

NORTH DAKOTA OUTDOORS

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GAME AND FISH DEPARTMENT

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THE DRIFT

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NORTH DAKOTA OUTDOORS

PUBLISHED BY THE NORTH DAKOTA GAME AND FISH DEPARTMENT

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Front Cover

Immature or molting orioles are a challenge to identify, as is the case with this bird. He may be a Baltimore oriole, Bullock's Oriole, or possibly a hybrid. *Photo by Ashley Peterson, Bismarck.*

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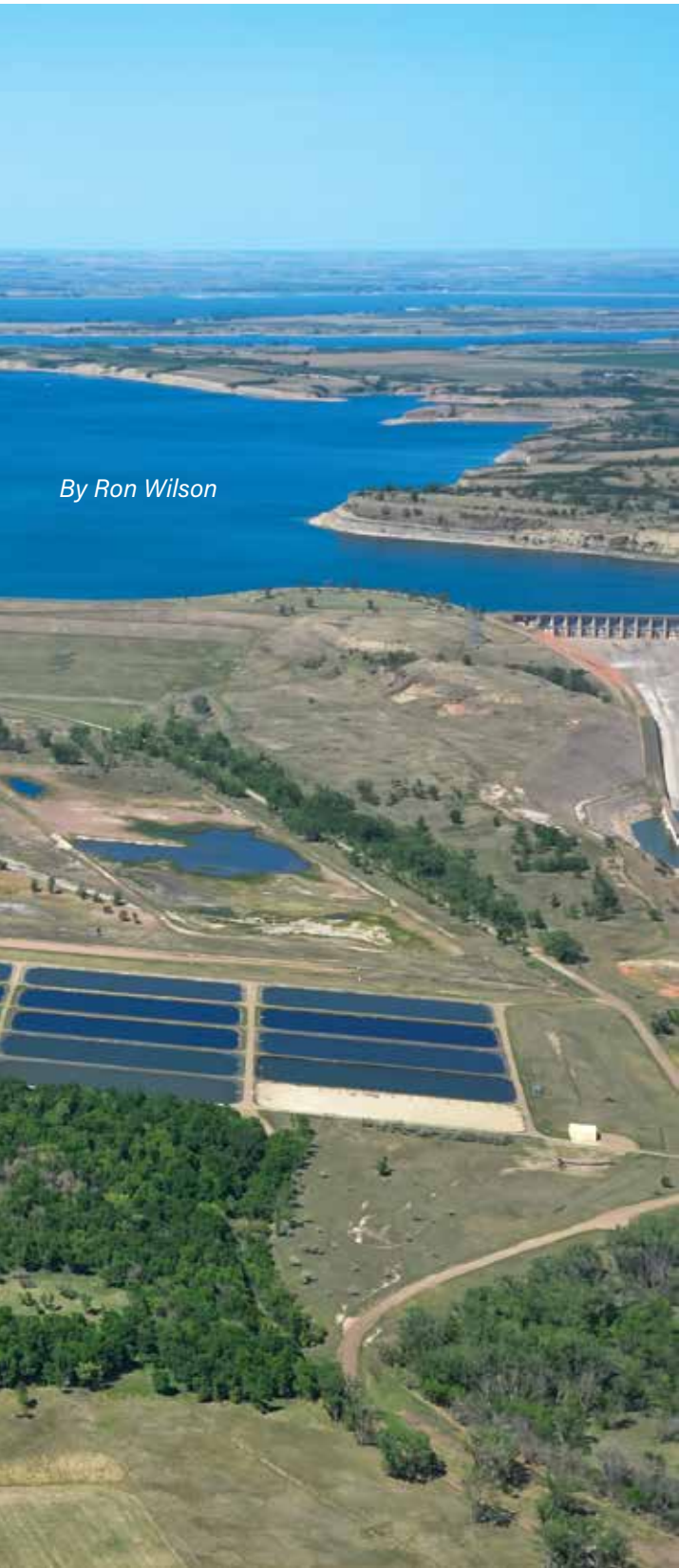
Game and Fish



An aerial photograph showing the Garrison Dam National Fish Hatchery. The hatchery consists of several large, rectangular, blue-colored ponds arranged in a grid-like pattern, separated by dirt roads. The ponds are surrounded by green trees and grassy fields. In the background, a large body of water, Lake Sakakawea, stretches across the horizon under a clear blue sky. The title "MODEL PARTNERSHIP" is overlaid in large, white, serif capital letters on the upper portion of the image.

MODEL PARTNERSHIP

AN AERIAL VIEW OF GARRISON DAM NATIONAL FISH HATCHERY NEAR LAKE SAKAKAWEA. SOME OF THE MILLIONS OF HATCHERY RAISED WALLEYE FINGERLINGS (RIGHT) STOCKED IN NORTH DAKOTA WATERS IN 2021.



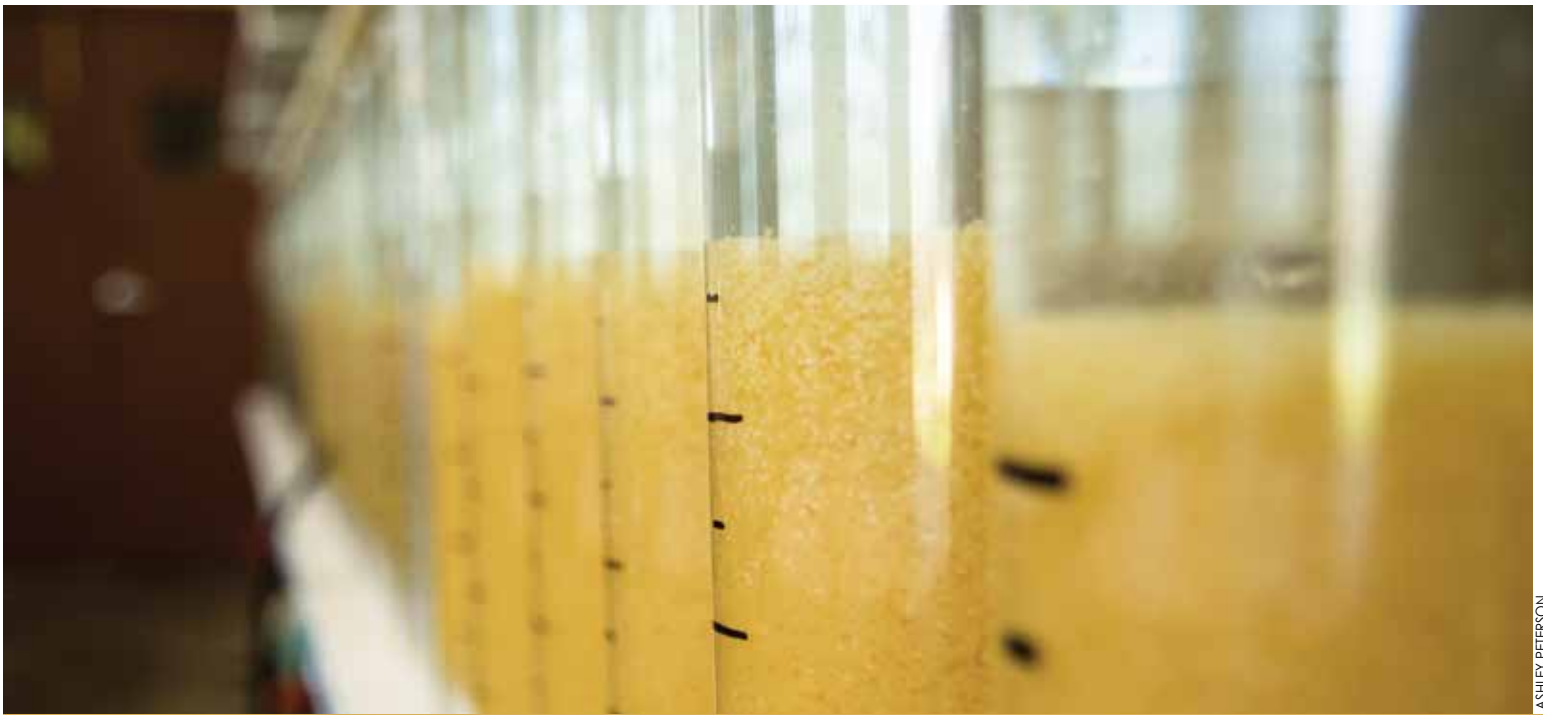
By Ron Wilson

JEFF SIEGER



ASHLEY PETERSON





ASHLEY PETERSON

WALLEYE EGGS (LEFT) REST IN INCUBATION JARS INSIDE THE HATCHERY FOR ROUGHLY TWO TO THREE WEEKS BEFORE THE TINY, HATCHED FISH ARE RELEASED INTO OUTDOOR PONDS. RUSS KINZLER, WITH THE GAME AND FISH DEPARTMENT, WAITS ATOP THE DEPARTMENT'S FISH DISTRIBUTION TRAILER (RIGHT) FOR A NET OF WALLEYE FINGERLINGS FROM BEN OLDENBURG WITH THE U.S. FISH AND WILDLIFE SERVICE.

Since 1989 when the North Dakota Game and Fish Department invested \$5 million on infrastructure at Garrison Dam National Fish Hatchery to increase fish production, agency personnel have stocked more than 248 million walleyes in state waters and 2 million pounds of trout and salmon.

Anglers, you'd have to imagine, have to be happy with the 32-year return on that investment.

This unparalleled production, especially when you compare the number of walleyes raised and released in other states, is possible because of the decades-long, matchless working relationship between the Department and the U.S. Fish and Wildlife Service.

"We have worked literally shoulder to shoulder with hatchery personnel for years with virtually no conflict," said Greg Power, Game and Fish Department fisheries chief. "In the end, everybody benefits from that type of relationship."

Yet, like in anything in life, change is certain.

"After 26 years here and 30-plus

years with the U.S. Fish and Wildlife Service, I've decided to retire and go out with my grandkids and actually take advantage of some of those fish we've been stocking," said Rob Holm, project manager for Garrison Dam and Valley City national fish hatcheries.

Jerry Weigel, Game and Fish Department production/development section supervisor, has worked with hatchery personnel for years and is certain staff from both agencies will adjust with the change.

"When somebody leaves like Rob, you're losing a lot of experience," Weigel said. "We have an amazing demand for fish right now, which puts a lot of pressure on the hatchery. But they're very talented folks and we have such a help-each-other-out atmosphere that I'm certain things will get done."

Personnel from both agencies bring different skills to the partnership. State fisheries biologists provide the know-how in egg-collecting, fish-hauling and a thorough knowledge of North Dakota waters. Conversely, the

hatchery has disease experts and the wisdom of raising fish.

"We are all working on the same goal of making fishing better across the state, regardless of what uniform we wear, or the different patches on our sleeves," Weigel said. "They want to produce great, healthy fish, and lots of them, and we want to make sure we're getting them to the lakes and providing the proper management that makes for the best fishing we can possibly provide."

Holm said the working link between the Game and Fish Department and the federal hatcheries in North Dakota stands as a scarce model around the country.

Yet, it shouldn't be.

"Typically, you have your federal hatcheries and you have your state hatcheries and they really don't mix. They each have a different purpose, but it shouldn't be that way," Holm said. "There is so much opportunity when we work together. What we're doing in North Dakota should be a model for the rest of the states."



ASHLEY PETERSON



MIKE ANDERSON

ROB HOLM, HATCHERY PROJECT MANAGER, POINTS OUT SOME OF THE CHARACTERISTICS OF A PALLID STURGEON TO GOVERNOR DOUG BURGUM.

Garrison Dam and Valley City hatcheries are critical to North Dakota fishing because the fish populations in many waters are just not self-sustaining. And with many more waters on the landscape today than when Holm moved to the state in about the mid-1990s, the demand to produce and stock walleye keeps climbing.

"People need to keep in mind the number of fish we stock isn't driven by what the hatchery can produce, it's driven by need," Weigel said. "Thirty years ago, we only needed 3 to 5 million walleyes because we had fewer than 200 lakes to stock. Today, we have 450 lakes to stock and 10 to 12 million is just barely enough to cover what we need to do."

Walleye, as Holm and other fisheries personnel understand, no matter which uniform shirt they're wearing, is king in North Dakota.

"I checked into it last year and learned that the next highest production of walleye of any state in the union is around 5 million," Holm said. "What we're producing in this hatchery alone

compared to that is a big difference, and we do it only because of the cooperative relationship with the Game and Fish."

Walleye, trout and salmon aside, a number of other fish species have been raised at the hatchery and released into state waters over the years, such as bass, crappie, pike, muskies, paddlefish, the list goes on.

"There is a whole gamut of fish, including pallid sturgeon used in the recovery effort we've been working on for more than 20 years now," Holm said.

When Holm started at the hatchery, they had a single tank in a storage facility where they would hold endangered pallid sturgeon before shipping them south to another hatchery in South Dakota. The recovery effort needed a boost as it was estimated that there were just 200-250 adults remaining in the wild.

"So, getting that program going, taking it from a storage shed and putting it into a production building where like 80% of the pallid sturgeon stocked nationwide came from ... that's some-

thing," Holm said. "It's pretty remarkable being able to take that fish that was on the brink of extinction and reestablishing those populations up and down the Missouri and Yellowstone rivers.

"Those fish will be here when my grandchildren have kids," he added. "I think that's kind of a big thing. I didn't want to see that fish to go extinct on my watch and it won't."

Power applauds the balancing act Holm and staff have demonstrated over the years dealing with the state's recreational fishing needs and management of native species.

"They have been dealing with a number of species that we don't put on our dinner plates, but we certainly care that they are out there," Power said. "The pallid sturgeon, of course, is the poster child, but there are so many other species that Rob and the hatchery system deal with that are also important to North Dakota."

RON WILSON is editor of *North Dakota OUTDOORS*.

Electronic Posting in Play

Compiled by Staff



The landscape has changed for hunters in North Dakota.

While current posting laws allow landowners to leave lands unposted or to post land with physical signs, lawmakers in 2021 passed a bill to allow electronic posting of private land, giving landowners another option for posting private property.

That law takes effect Aug. 1.

Landowners interested in posting electronically for the 2021-22 hunting season had to do so by July 15. Brian Hosek, North Dakota Game and Fish Department administrative operations manager, said about 2.5 million

acres were enrolled by the deadline.

There are tools available on the Game and Fish website, gf.nd.gov, hunters can use to determine land that has been electronically posted. These include multiple map applications and digital PDF documents that can be saved to a device or printed for use in the field.

The map applications can be accessed by a computer or smartphone. The applications offer features to identify a point of contact, work offline or without cellular service, and the ability to create your own maps. Custom

maps provide the ability to turn on other map features, such as deer hunting units and aerial imagery, or zoom into areas to see more detailed information.

Hosek said a benefit of electronic posting for hunters is that they can determine a valid point of contact when requesting access. The name of the landowner, or authorized individual who posted the land is included on the map applications.

While law requires the name of the individual who posted the land to be available to the public, hunters may also find additional contact information such as an





ASHLEY PETERSON

email address, phone number and/or alternate point of contact. Hunters should note that point of contact information is not available on printed maps, but only on online applications.

There are two map applications available to find the individual who posted land electronically. The PLOTS Guide viewer and ArcGIS Explorer app will show electronically posted lands in dark orange crosshatch. Clicking on the parcel will display the individual who posted the land and may include additional contact information.

To determine posting in areas without cellular access, hunters should note there is an application available to upload the statewide PLOTS Guide map. This mobile application does not require cellular service and can work offline.

Once uploaded, this application offers the ability to view your location, lands posted electronically, plus public lands and PLOTS tracts. Another option is to use the digital PDF documents or printable maps.

To be more informed on the latest map updates for public lands, PLOTS and electronically posted lands, click on the "subscribe to news and alerts" link on the Department's website and sign up for mapping updates. Here you will be provided messaging via email or text message as map updates become available.

TO ACCESS PLOTS INTERACTIVE GUIDE VIA DESKTOP COMPUTER:

1. Go to gf.nd.gov
2. Under Seasonal Shortcuts, click "Electronic Posting Information"
3. Click on PLOTS Guide Viewer under Map Resources
4. Scroll, click and drag to zoom/pan around the map
5. Locate an electronically posted area, denoted by orange crosshatching
6. Click on the map feature for more information or use identifying tool
7. Repeat steps 6-7 for other electronically posted areas

TO ACCESS PLOTS INTERACTIVE GUIDE VIA MOBILE PHONE (WITH CELLULAR SERVICE):

1. Go to gf.nd.gov
2. On the homepage, tap the compass icon
3. Locate and tap Map Service Apps
4. Scroll to bottom, tap PLOTS Guide Viewer
5. Pinch to zoom and tap to drag around the map
6. Locate an electronically posted area, denoted by orange crosshatching
7. Tap on the map feature or use identifying tool
8. Repeat steps 6-7 for other electronically posted areas

Hunting Access in North Dakota

Know the regulations
before going hunting

HUNTING
REGS

Private Lands

Without permission



Land that is not
posted physically
or electronically



NDGFD
Private Land
Open To
Sportsmen
(PLOTS)

Walk-in access only
or as signed



To recover
game without
a firearm

With permission



Land that is
posted
physically or
electronically



Unharvested crops
(even if not posted)



Rights-of-Way
and section lines

*May travel
(not hunt)
section lines
without permission



Within 440 yards
of an occupied
dwelling

*Through their agreement with
NDGFD, landowners enrolled in
PLOTS have given permission to
hunt within 440 yards of
dwellings.

Public Lands

Special Regulations May Apply



NDGFD State Wildlife
Management Areas

ND Department of
Trust Lands

U.S. Bureau of Reclamation

USFWS Waterfowl
Production Areas

USFWS National
Wildlife Refuges

U.S. Army Corps of
Engineers



U.S. Forest
Service
National Grasslands

Bureau of Land
Management

ND Forest Service



WATERFOWL
PRODUCTION
AREA
OPEN TO HUNTING

UNDERSTANDING BAROTRAUMA

By Scott Gangl



BRIAN SCHAEFER

Conventional thinking suggests that when summer heats up, fishing cools down.

Inevitably, fishing slows down during the “dog days” of summer, when water temperatures on North Dakota’s shallow prairie lakes exceed the preferred temperature range of our cool water sport fish, like walleye, yellow perch or northern pike (contrary to fishing lore, pike do not lose their teeth in August). But on many of our larger lakes, fish will seek cooler water where they can comfortably feed all summer.

Modern anglers, equipped with the latest fish-finding technology and armed with knowledge gleaned from a multitude of media sources, are much better at locating and catching active fish in summer. Often, this means targeting fish in deeper, cooler water. Locating a school and catching lots of willing fish can be loads of fun, but anglers need to be aware of some potential side effects that come with releasing fish in summer.

Catch-and-release fishing is something that many anglers enjoy for various reasons. Conservation-minded anglers simply enjoy catching fish for sport, and release fish to be caught again another time. Harvest-oriented anglers may opt to harvest fish at sizes they deem to be the best table fare, releasing fish they think are too small or too large to keep. Some fishing regulations may require anglers to release fish as well.

Most anglers presume the fish they release survive, but that isn’t always the case. While many released fish survive to be caught again, it’s generally accepted that some percentage of them succumb to the stress of being caught, handled and released.

Biologists and anglers have teamed up on numerous studies across the country to evaluate the mortality of

released fish, and have learned that factors like gear (hook size and type), bait (live vs. artificial) and angling practice (fighting time, landing technique, handling time and air exposure, hook removal technique, and fishing location, depth and water temperature) can all affect the survival of released fish.

Most anglers have likely tried to release a fish that was deeply hooked or too stressed to swim away and decided to harvest it instead. Barotrauma is one factor that anglers have probably observed without recognizing or understanding the potential negative effects on released fish.

What is barotrauma?

Barotrauma refers to injuries (i.e., trauma) caused by changes in barometric or water pressure. People can

experience barotrauma symptoms while flying in an airplane, driving in the mountains or diving under water. Fish reeled up from deep water can also experience barotrauma.

The most common symptoms are bulging eyes, gas bubbles formed under the skin, bleeding gills or an expanded swim bladder that pushes the stomach out of the fish’s mouth. When the latter occurs, released fish cannot right themselves or swim back to their original depth. Fish unable to submerge are subject to stress from higher surface temperatures or sun exposure, being struck by boats or increased predation as they become easy prey for birds like gulls or pelicans.

Less obvious internal injuries can also occur, such as hematomas, affected vision or hemorrhaging of



ANGLERS PRESUME THE FISH THEY RELEASE SURVIVE, BUT THOSE THAT SUFFER TRAUMA FROM BEING CAUGHT FROM DEEP WATER MANY TIMES DON'T MAKE IT.

MIKE ANDERSON

internal organs. These internal injuries can lead to changes in a fish's behavior or delayed mortality, even if the fish appears fine when it swims away.

Does barotrauma affect all fish the same?

Some fish are more susceptible to barotrauma than others. Fish like trout, salmon and pike have a duct that connects their swim bladder to their stomach, allowing them to "burp" air to decompress their swim bladder as they are brought up from the depths. Meanwhile, fish like walleye, perch or bass do not have this duct and regulate their swim bladder by releasing gasses through the gills via the bloodstream (similar to how a human lung exchanges oxygen and carbon dioxide in the blood). This is a much slower process, and results in the bloated appearance of the swim bladder when a fish is reeled in from deep water.

In numerous studies across North America, largemouth bass, smallmouth bass, walleye and yellow perch have exhibited increased mortality due to the effects of angling barotrauma. The depths of those effects varied depending on the study lake or fish species, but in general most studies have shown a dramatic increase of mortality when depths exceed 10 meters or roughly 33 feet. Coincidentally, 10 meters generally corresponds to the depth where the pressure under water measures one atmosphere.

Where is barotrauma a problem?

Barotrauma is not an issue everywhere in North Dakota because most shallow prairie lakes seldom exceed 33 feet in maximum depth. Concerns are highest in larger, deeper bodies of water like Lake Sakakawea or Devils Lake. Walleye in Lake Sakakawea are notorious for moving deeper in pursuit of rainbow smelt, a coldwater forage



THE BLOOD ON THE SIDE OF THIS WALLEYE (TOP) IS AN OBVIOUS SIGN THAT, IF RELEASED, CHANCES OF SURVIVAL AREN'T GOOD.

fish that also seeks deeper water as summer warms up.

Anglers practicing catch-and-release on these deep walleye may be killing considerably more than their limit at times, and the Game and Fish Department has gotten complaints of small walleye floating on the surface after being released. At Devils Lake, barotrauma has become more common as water depths increased beginning in the early 1990s. In summer, walleye, especially large fish, will often be found at cooler depths, spread out among the deeper basins of the lake. In winter, the concern of barotrauma focuses on yellow perch, the prime target of winter anglers at Devils Lake for decades. When a younger year-class of perch is approaching harvestable size, anglers will often sort through a lot of smaller perch in search of a keeper, and this becomes a concern when many of the released fish cannot swim away on their own due to barotrauma.

What can anglers do to prevent barotrauma?

Anglers fishing in deep water may want to take precautions to minimize the negative effects of barotrauma for the fish they catch. Unfortunately, there isn't any cure-all that guarantees survival of released fish when they're caught from deep water. There are several techniques that are promoted to help released fish, but none have been proven effective at completely eliminating barotrauma-induced mortality.

Venting (fizzing) for example, consists of puncturing the fish's swim bladder with a hypodermic needle and is promoted to help them swim back to their original depth. Descending devices such as drop weights, a weight attached to the fish's lip that sinks them to their original depth for release, are another tool that some anglers have used to quickly compress the swim bladder to its original pressure.

While a vented or descended fish

does indeed swim away more readily, survival is not guaranteed. Venting only deflates the swim bladder and may result in the fish losing its ability to regulate depth due to the puncture wound in the swim bladder. This may lead to modified behavior, limited feeding efficiency, and ultimately death.

While venting is not directly outlawed in North Dakota, the process requires an angler to handle and hold the fish for some length of time while the swim bladder deflates, creating a situation where an angler may be in violation of the requirement to immediately release fish after capture. Descending doesn't require the angler to handle the fish or puncture the swim bladder, and ultimately results in a quicker release.

Promoters of venting or descending tools seem to accept that once a fish is out of sight, survival is guaranteed, but this isn't necessarily true. Venting or descending only address the swim bladder symptom of barotrauma, and do not reverse other potentially fatal injuries like hemorrhaging of the liver, heart or other organs, as well as hematomas that produce internal bleeding. These injuries may lead to increased mortality for many of the fish released and, thus, anglers taking action to reduce barotrauma mortality may be responsible for killing more than their daily limit even if they use one of the widely promoted techniques.

Anglers who are concerned with the long-term health of their fisheries can take some practical steps to prevent excessive barotrauma mortality. In North Dakota, there are no regulations directing the depth anglers can fish, but anglers should refrain from practicing catch-and-release for fish like bass, walleye or yellow perch caught from deep water. Anglers who choose to fish in deep water should intend to harvest fish they catch, up to their daily limit, while anglers who wish to practice catch-and-release should target fish in shallower water to maximize survival of the fish they release.

SCOTT GANGL is the Game and Fish Department's fisheries management section leader.



MIKE ANDERSON

ANGLERS WHO WANT TO PRACTICE CATCH-AND-RELEASE SHOULD TARGET FISH IN SHALLOWER WATER.



RON WILSON

FISH LIKE PIKE DON'T SUFFER FROM BAROTRAUMA LIKE WALLEYE AND PERCH WHEN BROUGHT UP FROM DEEP WATER.

NDO MILESTONE



By Ron Wilson

Ninety years ago, the first issue of *North Dakota OUTDOORS* was published.

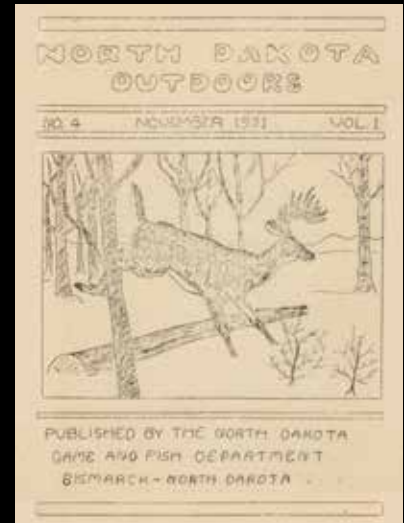
The five-page bulletin was made available to the public in August 1931 to educate and inform readers across the state about ongoing and future-looking conservation efforts.

While much has changed in 90 years in the technology and effort involved in getting NDO into the hands (or on the screens) of readers, the publication's purpose is mostly unchanged.

To recognize this decades-long marker, we took a look, albeit abbreviated, inside the covers of NDO over time.

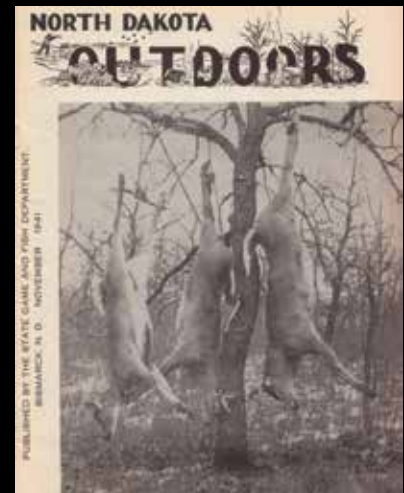
1931

We do not know whether there is a 'Last Man's Club' for whooping cranes, but if so, North Dakota can furnish a member. On September 30th Commissioner Maurek and Russel Reid, in an airplane, secured moving pictures of a whooping crane which was seen in company with a flock of sandhill cranes near Buffalo Lake north of Dawson. Owing to the difficulties attendant upon the taking of such a picture from a fast-moving plan, the results were not so good as had been hoped for, but the pictures, as developed, leave not question as to the identity of the bird. As whooping cranes have been declared by the Bureau of Biological Survey to be an extinct species, much interest has been exhibited in this report.



1941

North Dakota big game hunters will have another opportunity to take to the woods in search of the elusive deer the latter part of this month. A regular deer season is, most generally, held every two years. Last year a special season was held in the Turtle Mountains in order to thin out the population in that particular section. The staff working under the Federal Aid Division of the State Game and Fish Department estimate that there are between 7,000 and 8,000 deer in the state. The survey was made by airplane. From all indications, several thousand hunters will take to the woods for the season this fall.



1951

The job of education is going ahead, led by the more progressive of the state departments. But until the day when the average sportsman figures that he is a custodian of our heritage of game birds and animals, education is not enough. When you force that state to spend extra dollars on enforcement, you cut down the amount that can be spend on habitat improvement, stocking, hatcheries and research. The game law violator is a thief, and the greatest enemy of conservation today!



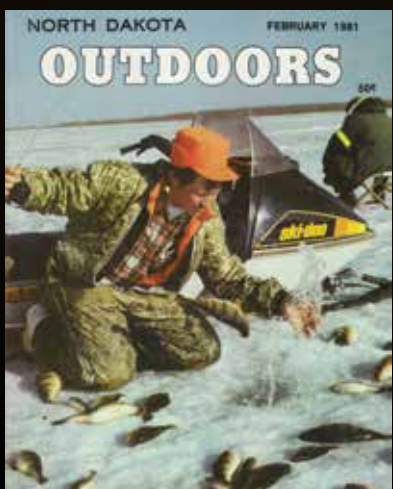
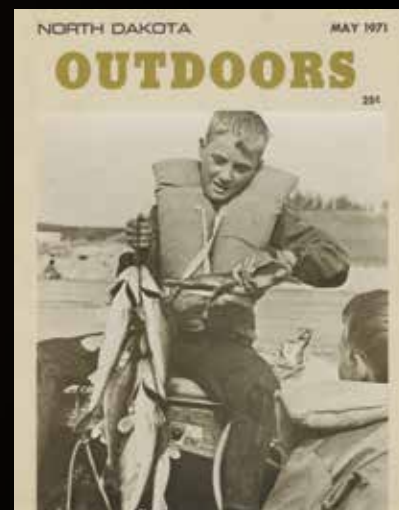


1961

Many times, since North Dakota first legalized bowhunting in 1954, have we heard bowhunters remark that after hunting deer with a bow and arrow, it wasn't any fun to take them with a rifle anymore. Dozens of bowhunters have told us that they learned more about the habits of deer and pronghorns in one year of bowhunting than they did in 20 years of hunting with a gun. Before we leave the subject of antelope and bowhunting, we'd like to remind you that the current world's record bow-killed pronghorn was taken here in North Dakota by Archie Malm of Flasher. This is the trophy that all bowhunters are striving to beat whenever they go afield.

1971

In many quarters, even among some of the most knowledgeable sportsmen, the doe is still the great woodland mother-image. Although there seems to be a deeply ingrained stigma against shooting a female deer, the same feeling does not usually hold for bears, rabbits, ducks, geese and other species. But make no mistake about it – female deer go through the same agonizing ordeals of starvation as do the bucks, if Mother Nature is allowed to handle deer management problems with winterkill. Deer do not pair off like some animals. One buck will service a number of does, so by taking bucks only hunters are not holding down a deer herd or taking the maximum sustained yield.

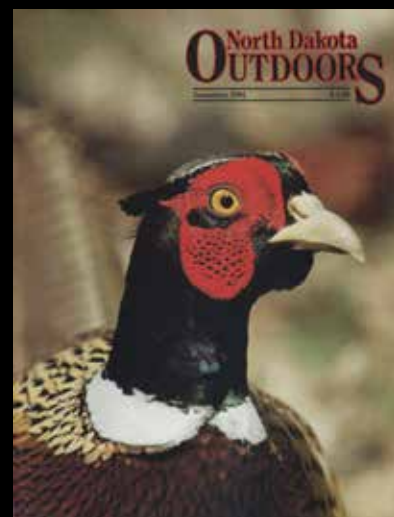


1981

The salmonid fishery (trout and salmon) in the Missouri System continues to generate new interest among anglers throughout Northern Plains states. Research and management of these species has been hard pressed to keep pace with fishery developments and public demand. Last fall marked the first collection of native chinook salmon eggs. Approximately 90,000 chinook eggs were collected and hatched at Garrison Dam National Fish Hatchery. These fish will be stocked late next fall in the hatchery water discharge system, in an effort to establish a spawning run back to the hatchery.

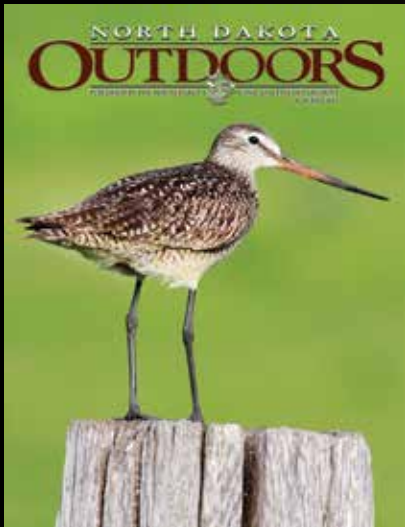
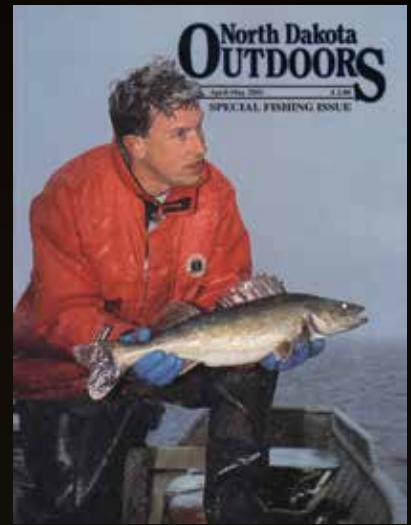
1991

There was a time when reports of a moose sighting in North Dakota would be challenged, scoffed at, or ignored as a product of someone's vivid imagination. Of course, that wasn't always the case as moose once thrived, as they do now, in the wooded areas of northeast and north central North Dakota. There was also a time the very suggestion of a huntable population of moose in North Dakota would have been thought an impossible dream ... Since that first moose hunting season in 1977, both the population and the interest in hunting moose has grown. Since 1985, the Department has issued 100 or more permits each year, reaching a record of 131 permits issued for the seasons held in 1987 and 1988.



2001

A badlands mule deer hunt is always a chance for magic – exploding coveys of sharp-tailed grouse, sage and blue grama grass, wicked winds, ancient, wrinkled land and the deer. There is the exposed strata revealing generations, eons of life, death, changes and perseverance. Like this exposed clay, coal and sandstone mark the passage of time, so too these buttes and coulees have marked my life. My first deer hunt drew me into the badlands. I was young, short-legged. My lungs burned as I pushed through the broken lands. With each passing fall I grew, my legs leading me farther from the truck, farther from the chaos of being a teenager.



2011

Most North Dakotans have never seen a bobcat and likely never will. This speaks more to the animal's furtive nature, habitat choice and predilection to hunt in low light, rather than its abundance in the wild. Like a whisper quietly slipping through the cedar and sage of the rugged badlands, the bobcat spends much of its existence unnoticed. Just because these predators aren't as conspicuous on the landscape as, say, white-tailed deer or Canada geese, doesn't mean wildlife managers discount their presence. Quite the opposite, as bobcats in North Dakota are carefully managed.

2021

Ongoing coronavirus concerns have affected all of mankind, and though its consequences have been dramatic, many of its affects have been a surprise. One of these impacts has been the role the outdoors has had on our society. Outdoor participation in a myriad of activities has sky-rocketed throughout the U.S. and world in the last many months. Camping, biking, hunting and fishing are just a few of the benefits being experienced by the public. Connecting or reconnecting with the outdoors has rewarded many (millions) with improvements to their mental health. In North Dakota, we've also witnessed an uptick in outdoor activities in the last year, and this includes angling. In fact, the 2020-21 fishing season has been record-setting in terms of license sales, participation and effort. However, if you turn the clock back to a year ago, there was talk concerning whether we'd have a fishing season.





BUFFALOBERRY PATCH



A ROOSTER IN SPRING.

ASHLEY PETERSON

Spring Pheasant Count Similar to Last Year

North Dakota's spring pheasant population index is about the same as last year, according to the state Game and Fish Department's 2021 spring crowing count survey.

R.J. Gross, upland game management biologist, said the number of roosters heard crowing this spring was up about 3% statewide.

"The statewide number might be a bit misleading since we are notably down in the southwest, while most of the state benefitted from good reproduction in 2020 and a mild winter," Gross said.

The primary regions holding pheasants showed 18.4 crows per stop in the southwest, down from 19.6 in 2020; 14.3 crows per stop in the northwest, up from 12.2; and 14.5 crows per stop in the southeast, up from 13.6. The count in the northeast, which is not a primary region for pheasants, was 5.2 crows per stop, up from 3.4 last year.

Gross said current drought conditions are causing delayed growth in nesting cover, brood rearing cover and croplands across the state, while extended drought conditions could prevent insect hatches, reducing forage availability to chicks for brood rearing.

"We are hopeful that the latest rain events will foster insect production to bolster pheasant chick foraging," he said.

Pheasant crowing counts are conducted each spring throughout North Dakota. Observers drive specified 20-mile routes, stopping at predetermined intervals, and counting the number of pheasant roosters heard crowing over a 2-minute period.

The number of pheasant crows heard are compared to previous years' data, providing a trend summary.

Traveling Boaters Take Note of ANS Regs

North Dakota boaters traveling to or through other states or Canadian provinces, are reminded to check the aquatic nuisance species regulations of their destination.

Mandatory boat inspections may be required along highways or at lakes based on destination or route taken. In general, to ensure compliance, boaters are strongly encouraged to clean, drain and dry equipment.

- **Clean:** remove plants, animals and excessive mud from trailers, hulls, motors and other equipment such as fishing rods.
- **Drain:** drain all water, including bilges, livewells and bait buckets.
- **Dry:** allow all equipment to dry completely, as an inspection might fail in a neighboring state if any standing water is present. If necessary, use sponges or towels to remove excess water and leave compartments open to dry.

More information on bordering state and provincial ANS regulations is available at the following web addresses.

- South Dakota Game, Fish and Parks at <https://sdleastwanted.sd.gov>
- Minnesota Department of Natural Resources at <https://www.dnr.state.mn.us/invasives/ais/index.html>
- Montana Fish, Wildlife and Parks at <http://cleandraindry.mt.gov/>
- Saskatchewan Ministry of Environment at <http://www.saskatchewan.ca/residents/environment-public-health-and-safety/wildlife-issues/invasive-species/aquatic-invasive-species-prevention-program>
- Manitoba Department of Sustainable Development at <http://www.gov.mb.ca/sd/waterstewardship/stopais/index.html>

Zebra Mussels Discovered in Twin Lakes

The North Dakota Game and Fish Department has confirmed the presence of invasive zebra mussels in Twin Lakes, LaMoure County, after a local cabin owner reported adult mussels attached to a floating log over the weekend.

Ben Holen, Department aquatic nuisance species coordinator, said subsequent follow-up sampling found a few other zebra mussels attached to woody debris. In addition, Game and Fish Department ANS staff processed plankton tow net samples collected from Twin Lakes June 22, and zebra mussel veligers were detected in those samples indicating a breeding population of mussels within the lake.

The 1,735-acre lake is a popular fishing destination located a few miles north of LaMoure. Twin Lakes is located approximately 6 miles from Lake LaMoure, which had a confirmed finding of zebra mussels in 2020.

Moving forward, Holen reminds lake visitors that everyone plays a key role in stemming the spread of mussels to lakes that are not infested.

"This situation is yet another example of the importance for all water enthusiasts including boaters, anglers and skiers, to be aware of aquatic nuisance species and to take all precautions to prevent their spread," Holen said.

Prevention is the best way to avoid spreading ANS. They often travel by "hitchhiking" with unsuspecting lake-goers.

"Always clean, drain and dry boats and other equipment before using another lake," Holen mentioned. "Also, don't transfer lake water or live fish to another body of water. This can help stop the spread of not only zebra mussels, but most aquatic nuisance



ASHLEY PETERSON

BEN HOLEN, DEPARTMENT ANS COORDINATOR, INSPECTS A BOAT FOR AQUATIC NUISANCE SPECIES.

species that may be present."

Twin Lakes is now considered a Class I ANS Infested water, joining Lake LaMoure, Lake Ashtabula, the lower portion of the Sheyenne River, and the Red River in this designation. Emergency rules will go into effect immediately to prohibit the movement of water away from the lake, including water for transferring bait. Notices will be posted at lake access sites.

For the remainder of summer, ANS watercraft inspections will be increased at Twin Lakes.

Zebra mussels are just one of the nonnative aquatic species that threaten our waters and native wildlife. After using any body of water, people must remember to follow North Dakota regulations:

- Remove aquatic vegetation before leaving the water access and do not import into North Dakota.
- Drain all water before leaving the water access.
- Remove drain plugs and devices that hold back water and leave open and out during transport.
- Do not import bait. For Class I

ANS Infested waters, bait cannot be transported in water. In all other areas, bait must be transported in a container that holds 5 gallons or less. Remember that it is illegal to dump unused bait on shore or into the lake.

In addition to North Dakota regulations, the Game and Fish Department strongly recommends:

- Avoid mooring watercraft in zebra mussel infested waters.
- **Clean** - remove plants, animals and excessive mud prior to leaving a water access.
- **Drain** - drain all water prior to leaving a water access.
- **Dry** - allow equipment to dry completely before using again or disinfect. This includes boat docks and boat lifts brought from other waters/states. A 7-day dry time is recommended after recreating on a zebra mussel infested water at typical summer temperatures.

For more information about ANS in North Dakota, options for disinfection, or to report a possible ANS, visit <https://gf.nd.gov/ans>.



ASHLEY PETERSON

About Zebra Mussels

Zebra mussels are dime-sized mollusks with striped, sharp-edged, two-part shells. They can produce huge populations in a short time and do not require a host fish to reproduce. A large female zebra mussel can produce 1 million eggs, and then fertilized eggs develop into microscopic veligers that are invisible to the naked eye. Veligers drift in the water for at least two weeks before they settle out as young mussels which quickly grow to adult size and reproduce within a few months.

After settling, zebra mussels develop byssal threads that attach their shells to submerged hard surfaces such as rocks, piers, and flooded timber. They also attach to pipes, water intake structures, boat hulls, propellers, and submerged parts of outboard motors. As populations increase, they can clog intake pipes and prevent water treatment and electrical generating plants from drawing water. Removing large numbers of zebra mussels to ensure adequate water flow can be labor-intensive and costly.

Zebra mussels are native to the Black and Caspian seas of western Asia and eastern Europe and were spread around the world in the ballast water of cargo ships. They were discovered in Lake St. Clair and the Detroit River in 1988 and quickly spread throughout the Great Lakes and other rivers including the Mississippi, Illinois, Ohio, Tennessee, Arkansas and Hudson. They were first discovered in North Dakota in 2015 in the Red River. Moving water in boats has been identified as a likely vector, as has importing used boat lifts and docks.



CAYLA BENDEL

Archery Hunters Plan for Licenses

The North Dakota Game and Fish Department reminds archery hunters to plan accordingly and allow for time to receive their bow tag in the mail as hunters will not receive their tag immediately after purchase.

Bow licenses can still be purchased at license vendors, but this year the tag will arrive by postal mail, not over the counter while the customer waits. This applies while purchasing a bow license at a license vendor, or at the Game and Fish Department's main office in Bismarck.

The bow tag will be mailed the next business day after the bow license is purchased. All archery hunters must have the bow tag in their possession before hunting.

Bow licenses can also be purchased online by visiting My Account at the Game and Fish Department's website, gf.nd.gov.

Boaters Reminded to Report Accidents

Regardless of how safe and cautious boaters are on the water, accidents happen. If a boating accident involves injury, death or disappearance of a person, an accident report must be completed and sent to the North Dakota Game and Fish Department within 48 hours of the occurrence.

If property damage exceeds \$2,000, but no deaths or injuries occur, a boat operator has five days to file a report.

These reporting requirements are mandatory whether there is one or more boats involved.

A boat accident form is available on the Game and Fish Department website, gf.nd.gov, at any Game and Fish office or by contacting a local game warden.



ASHLEY PETERSON

PRONGHORN IN THE BADLANDS.

Pronghorn Deadline

The pronghorn application deadline for the 2021 season is Aug. 4.

The pronghorn population increased to just over 10,400 animals in 2020, which was the highest estimate since 2009. The population has been slowly recovering since 2013 following the severe winters of 2008-10, which resulted in numbers declining by 75%.

The North Dakota Game and Fish Department's annual aerial pronghorn survey began in early July and will determine pronghorn abundance, herd demographics and fawn production. This data, which was not available at publication, is used to set the number of licenses for the fall hunting season.

Audubon Dakota Announces Conservation Forage Program

Audubon Dakota's Conservation Forage Program provides North Dakota landowners and producers a unique set of incentives and resources to support improving land productivity, increasing available wildlife habitat and overall ecosystem services through the establishment of working forages.

The Conservation Forage Program will accept producer applications through Aug. 6. For more information about open enrollment, visit dakota.audubon.org/conservation-forage-program.

Landowners selected for enrollment in the program will receive technical assistance and cost-share for forage seed planting and the development of grazing infrastructure. Additionally, the Conservation Forage Program offers establishment incentive payments for three years during the land-use transition.

"The ability to provide establishment payments is the critical element that really makes the Conservation Forage Program work for landowners who are interested in keeping their lands working to produce food, for the world and for wildlife", said Marshall Johnson, Audubon Dakota executive director. "We know North Dakota landowners love their land, and so do birds. By acknowledging and investing in the financial com-



SANDRA JOHNSON

WESTERN MEADOWLARK.

mitment of converting marginal lands to grassland, this program can be a win-win for the agriculture and conservation communities. After years of collaborating and planning, we are thrilled to finally offer the Conservation Forage Program to producers."

Audubon Dakota is proud to collaborate with many agriculture and conservation based organizations for the development and implementation of the Conservation Forage Program. Partner organizations include the North Dakota Game and Fish Department, North Dakota Outdoor Heritage Fund, North Dakota Farm Bureau, Natural Resources Conservation Service, North Dakota Soil Conservation Districts, Partners for Fish and Wildlife, Delta Waterfowl, North Dakota Natural Resources Trust, Ducks Unlimited and the North Dakota Wildlife Federation.

NORTH DAKOTA OUTDOORS
PUBLISHED BY THE NORTH DAKOTA GAME AND FISH DEPARTMENT

WILLISTON
KUMV - Saturday - 6 pm
KXMD - Saturday - 10 pm

MINOT
KMOT - Saturday - 6 pm
KXMC - Saturday - 10 pm

DICKINSON
KQCD - Saturday - 5 pm (MT)
KXMA - Saturday - 9 pm (MT)

BISMARCK
KFYR - Saturday - 6 pm
KXMB - Saturday - 10 pm
CATV - Saturday - 9:30 am
KNDX - Fox - Friday - 9 pm

GRAND FORKS
KVRR - Saturday - 9 pm

FARGO
KVRR - Saturday - 9 pm

ON

WEEKLY VIDEO NEWS BROADCAST



Watchable Wildlife Photo Contest

Photographers interested in sending photos for the North Dakota Game and Fish Department's Watchable Wildlife Photo Contest are reminded to follow the guidelines for submitting their work.

Photographers should go to the Game and Fish Department's website at gf.nd.gov/photo-contest. Then it is a matter of providing some pertinent information about the photo and uploading it. Doing so helps both with ease of submitting photos for the photographer and managing those images for Department staff.

The contest is now open and the deadline for submitting photos is Oct. 1. For more information or questions, contact Patrick Isakson, Department conservation biologist, at pisakson@nd.gov.

The contest has categories for nongame and game species, as well as plants/insects. An overall winning photograph will be chosen, with the number of place winners in each category determined by the number of qualified entries.

Contestants are limited to no more than five entries. Photos must have been taken in North Dakota.

By submitting an entry, photographers grant permission to Game and Fish to publish winning photographs in *North Dakota OUTDOORS*, and on the Department's website.

Game and Fish Pays \$715,000 in Property Taxes

The North Dakota Game and Fish Department recently paid more than \$715,000 in taxes to counties in which the Department owns or leases land. The 2020 in-lieu-of-tax payments are the same as property taxes paid by private landowners.

The Game and Fish Department manages more than 200,000 acres for wildlife habitat and public hunting in 51 counties. The Department does not own or manage any land in Traill or Renville counties.

Following is a list of counties and the tax payments received.

County	Tax Due	County	Tax Due	County	Tax Due
Adams	\$ 184.82	Grand Forks	\$ 15,060.83	Pierce	\$ 2,982.83
Barnes	6,279.49	Grant	1,211.27	Ramsey	16,093.07
Benson	4,891.95	Griggs	94.57	Ransom	2,162.31
Billings	291.54	Hettinger	4,893.24	Richland	19,448.08
Bottineau	6,521.86	Kidder	12,250.50	Rolette	56,688.78
Bowman	2,248.04	LaMoure	11,078.00	Sargent	20,390.21
Burke	1,266.23	Logan	408.26	Sheridan	79,581.99
Burleigh	35,871.99	McHenry	1,669.60	Sioux	310.16
Cass	7,841.02	McIntosh	10,001.08	Slope	2,041.94
Cavalier	14,749.60	McKenzie	34,900.03	Stark	6,000.39
Dickey	13,677.91	McLean	124,582.77	Steele	10,311.19
Divide	2,438.64	Mercer	22,098.32	Stutsman	5,202.61
Dunn	5,602.37	Morton	23,511.24	Towner	2,416.28
Eddy	6,330.43	Mountrail	6,190.35	Walsh	11,069.67
Emmons	7,810.61	Nelson	5,987.31	Ward	61.24
Foster	967.31	Oliver	2,627.11	Wells	59,917.41
Golden Valley	165.22	Pembina	19,216.23	Williams	8,577.74



RYAN HERIGSTAD (LEFT) AND MASON RYCKMAN (RIGHT) AND OTHER NORTH DAKOTA GAME AND FISH DEPARTMENT PERSONNEL Banded ABOUT 1,300 CANADA GEESE IN THE EASTERN HALF OF THE STATE IN LATE JUNE. THE BIRDS ARE Banded ANNUALLY AT THAT TIME BECAUSE THE GOSLINGS HAVE YET TO ATTAIN FLIGHT AND ARE BIG ENOUGH TO HOLD AND BAND. ADULT BIRDS ARE ALSO FLIGHTLESS AS THEY ARE GOING THROUGH THEIR ANNUAL MOLT TO GROW NEW FLIGHT FEATHERS. MIKE SZYMANSKI, DEPARTMENT MIGRATORY GAME BIRD MANAGEMENT SUPERVISOR, SAID GEESE TARGETED FOR BANDING ARE BIRDS THAT BREED AND WINTER IN THE EAST-TIER OF THE CENTRAL FLYWAY. HE ADDED THAT THE MONITORING PROGRAM HELPS WILDLIFE MANAGERS JUSTIFY ULTRA-LIBERAL BAG LIMITS AND SEASON LENGTHS FOR CANADA GEESE IN NORTH DAKOTA AND THE CENTRAL FLYWAY.



Earth Day, Every Day

The North Dakota Game and Fish Department has for years encouraged students to design Earth Day patches to bring greater awareness to the environment in the state and elsewhere.

Yet, like Earth Day, which began in 1970 and kicked-started the environmental movement, the concern for our outdoor places isn't simply a once-a-year-thing, but ongoing.

Understanding this, the Game and Fish Department has initiated Earth Day, Every Day to promote continual awareness about the environment.

Groups that engage in environmental clean-up projects, landscaping, or other efforts that promote environmental awareness, will receive an Earth Day patch for all participants.

The patches are used to recognize groups that work to celebrate the Earth Day concept, and everyone is encouraged to participate in the Earth Day, Every Day awareness campaign.

For more information about Earth Day, Every Day, or to request patches for your project, contact Sherry Niesar, Earth Day coordinator, at 701-527-3714 or sniesar@nd.gov.



Pat Lothspeich

STAFF NOTES

Longtime employee Pat Lothspeich, Bismarck, retired in June after 38 years with the Game and Fish Department.

Lothspeich was a Department district game warden for 26 years, beginning in 1983. In 2009, he was hired as an outreach biologist stationed in Bismarck, the position he held until retirement.

Stop THE Spread OF

ANS

CLEAN

Hulls, trailers and internal compartments

DRAIN

Livewells, ballast tanks and all residual water

DRY

Watercraft and recreational equipment



NORTH
Dakota
Be Legendary.™

Game and Fish



gf.nd.gov/ans

BACKCAST



By Ron Wilson

I'm going home this month. Just for a visit. Something I haven't done in too long.

It doesn't feel entirely right to call it that, considering I've lived in North Dakota for 35 years. Yet, it was where I was raised and buried my parents, so the handle will always fit, I guess.

I'm looking forward to the drive to the Pacific Northwest because I like how the landscape radically shifts and reshapes itself in 1,300 miles.

I could fly, certainly, but I refuse to leave my 13-year-old golden retriever for a week or more this late in his game. Plus, Ollie, who will have the backseat of my pickup to himself, likes road snacks and has never been to Oregon.

We're going to fish some old haunts, rock-slick rivers I first waded years ago in high top Converse sneakers, with old carpet glued to the soles for some traction. This part I should be jacked about, but I've yet to convince myself that I am.

Fishing spots that used to be tough to hike into, but the effort was worth it, are now dotted with homes, paved roads, cul-de-sacs, people.

Change is inevitable. I get it. Even so, I don't embrace change readily and likely never will.

When Terry Steinwand announced his retirement after 15 years as Game and Fish Department director, I immediately considered, selfishly, I admit, how his decision would affect me ... and other people like me. People who

hunt, fish, recreate outdoors not just because we want to, but because we must. It's how we are wired. It's how we were raised.

I covered the Game and Fish Department as a newspaper reporter for more than a decade and have written for the agency going on 19 years. In that time, no matter which side of the desk I was on, I was comforted that the decisions being made inside these walls were grounded in wildlife science and a deep understanding of the agency's constituency – hunters, anglers, trappers, farmers, ranchers, the list is long.

We often talk and write about North Dakota's strong outdoor heritage, so much so that I find it sounding cliché at times because we toss it around so much.

Yet, it's true.

North Dakotans are passionate about the hunting and fishing opportunities afforded them, maybe no more so than the Game and Fish leaders making decisions that they believe best serve our natural resources and constituency.

What Terry will take with him when he retires at the end of July is an understanding of North Dakota's unique issues, challenges and outdoor culture.

What he leaves is a blueprint for leading us into the future.

RON WILSON is editor of North Dakota *OUTDOORS*.

MIKE ANDERSON

North Dakota Outdoors Magazine
North Dakota Game and Fish Department
100 N. Bismarck Expressway
Bismarck, ND 58501

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go to gf.nd.gov/buy-apply.



Researchers with North Dakota State University and United Tribes Technical College captured this big brown bat in a mist net earlier this summer during a two-year federally funded study administered by the North Dakota Game and Fish Department. The objective of the grant is twofold. Researchers are tracking white-nose syndrome in bats in North Dakota and monitoring bat populations in the state. Patrick Isakson, Department conservation biologist, said white-nose syndrome is a name for a disease caused by a cold-living fungus that affects bats when they're in their hibernacula and has killed millions of bats throughout the country.

MIKE ANDERSON

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