Five Steps for Citizen Scientists

By Dr. Charles R. Berry Jr.

In monthly articles about the Year of Science, I have focused on the scientist and the process of science pertaining to fish and wildlife management. The purpose of this article is to focus on “you,” and to suggest steps you can use to tune out propaganda and discover bias so that you won’t fool yourself or be fooled.

A line from an old movie goes, “Being an American means advanced citizenship.” An advanced citizen scientist is informed, thoughtful, and open-minded. Awakening these characteristics in the public is one of the goals of the Year of Science celebration.

We depend on science to understand the natural world (some people depend on religion to understand why we should be good stewards of it). Our reaction to science news and published opinion depends on 1) our background beliefs (or worldviews), 2) how the media communicates science to us, and 3) our knowledge of the scientific process.

Philosophers tell us that our world view is shaped by four great factors – government, industry, religion, and education. The science writer may write with a bias based on their worldview. Their publisher may have an agenda that slants the news. The public receives the information through the filters of religion, politics, education, and industry. Recognizing the filters helps us be a better citizen scientist.

Beliefs about values

There are two types of background beliefs: beliefs about values, and beliefs about matters of fact. Science deals with facts, not values. We see an example of hunting values on TV when pheasant hunters are interviewed at the Sioux Falls airport. A hunter says that he is here to enjoy the out-of-doors and the companionship of old friends (photo shows late-season pheasant hunting near Brookings). The next hunter said, “If it flies, it dies.” One viewer might say “amen” to the first statement, and label the second as crass. Another viewer might label the first statement as a nice personal virtue, but think of the second as “what its all about.”

Beliefs about facts

Have you heard that Game, Fish and Parks stocked cougars to control the deer? People who like to put down the agency may perpetuate this coffee café joke, but critical thinkers would dismiss this claim. In a more serious vein, we are swamped with facts about climate change. My example is a letter to the Sioux Falls Argus Leader that presented facts against climate change. The writer cited a web site that cited a scientific publication, and he often referred to data from a certain “foundation.” The citizen scientist could use the five steps below to evaluate the writer’s claims. For example, you would check up on the reliability of writer’s sources – the web site and the foundation. You can check on the sources by using Internet helpers that may reveal that an institute with a high sounding name is really just a post office box at a public relations firm.

Why bring up climate change? Because there are threats to our fish and wildlife resources, so say the authors of the free booklet titled Season’s End, which was written by fish and wildlife experts (you’ll notice a lot of South Dakota connections). They help you understand climate change science, and then discuss challenges to fish and wildlife populations and to the biologists who manage them. For example, the photo of South Dakota duck hunters may be more common elsewhere in the future according to some climate change models.
Executive Director’s Update by Chris Hesla

I hope all of your hunting experiences this Fall have been safe and very productive. Those of you who live here in SD do not realize how well we have it with the abundance of game that we have. Perhaps that is why we continue to fight so hard for equal access to our game, equal access in the lottery system for licenses that guarantees us all an equal chance at a big game tag that is not based on our ability to pay for it. It is also the reason we limit the number of out-of-state waterfowl licenses. Do you think South Dakota would have the world class waterfowl hunting if it wasn’t limited? The 4,000 plus non-residents who take the time to apply for a waterfowl license come here and enjoy the best duck and goose hunting in the nation. Annually, I hear from many of them and they urge us (SDWF) to continue to limit the numbers so when they are lucky enough to get one of the licenses they know they will experience the best waterfowl hunting in the nation.

With the first of the year right around the corner, we will be going into our Legislative Session the second Tuesday of January 2010. SDWF’s strength lies in its membership. Each and every one of you who are reading this article needs to care enough to become more involved. There are many different ways to become involved:

- The first you have done, you are a member of SDWF.
- Get your hunting partner(s) to join SDWF. A bargain at just $20 a year.
- Become educated on the topics and be willing to contact your local Legislator.
- Attend your local cracker barrels and make sure your legislator is accountable to you, their constituent, on how they voted on the issues.
- Email me at sdwf@mncomm.com and ask to be on the legislative update e-mail. Stay up-to-date on hunting and outdoor issues in the legislature and monitor other important issues that try to curtail our outdoor experiences.
- Please financially support SDWF and our efforts to protect our hunting and fishing heritage here in SD for everyone.

SDWF is the leading advocate and voice for the average person here in SD. We are trying to protect what we have today. We are also working with landowners and others to make it better for your kids and grandkids and working to insure they have a place to hunt and something to hunt.

Working together, we can and do make a difference!!!

President’s Column by Rieck Eske

I believe that the Federal Government needs to raise the capped 32 million CRP acres passed in the 2008 Farm Bill. I feel the repercussions will have a greater risk of soil erosion, water pollution and a higher risk of new dust storms.

It takes decades to get native grasses established and a lot of farmers and ranchers would like to re-enroll or extend, but for some reason it can’t be re-enrolled or extended.

The CRP has created millions of acres of habitat for pheasants, quail, deer and other wildlife. Now a lot of that is going away.

I agree with the editorial in the American News that South Dakota needs to get their priorities set in regards to wind energy. Now state law says that the PUC only has one year to complete permitting review and decision making on energy conversion facilities. Shouldn’t they be able to wait until the Federal Environment Impact Statements are complete on projects which an EIS is required?

We also need some framework on were people can install wind turbines and what happens to them when they are no longer in use.

Just a couple of items to ponder.

As a member of the South Dakota Wildlife Federation, if you have any ideas, complaints, comments please pass them on to me and I will in turn pass onto the board. We would appreciate any input you may have.

Carry On The Tradition

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Five Steps for Citizen Scientists . . .

The following steps toward better science citizenship are adapted from Factcheck.org, a nonpartisan, consumer advocate for voters that aims to reduce the level of deception and confusion about TV ads, debates, speeches, interviews and news releases. Use one or more of these steps to unclog your filters as you read a news article about a scientific finding or an opinion piece in the newspaper.

1. Keep an open mind. Humans tend to accept information that supports what they already believe, even if the information isn’t very reliable. And humans also tend to reject information that conflicts with those beliefs, even if the information is solid. Unless we make an active effort to listen to all sides and understand our filters, we can become trapped into believing something that isn’t so, and won’t even know it.

2. Don’t accept claims at face value. Being skeptical is one of the key processes that scientists use and citizen scientists should be skeptical also. Who is speaking, and where are they getting their information? How can I validate what they’re saying? Does the evidence presented really back up what’s being said?

3. Cross-check. Don’t rely on one source or one study. For climate change for example, there is often a range presented really back up what’s being said?

4. Consider the source. Not all sources are equal. Front independently report the same facts or conclusions, more confident when two or three reliable sources

5. Weigh the evidence. Know the difference between random anecdotes and real scientific data from controlled studies. Recognize errors of reasoning, such as assuming that one thing causes another simply because the two happen one after the other.

Advanced citizenship

A citizen scientist should realize that science does not deal with values; it deals with facts and the process we use to discover facts. Practicing the five steps toward better citizen science takes effort and practice, but in doing so, you will have a better understanding of the facts. A better understanding of the facts will surely help you contribute to society as you debate, vote, and take action. Disagreements about matters of fact can often be resolved simply by looking at the relevant data. “Show me the data,” are powerful words. Disagreements about values are deeper and cannot usually be resolved so easily, but you might be challenged to modify your worldview. Now that takes advanced citizenship.

Footnotes
1 C. Berry is Adjunct professor in the Dept. Wildlife and Fisheries Science, South Dakota State University, and leader of South Dakota’s Year of Science programs.
2 You can read these articles in the Out-of-doors archives at www.sdwf.org.
3 www.yearofscience2009.org
6 One site is www.sourcewatch.org, which lists organizations and people who are often quoted. Their Truth-o-Meter has ratings of True, Half-true, False, and Pants-on-fire, referring the child’s taunt “Liar, liar, pants on fire.” The second one is www.factcheck.org. The “IF” is for education, so this site lists organizations and is for educators and students — we call students “future educators”.
88 in press. (available on the Department’s home page http://wfs.sdstate.edu.).
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11 www.yearofscience2009.org. I’ll bet you belong to one of the sponsoring organizations (e.g., DU, TF, PF, BASS, TREC, Boone and Crockett, etc.)

What happens after CRP?

What are the anticipated losses in CRP land and how can that impact South Dakota’s pheasant population? What other factors are expected to impact pheasant numbers?

Chad Switzer, terrestrial wildlife administrator, with GF&P had the following response;

Quality nesting cover, mild winters and favorable weather conditions during the peak hatch, have been the main reasons for South Dakota’s pheasant population surge during the past decade. At the cornerstone of pheasant production are Conservation Reserve Program (CRP) acres. Without a doubt, no other conservation or habitat program has had such an impact on many of our wildlife populations on a landscape level as that of CRP. South Dakota’s CRP acreage leveled off at about 1.6 million acres in 2006, while some 600,000 acres have expired and were likely converted to production agriculture from 2007-2009.

A portion of these acres have been re-enrolled into continuous CRP practices and the soon to be available James River Watershed Conservation Reserve Enhancement Program (CREP) will likely be an attractive program for landowners to consider re-enrolling eligible tracts of expired CRP acres.

Overall impact to the pheasant population can not be accurately determined; however the loss of these CRP acres in certain locations of the state will most likely result in a negative impact to the pheasant population.

It is no secret that pheasants do use other habitat besides CRP, but the pheasant decline after the Soil Bank era is a historic lesson on the importance of undisturbed grassland habitat. When the Soil Bank acres began to expire, pheasant populations dropped from an estimated 10 million birds in 1963 to just 2.2 million in 1966.

With another 600,000-plus CRP acres set to expire over the next five years, and with the national cap for CRP acres reduced from 39.2 to 32.0 million during the latest farm bill, the future of CRP and its impact on South Dakota’s pheasant populations is unclear, but likely not to remain at the high level of recent years.

In addition to the loss of CRP acres, severe winter weather is always in the back of minds for landowners, hunters, and wildlife managers.

During the winter of 1996-97, local pheasant populations were able to rebound quickly due to the 1.5 plus million acres of CRP on the landscape. A similar winter in the future with much less undisturbed nesting cover could take years for populations to recover.

The continuing loss of native grassland to row crop production impacts another component of nesting and brood-bearing habitat for pheasants and other upland nesting birds.

While we have no control over the weather, we can together through partnerships continue to promote the development and management of pheasant habitat.

With this being said, the future of South Dakota retaining its national pheasant status is not all gloom and doom. South Dakota landowners still have a strong interest in CRP and its benefits in their land management decisions.

Numerous government agencies, non-governmental organizations and local groups work with landowners to establish and manage habitat.

The involvement and dedication of landowners has and will continue to be driving force in maintaining pheasant habitat and the numerous other species that benefit from these

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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.

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

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.
Mother Nature decided to give pheasant hunters some sunshine for the 2009 South Dakota pheasant opener, but that doesn’t necessarily mean blue skies for those chasing roosters.

Although hunters saw beautiful weather, the remnants of two weeks of gray skies and rain across the pheasant belt left hunters limited to where they could chase wily roosters.

Scott Lindgren, South Dakota Game Fish and Parks Region 3 Game Manager from Watertown agreed that weather had a big part in hunter success and hunter access. “Our hunter numbers were down quite a bit,” Lindgren said. “I could contribute it to a huge majority of the crops still being out in the fields. We are way behind in getting any of our major crops out, and I think hunters realize that.”

Lindgren did report that hunters in Edmunds and McPherson Counties averaged a bird and a half each. Hunters in other parts of the state were down around a half a bird per hunter, but found success in CRP, sloughs, food plots and tree belts.

Lindgren was happy to report that there were no hunting accidents and very few hunting violations.

In the Southeast part of the state, GFP Region 4 Game Manager Ron Schauer reported low hunting activity.

“The sun shining was the best part of the day,” Schauer said. “I think people were leery of the weather and that kept some people home. We probably have 95% of our crops still in the ground, but the hunters that hung in there and hunted the later part of the day did pretty well. They probably averaged around a bird and a half each.”

Schauer said that Mother Nature left some hunters stranded.

“We had some public areas that hunters just couldn’t get to because of wet roads.”

Schauer reported four accidents in his region. An Aurora County hunter was struck in the face by four pellets, but the accident was not regarded as life threatening.

Hunters in the central portion of South Dakota saw the best success, with hunters averaging about two birds each, said Andy Lindbloom, Region 4 Game Manager for South Dakota GFP.

“I think the weather had a lot to do with it,” Lindbloom said. “We haven’t seen much of the sun in the past ten days. Hunters like sunshine and so do the birds.”

Lindbloom reported nine violations in the central part of the state, most relating to road hunters and trespassing. Lindbloom also reported high hunter numbers and a positive hunter attitude.

“Hunters realize that crops in the ground can lead to tough hunting, but we still have great bird numbers and the hunters who hunt hard are getting their birds,” said Lindbloom.

Schauer, Lindbloom and Lindgren all reported hunter satisfaction as high.

“Opening weekend hunters are here for friendship, fun and memories,” said Lindgren.
Here are a few thoughts about my recent experience with Elk hunting in our great State of South Dakota.

The opportunity for the average sportsman(woman) to have a special experience to hunt Elk is very unique in South Dakota. The non-landowner odds of getting a license are very challenging, some waiting for years hoping to get the draw and some never being successful. This year, after nine years, I was lucky to get that cherished rifle Elk tag for any elk in Unit 2 of the Black Hills. For the better part of 26 days I was in the field looking for, attempting to corner, get that shot at the “monster elk”. There were plenty of passed shots on lesser 5 x 5s and much time spent tracking the two big-

gest elk I had seen in the Hills. At times son Matt and I were within 15 yards of 80 cow herds with no bull of acceptable size. Weather, early hunting conditions etc all played a role in this wonderful adventure taking 26 days. Most of my hunting was alone-up at 4:30 am and back at 8:00 pm. Seemed a little like the movie “groundhog day.”

In the end, I did not shoot the big one but had that special experience of being in the woods and mountains of South Dakota on a quest so many seek. It was a great personal experience which really had less to do with success of finding the monster Bull and getting the shot of a lifetime but more with the opportunity provided by a lucky draw from the hat to pursue the monster Bull. Saw him twice. He is still out there for someone else to chase in their dreams and hopefully for another sportsmen to have the chance to pursue their quest. Get out of the truck, walk the ridges, and share in the glory of nature. A love of the outdoors and the opportunity of fair chase pursuit mentored for so many years by my father Ellsworth Brown. The quest was great, the opportunity special and my commitment to supporting public access for the average sportsman to pursue his or her dream hunt opportunity remains rock steadfast.

Hopefully, next year you will have the opportunity to experience South Dakota and Elk hunting as I did this year. Maybe the luck of the draw will fall your way. As dedicated sportsmen and women we know that our South Dakota outdoors heritage and legacy is much more about the opportunity and access while much less about shooting the monster bull.

Have a great day and become a South Dakota Parks and Wildlife Foundation “Friend of Parks and Wildlife.”

Dick Brown, is a retired retirement planner, ex State Representative from the Sioux Falls area, former GF&P Commissioner and now lives in Custer, SD and works with his wife Sue, to raise funds for the South Dakota Parks Foundation

"We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.”

From A Sand County Almanac by Aldo Leopold

"A vote is like a rifle: its usefulness depends upon the character of the user.”

Theodore Roosevelt, An Autobiography, 1913