen science and for giving teachers information on the process of science that they can use in the classroom.

My November article in Out of Doors was important because 1) You got to see pictures of my Springer spaniel named Higgins, and 2) I suggested steps you can use to tune out propaganda so that you won’t fool yourself or be fooled (Box 2). The steps will help you distinguish science from non-science, and recognize attempts to drive public perceptions with biased science and biased information.

### Box 2. Your Science Toolkit for evaluating science messages.

- What’s the source? (see footnote 7).
- Is evidence from news/magazines, or from peer reviewed science journals?
- Is a controversy misrepresented or blown out of proportion?
- Are there other sources? Where can I get more information?
- How strong is the evidence? Are maximum and minimum figures presented?
- Keep an open mind and be skeptical? Good science thrives on challenges.

### Conclusion

Science will be the foundation for fish and wildlife management. However, natural resource decisions will require the support of good science citizens who won’t allow beliefs, myths, and bad information to swamp messages from sound science.

A public that understands the process of science is a public that is able to make informed decisions about options for habitat conservation, or about boating, fishing, and hunting regulations, or about other quality of life factors. In a broader context, South Dakota needs a scientifically literate public to support the State’s commitment to opening frontiers of knowledge about physics (underground laboratory in the Hills), health, energy, the environment – and, yes, our fish and wildlife.

### Table 1. List of Year of Science articles published in Out of doors by theme (view Out of doors issues on the South Dakota Wildlife Federation Web site [www.sdwf.org].

<table>
<thead>
<tr>
<th>Year of Science Theme</th>
<th>Title of Year of Science article in Out of doors</th>
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<tbody>
<tr>
<td>Scientists and Process of Science</td>
<td>Welcome to Year of Science (February)</td>
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<td>Scientists on the Hot Seat (March)</td>
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<td>Energy and Fish and Wildlife Science (June)</td>
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<td>Making Sense of Science Stories (July)</td>
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<td>Science Facts</td>
<td>Fisheries science myth busters (April)</td>
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<td>Test your science knowledge (July)</td>
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<td>From Science to fishing technology (May)</td>
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<td>Public Understanding</td>
<td>Four misconceptions about science (September)</td>
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<td></td>
<td>Five steps for citizen scientists (November)</td>
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1. Dr. Charles R. Berry is Adjunct Professor in the Wildlife and Fisheries Science Department at South Dakota State University, and leader of South Dakota’s Year of Science program.
2. Information about each monthly theme is particularly valuable to educators and will remain on the Year of Science web site (www.yearsfience2009.org).
6. A South Dakota science group could participate in the Washington D.C. event on October 22-24, or hold a satellite event here in South Dakota; see http://www.usasciencefestival.org/.
7. See reference 2.
8. Of the $10 million returned to South Dakota, the GFP spends about 15% on surveys and 11% on research.

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Footnotes:

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8. To check sources see www.sourcewatch.org and www.factcheckED.org.
Holiday Gifts

Specials run through the end of January
(See order form on page 6)

Ornaments/Fan Pulls

- #753-B - Elk (rust)
- #754-B - Deer (rust)
- #745 - 12" Pheasant Oval (black)
- #756-B - Pheasant (rust)
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- #752-B - Moose (rust)

Laser cut metal

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- "SDWF Flashlight"

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- #702-Pheasant Napkin Holder (Copper Vein)
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- #179MB-Pheasant Hunt Mailbox Topper

Laser engraved stainless steel glass and coffee mug, detachable lids, non spill

"Open Plains" Belt Buckle

"Spring Ritual" Belt Buckle
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“TATANKA” - 20”x24” Mark Anderson

“MULE DEER” John Wilson

“WHITETAIL” John Wilson

“PARTRIDGE” John Wilson

“SPRING RITUAL” John Moisan

“SHARPTAIL” John Wilson

“ON THE ROCKS” 2000 by Mark Anderson

“DEEP SNOW” Mark Anderson

“OPEN PLAINS” John Green

“WALLEYES” Mark Anderson

“SPRING RITUAL” John Moisan

“EVENING FLIGHT” Mark Anderson

“OAHE LUNKERS” 1999 by Mark Anderson

“LOOKING BACK” Mark Anderson

“BLACK HILLS ROYAL” Mark Anderson

“WALLEYES” Mark Anderson

“DEEP SNOW” Mark Anderson

“OPEN PLAINS” John Green

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“WHITETAIL” John Wilson

“SHARPTAIL” John Wilson

“PARTRIDGE” John Wilson

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“PRAIRIE CHICKEN” John Wilson

Photos by South Dakota Tourism

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#702-Pheasant Napkin Holder (Copper Vein)

#757-Buck Candlewrap (black)

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#462-SD Pheasant Candle Centerpiece

Candles

Ornaments/Fan Pulls

#753-B - Elk (rust)

#745 - 12” Pheasant Oval (black)

#756-B - Pheasant (rust)

#755-B - Bear (rust)

#752-B - Moose (rust)

#754-B - Deer (rust)

Laser cut metal
At the recent Winter Board Meeting the SDWF Board created the SDWF Wildlife Legacy Council. The Council was created to allow recognition of the millions who support SDWF above and beyond their membership and fund donations.

Thank you to the following donors for their contributions to the SDWF. Please consider becoming a member of the Wildlife Legacy Council. SDWF is a 501(c)3 non-profit, all donations are tax deductible.

### Level I Pheasant ($50-$99)

- Black Hills Sportsmen - SD
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- Robert St. Onge, IA
- Mark Fredrickson, SD
- Bill Antonides, SD

### Level III Pheasant ($250-$499)

- Gary Cowles, AL
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- Ken Greenwood, OK
- Robert St. Onge, IA
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- Ralph Evans, FL
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**Print Size 22" x 24"

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- #753-B-Elk (rust) ($6.00)
- #752-B-Moose (rust) ($6.00)
- #766-B-Heron (rust) ($6.00)**

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**Candles

- 3-D Cilium Aluminum Flashlight ($22.00)
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- 14 oz. stainless steel coffee mug ($9.95)**

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- #702-Pheasant Napkin Holder (copper vein) ($17.00)**

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Add $5.00 per order for shipping, handling and tax. SPECIAL BONUS: When you purchase (3) prints, receive a print of your choice for free.
Will More Hunt and Fish For Food?

“My First Hunt” is the South Dakota Game, Fish, & Parks Department’s latest way of getting more kids to drop their video games and go hunting.

“We invite you to share a photo of your first hunt,” says the SD GF&P website. “Your picture can be of you with your game, or with your family and friends…”

South Dakota is not alone in being concerned about how to get more kids interested in hunting. Declining numbers in recent years have concerned hunting organizations and state game departments funded by license fees.

So-called youth mentor programs have been one way the hunting community has responded to the dip in interest in hunting. But that dip may be reversing itself due to a factor that did not exist recently—10 percent official unemployment, and probably 15 percent unofficial.

The once-in-a-decade chance to take an Elk sent 50 hunters into Arizona’s high country in questionable weather and ended up getting them all stranded when they were trapped by an early blizzard.

There is probably nothing that says local food more than hunting, and people across the country without enough cash for beef, pork and poultry at the grocery store are definitely being counted among those hunting this season.

While sport and hunting organizations usually come out with somewhat higher numbers, the U.S. Fish & Wildlife Service figures in the ten years ending in 2006, the number of hunters in the U.S. declined to 12.5 million, down from 14 million.

The same data shows the number of people who fish fell to 30 million in 2006, down from 35.5 million a decade earlier.

Numbers like that have state game departments doing everything they can to recruit and retain hunters. No other group pays as much to support wildlife than those who hunt and fish.

Big hunts continue to draw interest. Montana’s “fair chase” wolf hunt in November ended with 72 wolves being shot. A quota of 75 had been set, but Montana Fish, Wildlife and Parks ended the season before going over the limit.

The Idaho wolf hunt, which continues in some of the state’s 12 zones, continues until March 2010 has taken down about 120 wolves with another 100 to go.

Less exotic hunting, like for pheasants in South Dakota, is also occurring at a brisk pace this year. The late corn harvest in the upper Midwest means hunters have continued to get their birds in December.

Hunting and fishing—like golf and skiing—are feeling the impacts of demographics, namely the aging of the baby boom generation. State game agencies are counting on their youth mentor and other similar programs to offset those numbers.

Some hunters are almost spiritual about the need.

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2009/2010 SDWF 21 Gun Giveaway Tickets

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2009/2010 SDWF Custer Park Buffalo Shoot Tickets

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The number of people who fish fell to 30 million in 2006, down from 35.5 million a decade earlier.
Tony Dean’s Acres Fund Reaches First-Phase Goal

A December 19th fundraising event for the Tony Dean’s Acres project has pushed the project well past its first-phase fundraising goal.

Nearly $21,000 was raised in conjunction with a pheasant hunt, auction and dinner on December 19th, bringing the fund total to $118,000.

The hunt was held at the Steve Halverson farm near Kennebec, SD, with Celebrity Huntmasters Ron Schara of Ron Schara Productions, and outdoors editor and columnist Dennis Anderson of the Minneapolis Star Tribune. The hunt was followed by a dinner and live and silent auction at the Ramkota River Centre in Pierre, featuring auctioneer Todd Schuetzle of Dakota Properties Real Estate of Pierre. Auction items were donated by the family of Tony Dean, conservation organizations, manufacturers, individuals, and South Dakota businesses.

The amount raised exceeded the goal set by organizers, said John Cooper, co-chair of the Tony Dean’s Acres Steering Committee. “We were very pleased with the amount raised from this event,” said Cooper. “It’s amazing that we were able to generate this level of support when you consider the current economic climate and the time of year. It’s a real testament to the commitment that people and organizations have toward the types of conservation ideals that were expressed by Tony Dean.”

The Tony Dean’s Acres Fund will be used to purchase a parcel of land in South Dakota for wildlife and public recreation opportunities, in memory of the well-known outdoor communicator who died in 2008. The Fund is managed by the South Dakota Parks and Wildlife Foundation, a 501 (c) (3) nonprofit organization. Four national conservation partners will match the money raised by the Tony Dean’s Acres Steering Committee.

“Tony Dean wanted to make sure that future generations would have access to the same hunting and fishing opportunities that he enjoyed, and his wife Dar Dean is also very committed to that cause,” said Paul Lepisto, Steering Committee member and former producer/videographer for Tony Dean Outdoors.

Contributions to the Tony Dean’s Acres Fund are tax deductible, and the Steering Committee encourages donors who are looking for 2009 tax benefits to consider a contribution before the end of the year. For more detailed information on the Tony Dean’s Acres Project, visit www.TonyDean.com.

Prairie bird’s plight could affect farmers

A prairie song bird resembling a lanky sparrow is in the early stages of being considered a threatened or endangered species by the U.S. Fish and Wildlife Service.

If the Sprague’s pipit is given that protection, it might affect the conversion of grasslands to row crops. Carol Aron, the Fish and Wildlife biologist heading the inquiry into listing the bird, says its numbers have gone into significant decline because of habitat losses both in its summer range on the Northern Plains and Canada’s prairie provinces, and on its winter range in the Southwest and northern Mexico. Encroaching mesquite is the problem on the winter range, she says, and plowing up native grass to grow crops is the major source of habitat destruction on the summer range.

“In our organization, our members feel there has to be a balance between what can be used for production and what can’t,” said Doug Sombke, president of the South Dakota Farmers Union.

“We don’t want to see animals go extinct. At the same time, individual landowners have their individual rights, too, and those need to be served,” he said.

Chris Hesla, executive director of the South Dakota Wildlife Federation, sees the situation surrounding the Sprague’s pipit as a clear illustration of why it is important to preserve remaining native grassland.

“Those lands need to be protected, either through easements with the Fish and Wildlife Service or some farm program that pays producers not to put the plow to it,” Hesla said.

The Fish and Wildlife Service has begun a year-long fact-finding effort about a bird that has not yet been significantly studied. As part of that, public comment is sought. Responses about the Sprague’s pipit directed to the USFWS regional office in Pierre will be forwarded to the North Dakota office, where the review is being conducted, Aron said.

“From that, we will determine if the species is warranted for listing for protection at any level,” she said.

Aron said the Sprague’s pipit will not nest in crop fields, and it does not make good use of Conservation Reserve Program land, with its taller grass structure. It does do well on grazed native short grass and mixed grass prairie.

“This is a species that is tied to the native prairie,” Aron said.