

NORTH DAKOTA OUTDOORS

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GAME AND FISH DEPARTMENT

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MATTERS OF OPINION



Terry Steinwand
Director

Our lives have changed. As I write this, with two weeks remaining in April and the threat of the COVID-19 virus in our communities a continued reality, it's difficult, at best, to predict with certainty when things will get back closer to how we remember them.

While we live in a different time nowadays, a time that would have been difficult to wrap our heads around just a year ago, life continues in North Dakota. There have been changes, major changes, in how we go about our daily lives, yet we've adjusted.

Here at the North Dakota Game and Fish Department, we are challenged to "protect, conserve and enhance fish and wildlife populations and their habitats for sustained public consumptive and non-consumptive use."

Agency personnel have continued to embrace this challenge, with, of course, some adjustments. In this issue of *North Dakota OUTDOORS* for example, readers will see that Department fisheries staff adopted some precautionary methods – traveling singly in agency vehicles, wearing face masks and working behind Plexiglas – to spawn northern pike. The same precautions will be used for the walleye spawn on Lake Sakakawea and trapping and transporting adult yellow perch to lakes in parts of the state.

These efforts, while not immediately noticeable, will continue to fuel the

wonderful fishing opportunities anglers have grown to appreciate across North Dakota's landscape.

Our top concern for Department fisheries staff and all other agency personnel as they go about their jobs at this time, is their wellbeing. I imagine, despite having to take extra precautions that may at times slow their effort, they appreciate the opportunity to get outdoors and get their hands dirty.

I've said it countless times and have written it in this space often, but it bears repeating that North Dakota's outdoors, and the array of activities available outside our homes, is one of the big reasons many people call this great state home.

Understanding this, and knowing that people were itching to get outdoors to enjoy the spring-like weather just as our world was being turned upside down, we encouraged people to venture outdoors, while also recommending that they avoid crowds and practice social distancing.

Again, while it is impossible to predict when things will get back to "normal," we recognize the want and need to get outdoors and enjoy much of what North Dakota has to offer will only grow. Even so, we encourage everyone to follow whatever guidelines our state leaders are recommending at the time.

Be safe and be courteous of others while you enjoy North Dakota's great outdoors.

Terry Steinwand

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The mission of the North Dakota Game and Fish Department is to protect, conserve and enhance fish and wildlife populations and their habitats for sustained public consumptive and nonconsumptive use.

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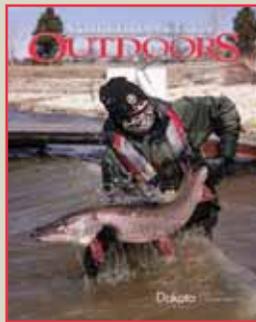
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Front Cover

North Dakota Game and Fish Department fisheries personnel wore face masks this spring while spawning northern pike and tagging trophy fish. This big pike was fitted with a blue, metal tag and then released into Lake Oahe.

Photo by Ashley Salwey.



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Fisheries

By Ron Wilson

It's early April. Rivers and streams fueled by snowmelt are hurrying downhill. Ice has pulled away from shorelines on many lakes, warming shallow waters that have been locked up for months.

This is all normal. Happens every year at roughly this time. Yet, beyond that, things are turned upside down. Because of the coronavirus pandemic, much of life as we knew it just weeks ago is unrecognizable. Social distancing is encouraged. Groups of more than 10 are discouraged.

At this time of year in the fisheries world, the list of jobs that need to get done is long. These hands-on tasks, from trapping and transporting adult yellow perch, to spawning northern pike and walleye, help to fuel the quality fishing opportunities for years to come that North Dakota anglers appreciate.

Greg Power, North Dakota Game and Fish Department fisheries chief, said that while some wildlife agencies in other states have been forced to abandon spring activities, Department fisheries crews, after lengthy consideration, have moved ahead.

"Given the reality of the COVID virus out there, a lot of planning has gone into place and we'll be doing things differently this spring," Power said.

Crews



Game and Fish Department fisheries crew members wore face masks while spawning pike on Lake Oahe in spring.

MIKE ANDERSON

Cautiously Carry On

A Plexiglas shield separates seated Department fisheries personnel as they take eggs from a female northern pike.



For instance, spawning and all other crews will travel separately, driving singly in work vehicles from offices to lakes. Fisheries crew members will also wear masks when it's inevitable that they won't be able to stay 6 feet away from their colleagues, and will be separated by Plexiglas while sitting on benches and relieving the fish of eggs and milt.

"We're taking precautions because there is just no way around it ... in some of the work, people will be in that 6-foot barrier," Power said. "So, we have to be extra cautious in what we are doing."

Jerry Weigel, Department production/development section supervisor, said one built-in preventative measure is that the Department's small fisheries staff and even smaller work crews are well under the crowd guidelines.

"During a normal year we typically only have four to six staff on a spawning crew and even fewer for trap and relocation efforts," Weigel said. "Shipping fish from the hatchery is conducted with three or fewer in a normal year. Those small groups give comfort that we can conduct many of our normal activities in a safe manner."

Yet, some spring activities have been

cancelled until next year, including tagging chinook salmon smolts in Garrison Dam National Fish Hatchery, something the agency has done for 30-plus years. Also, the Department's paddlefish tagging program near the confluence of the Missouri and Yellowstone rivers will be put on hold.

"We've tagged paddlefish for years and we have a lot of information, so doing it this spring is not absolutely critical," Power said. "We don't need five guys together in a boat all day long. That's probably not the best thing to do."

Game and Fish Department fisheries crews ignore their own clocks in spring, and instead operate on the impulses of fish being encouraged to spawn based on photoperiod and water temperatures.

Weigel said spring offers the only window to successfully net pike and walleye that are concentrated, and relieve them of their eggs.

"We are handling fish a lot during spawning, but because the water temperatures are colder in spring, we have almost zero mortality to the fish," he said. "The majority of the fish are released alive back into the water when we're done with them."

So far, spring 2020 is like most years, kicking off with the northern pike spawn in early to mid-April. What follows is the walleye spawn on Lake Sakakawea in late April or early May.

Weigel said the plan this year is to produce 10 million walleye fingerlings at the federal hatcheries. Missing spring spawning, as both fisheries biologists and anglers can attest, would be an unwelcome event as most (but not all) waters of the state rely on stocking efforts.

"If you don't have walleye production, then the 250 lakes or so that we plan on stocking this year wouldn't get fish. Our stocking helps level out the valleys," Weigel said.

In the short term, Power said, not stocking North Dakota's waters with, say, walleye fingerlings, doesn't seem like that big of a deal.

"But in the long-term, many of the stocked lakes only have a few decent year-classes of fish, thus entirely missing one year of stocking may be noticed by anglers a couple years down the road." Power said. "More importantly, totally missing a year-class of walleye complicates our fisheries manager's goals of finding that right balance between predators (walleye) and prey (fathead minnows) so that anglers can catch fish. At times, it can be a fine line between too much and too little forage."

In terms of trapping and transporting adult yellow perch heavy with eggs from one water to another, this spring would have been a hard one for fisheries biologists to abandon.

While declining lake levels over the last three to four years hurt perch (and pike) natural reproduction in parts of the state, late summer precipitation and a

wet fall last year have dramatically increased lake levels around the state, flooding vegetation that's critical to perch (and pike) spawning.

"We probably lost on average 5 feet of water in these lakes," Power said. "It's been especially hard on perch ... there just hasn't been any natural reproduction for a number of years."

While conditions are good for perch to reproduce naturally on their own, Power said there are some new lakes, or maybe some that winterkilled in the last couple of years, that need a jumpstart and will receive 100-200 pounds of pre-spawn yellow perch each.

"There are a handful of lakes around the state that have high perch populations, not necessarily big perch, but an overabundance, so by taking out some adults, we're not impacting those fisheries at all," Weigel said. "We take them out in early spring while they still have their eggs and then transport them to other lakes so they can spawn naturally."

Power said fisheries development crews will also continue their yearly spring tasks of readying boat ramps and other facilities for anglers around the state, taking similar precautions as other fisheries crews, such as driving separately.

"We may not be as efficient under the circumstances as we normally would be, but we think we can do what needs to be done without causing any problems to our personnel or the public," Power said.

Conversely, Power said Game and Fish cancelled the last two or three weeks of a creel survey on Devils Lake, as well as postponed a joint creel survey on the Red River with Minnesota.

"We didn't think it was good for the creels clerks or anglers to be in close proximity, face to face during interviews," Power said. "This is one of those prudent steps that need to be taken during times like this."

RON WILSON is editor of North Dakota *OUTDOORS*.



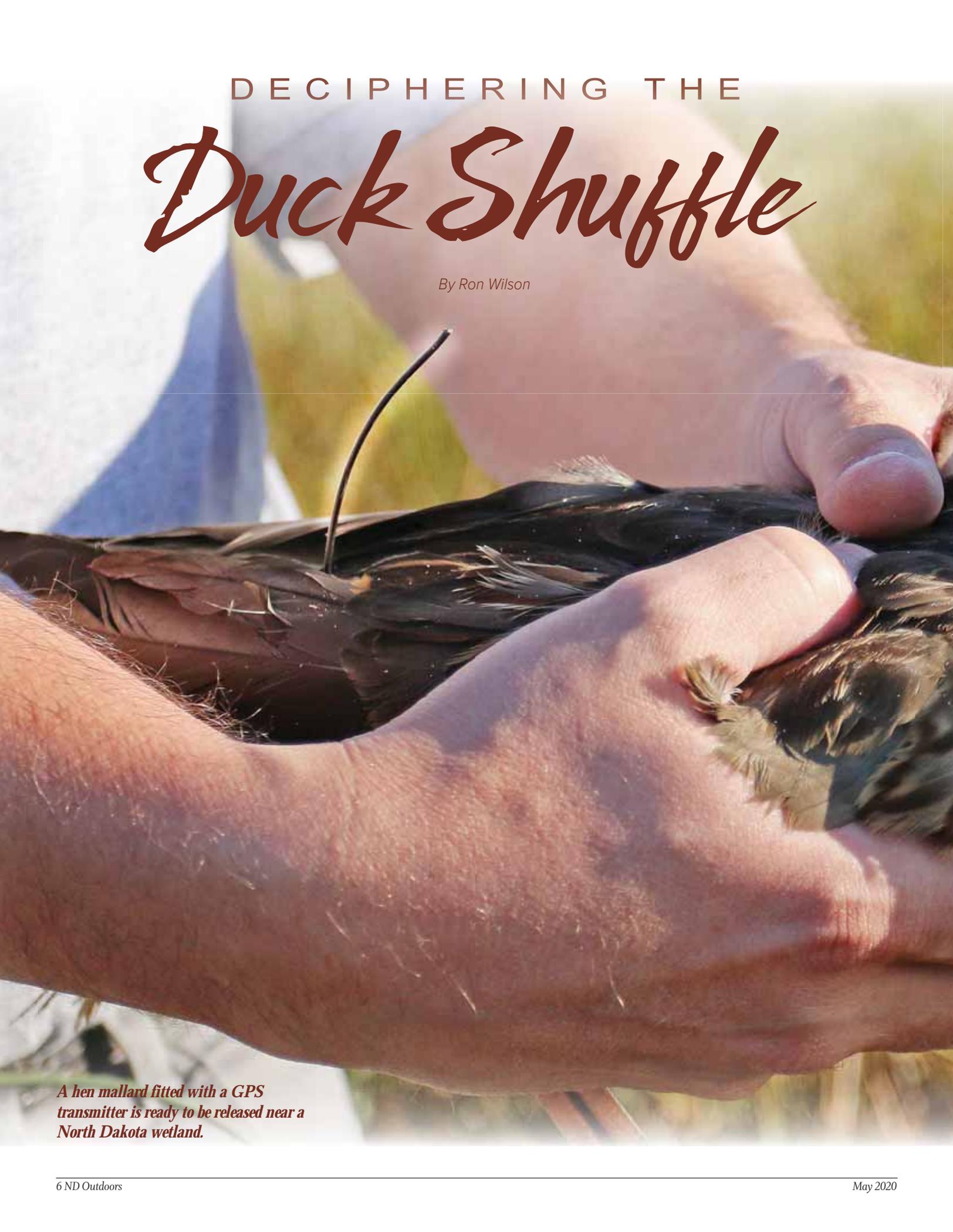
MIKE ANDERSON

Trophy pike netted during spawning were fitted with metal tags as part of an ongoing study on these big fish.

On the long list of spring duties for fisheries crews was trapping yellow perch from a handful of lakes in the state that have high perch populations. These fish, still heavy with eggs, were then transported to other waters where they will spawn and create fishing opportunities for anglers down the road.



MIKE ANDERSON

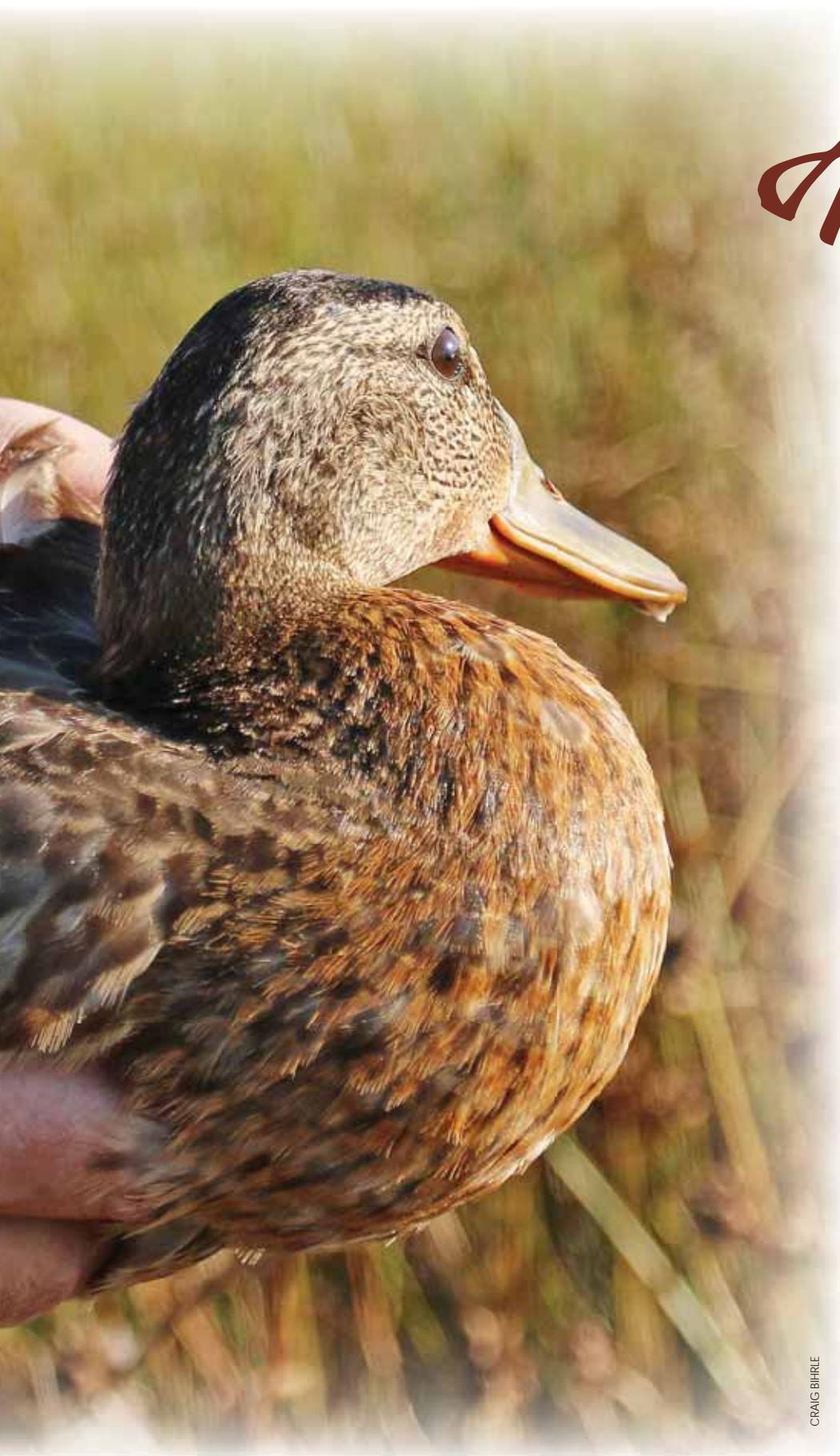


DECIPHERING THE

Duck Shuffle

By Ron Wilson

A hen mallard fitted with a GPS transmitter is ready to be released near a North Dakota wetland.



Advancements in technology are providing biologists the opportunity to reveal late summer movements of ducks in the Dakotas that were once not fully understood.

“Several years back, we started seeing clearer late summer movements of birds out of breeding areas,” said Mike Szymanski, North Dakota Game and Fish Department migratory game bird management supervisor. “We were also getting similar indications from hunters driving through areas of the state who were seeing a lot of duck production, but then come hunting season the birds just weren’t there.”

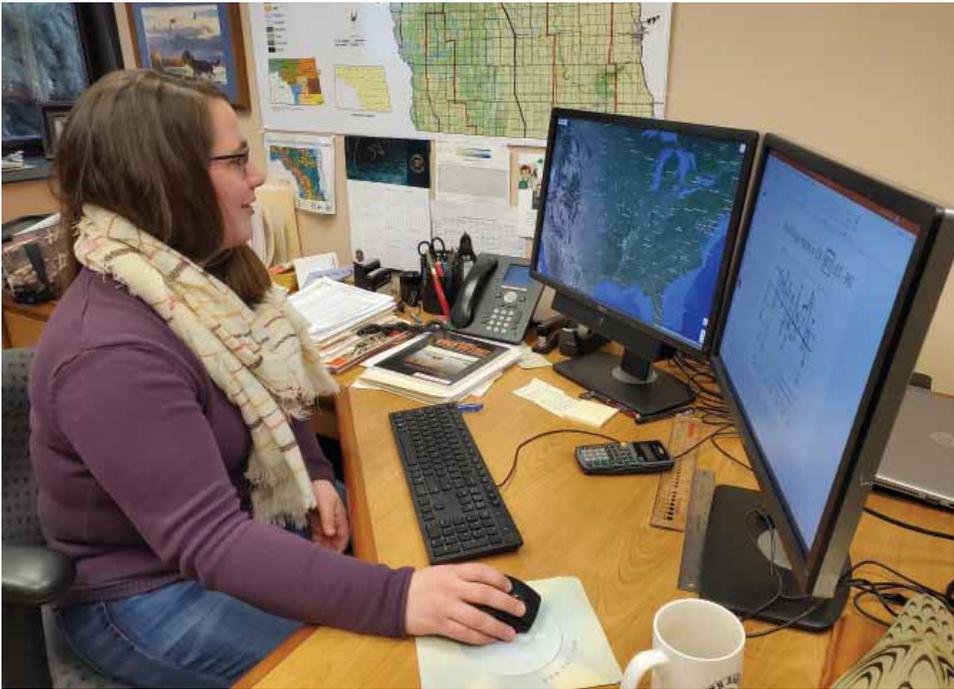
From a waterfowl ecology perspective, it’s difficult to study ducks in late summer because birds are moving and shuffling around a lot. With previous technology, Szymanski said, biologists would have been driving around in vehicles or flying in airplanes with VHF transmitter receivers trying to find marked birds that could have moved hundreds of miles.

“With the advancements in technology, specifically batteries getting smaller, we had the ability to pursue a GPS transmitter study to look at some of the aspects of post-breeding mallards after they start to fledge or attain flight in late summer,” Szymanski said. “The study design also lends itself to many other uses. With the data, we’ll be able to work the project from many angles and figure out a lot of movement and migration dynamics of mallards in fall.”

The two-year study is a cooperative effort between the Game and Fish Department, South Dakota Game, Fish and Parks and South Dakota State University.

Cynthia Anchor, an SDSU master’s student who spent considerable time in the field capturing ducks,

CRAIG BIRHLE



MIKE ANDERSON

Cynthia Anchor, a South Dakota State University master's student, reviews data from the GPS study on mallards in the Dakotas.

is responsible for managing the GPS data and eventually analyzing and writing up the results of the two-year study in North Dakota and South Dakota.

Szymanski said that while some different techniques were employed in South Dakota to capture the targeted flightless young mallards, swim-in traps baited with corn or barley under water were used in North Dakota.

"We were careful about not capturing and marking too many birds from the same places," Anchor said. "We wanted

our samples spread out across the landscape."

Both drake and hen mallards were used in the study.

"Mallards worked really well because of their broad distribution across the landscape and because they are of key importance to our hunters," Szymanski said. "They also are the type of bird that's going to make these north-northwest post-breeding movements. They're also a bigger bird and have more room for the transmitter inside the body cavity."

Because of the availability of new technology, Szymanski said it was decided to not use, for example, the more common external backpack attachments, but instead surgically implant GPS transmitters into birds captured for the study.

"Backpack attachments are very common, but with those a bird has straps running through their armpits or across their chests, plus something on their backs," Szymanski said. "The birds are very aware of the attached unit and there seems to be some behavioral interactions with the backpacks that we were hoping to avoid."

The mallards selected for the study were anesthetized very much like humans would be for a surgical procedure, and all precautions were taken to make sure the ducks survived the surgeries in good shape.

Dr. Charlie Bahnsen, Game and Fish Department wildlife veterinarian, pictured here in the Department's lab in Bismarck, was one of two veterinarians who surgically implanted GPS units in more than 130 mallards over two years.



CRAIG BIRRE



Dr. Charlie Bahnson, Game and Fish Department wildlife veterinarian, and Dr. Scott Ford, a contract wildlife veterinarian from Milwaukee, Wisconsin, performed the surgeries and implanted the GPS units in more than 130 mallards over two years.

Bahnson said each surgery took about 20 minutes, but when you factored in recovery time, the entire process took about one hour. The GPS units were implanted in the body cavities of ducks selected for the study, with the antennae extending out the back of the birds.

“The surgery is done in short order ... they really don’t know what happened,” Szymanski said. “A lot of times, you’d take the surgical equipment off of them and within minutes they’d be up and looking around ... they were as right as rain.”

The first year of the study, Anchor not only captured ducks, but acted as Ford’s surgical assistant.

“We would capture ducks and then I would help him through the surgeries,” she said. “The second year, Scott brought an assistant with him and it freed me up to do so much more fieldwork and continue to capture ducks.”

After surgery, marked mallards were transported to the capture sites and released. The transition from the surgical site to the release site also gave the birds additional time to recover.

Because the transmitters are implanted, their batteries cannot be recharged by solar panels like many commonly used external units. So, the researchers needed to be careful about how much data to try to collect and transmit, or risk running the units down too quickly. Anchor said the first year during the premigration period, data was collected every 5 hours. The second year, data was collected every 2.5 hours.



SUBMITTED PHOTO

Cynthia Anchor with a hen mallard she trapped for the study.



CRAIG BHRLE



CRAIG BHRLE

“What happens is the units store data internally and then at whatever interval we set, they’ll kick on and transmit the data,” Anchor said. “The first year we had that set to intervals of about three days and it was really draining the batteries. In the second year, we actually increased the intervals to once every eight days and I think that really conserved the lives of the batteries.”

While there is a ton of data to further analyze, Anchor said she was surprised by some of the movements the marked mallards had made.

“We had one bird, for example, that was marked south of Bismarck that moved up to Canada and spent most of the premigration period in Canada,” she said. “We had another bird that left North Dakota, went to Arkansas and then moved to eastern Ohio. So, we’re seeing some movements that are going to be really tricky to explain.”

Even though the marked birds were captured and released in different areas across the landscape, the data has shown them using the same general areas days and miles down the road.

“We have seen birds that were marked from all over, kind of converge into the same general areas, especially in north-eastern South Dakota,” Anchor said. “I think the first year we had two or three birds from North Dakota and two birds from South Dakota all using the same random wetland in South Dakota at the same time. And none of those birds were related, none were marked together. They just happened to end up in the same place.”

While it’s easy to understand ducks pointing their bills south and migrating to warmer climates during the leaner months, Szymanski said people don’t immediately think birds move north, east or west prior to their actual migration.

“Having the ability to collect data in between harvest and marking is very beneficial to painting the picture of their movements,” Szymanski said. “We’re still looking at the movements, trying to figure out if there is a connection to the directions that they go, the distances they go, and how it possibly relates to habitat, weather and other factors.”

Szymanski said another key aspect biologists want to unearth from the study is to make sure they have a handle on whether they’re focusing conservation efforts toward habitat correctly.

“While we focus on pair abundance, brood habitat, where broods are, and things like that, another part of the puzzle that really hasn’t been studied much

is habitat use of birds born in an area, attain flight and then start moving around the landscape,” he said. “Are they using those same habitats or are they using habitats that we’re maybe overlooking or not prioritizing as highly in our conservation strategies?”

Szymanski said that while the study will be used to make sure biologists aren’t missing out on somewhat unknown areas used by ducks, it will also be used to exemplify the importance of intact wetland communities as the data suggests birds utilize a lot of places.

“You just can’t say, well, we’re going to keep that spot over there for ducks and take all of this off the map and everything is going to be fine,” he said. “That’s just really not how it works. We’ve known that for a long time and we’ve got some very good illustrations of that through the study.”

Knowing that the some of the GPS marked mallards could be harvested



Mike Szymanski, Game and Fish Department migratory game bird management supervisor, measures the head length of a hen mallard prior to surgery. This is one of several measurements biologists took to evaluate the body condition of ducks in the study.

during hunting seasons along the course of the flyway, Anchor is also looking at survival and harvest of these birds compared to normal pre-season banded mallards.

"I'm a waterfowl hunter and I knew coming in this was going to be part of the project, and it's been kind of interesting to hear some of the stories from hunters," she said. "In North Dakota, our very first bird was harvested by a 10-year-old, a new hunter who had never shot a mallard before."

The transmitter birds from the Dakotas are fitted with leg bands. "Transmitter Inside Bird" is stamped on the leg bands of those birds captured and released in North Dakota.

"In addition to the standard USGS band we put on all waterfowl that we mark, the band that says 'Transmitter Inside Bird' also has my work phone number so that people can call me," Szymanski said. "We try to get the transmitters back in case there's data that we feel like we might be able to retrieve if we send it back to the manufacturer."

The South Dakota study birds have the South Dakota waterfowl biologist's phone number on the band.

"Anybody who harvests a bird that has a band on it, whether it's one of our transmitter birds or a regular banded duck, goose, mourning dove or any other species should go to the bird banding lab website and report the band," Szymanski said. "It takes just a couple minutes, is easy to do, it plays a big part in population management, and you get to keep the band."

RON WILSON is editor of North Dakota *OUTDOORS*.



CRAIG BIRRE



CYNTHIA ANCHOR

The GPS antennae (left) is visible on the back of the mallard hen. Szymanski (top) releases a study duck near a North Dakota wetland.

ANS

QUESTIONS AND ANSWERS



MIKE ANDERSON

North Dakota's fishing resources are valuable, and certainly popular, with anglers across the state. Understanding this, efforts to thwart the introduction and spread of aquatic nuisance species remains a priority for the Game and Fish Department.

Ben Holen, North Dakota Game and Fish Department aquatic nuisance species coordinator, provides an update on aquatic nuisance species and the continued effort to stop the introduction and spread of invasive species in North Dakota. Like chronic wasting disease in the state's deer herd, aquatic nuisance species remains one of the Game and Fish Department's top challenges in 2020.

Q: What are the Game and Fish Department's priorities for aquatic nuisance species this summer?

A: As it is every summer, public awareness about ANS, and actions that prevent their spread, is the top priority. The Department releases ANS education material through a variety of channels and we have many close partners who contribute to these efforts. Boaters should see an increased inspection presence at many of our larger water bodies this year. ANS staff will stay busy this summer, sampling well over 100 different water bodies for the presence of zebra mussels. The Department will monitor Lake Ashtabula to obtain biological information about zebra mussels and document ecological changes in the lake because of their presence. Other ANS priorities this summer include public ANS presentations, inspection presence on Ashtabula, aquatic vegetation sampling, Asian carp monitoring, fish hatchery sampling, aquatic equipment inspections, bait import inspections, crayfish surveys, and ANS enforcement checks.

Q: During the 2019 legislative session, lawmakers created an ANS fund to assist in the ongoing monitoring efforts of aquatic nuisance species around the state. How will these funds be used? Also, does increased funding help in some way with enforcement of ANS laws?

A: The increase in resources will allow the Department to expand its existing ANS program, focusing on education, inspection and monitoring. The Department hired an ANS biologist and added additional seasonal watercraft inspector positions. Funds allow for the purchase of essential sampling and prevention equipment, as well as give the Department the ability to rapidly respond to new ANS infestations. Other anticipated ANS projects include applied research, such as crayfish surveys, ANS risk assessments, and a variety of potential zebra mussel projects.

The new funding from the 2019 ANS legislation also allowed the Department to hire a new



MIKE ANDERSON

Zebra mussels cover a portion of a boat lift pulled from Lake Ashtabula in fall 2019.



Jerad Bluem, Game and Fish Department warden, inspects an angler's boat for aquatic nuisance species at a boat ramp on the Missouri River System this spring.

warden position. This position will not deal solely in ANS prevention, but rather, all warden staff across the state will spend additional time on ANS matters. Enforcement efforts will focus on conducting more ANS roadside and normal routine checks.

Q: Under the new legislation, there are now added fees for most watercraft that use North Dakota waters. Who is affected by these new fees?

A: 2020 marks the beginning of a new watercraft registration cycle. There is now an ANS fee of \$15 for each motorized watercraft registered in North Dakota to run concurrently with the three-year watercraft registration period. The ANS fee for watercraft registered in the state is prorated. For motorized watercraft registered in North Dakota, there is no additional sticker required.

However, all watercraft not licensed in this state and that operate on North Dakota waters, must obtain a valid, nonrefundable aquatic nuisance species sticker. The sticker is \$15 per calendar year and needs to be placed on the starboard side of the watercraft within 6 inches of the registration number and decal. Stickers take about 5 business days to receive. A receipt from when the sticker was purchased is valid documentation until the sticker arrives in the mail.

Q: Tell us about the ANS inspection program. What are we learning?

A: Every summer the Game and Fish Department hires and trains seasonal watercraft inspectors. The goal of every inspection is to educate boat owners on the importance of cleaning, draining and drying watercraft, and recreational water equipment. Inspectors survey boat owners and are trained to look for vegetation, mud, animals and residual water that may be left on watercraft after recreation. The information collected from these surveys helps the Department to identify potential ANS risks and aids staff in making important science-based management and prevention decisions.

The good news is that of the 1,063 watercraft inspections in 2019 surveys, 97% of boaters were familiar with North Dakota's laws and regulations. Only 3% of boaters surveyed had attached vegetation on their watercraft or trailer, and only 1% had residual standing water. Most boaters (74%) took steps to clean their boats after every launch. While these numbers sound great, in many cases it only takes one incident for an aquatic nuisance species to become established in a new waterbody. Approximately 8% of all boaters surveyed had previously recreated in a waterbody with ANS before being surveyed at a waterbody with no known aquatic nuisance species. The risk is out there, so everyone must be diligent

in cleaning, draining, and drying all watercraft and equipment.

Q: While we don't think about common carp as aquatic nuisance species, are these fish becoming a bigger issue as high water connects drainages and natural lakes?

A: The current wet cycle in North Dakota has created many new thriving fisheries, but it also presents fishery managers with a variety of problems. The increased connectivity between water bodies allows for the natural movement of fish from drainages into natural lakes. Spring runoff acts as a highway for fish to travel to new water bodies, and common carp take full advantage of this opportunity. It is engrained in carp DNA, as well as many other fish species, to follow running water to its source, to look for viable spawning habitat and food resources.

Fortunately, the Game and Fish Department works with both public and private entities to identify points of water connectivity and then set barriers to prevent their upward movement. Game and Fish staff have created earth berms and stock dams to prevent carp from getting into Devils, Alkaline and Rice lakes. Temporary block net barriers are placed yearly at various district lakes when a more permanent structure is not feasible.

Q: Zebra mussels were discovered in Lake Ashtabula in summer 2019, and later in fall in the Sheyenne River. What kinds of steps are being taken to keep these invasive species from being spread to other waters? What is the Game and Department's role in monitoring zebra mussels in these waters? And is there any way to combat these invasive species?

A: Public awareness is key to preventing the spread of zebra mussels. Access points along Lake Ashtabula and the Sheyenne River are signed to identify the waters as having established zebra mussel populations. Watercraft inspectors will be present during the zebra mussel reproductive season, to inspect vessels for mussels and educate watercraft users on zebra mussel biology, ANS regulations and decontamination options. An additional ANS regulation went into effect for both Lake Ashtabula and the Sheyenne River: Anglers may not transport live

bait in water away from Lake Ashtabula or the Sheyenne River downstream of Ashtabula. All water must be drained from bait buckets as anglers leave the shore or remove their boat from the water. Anglers must properly dispose of unused bait away from the river, as dumping bait in the water or onshore is illegal.

On a similar note, law enforcement will have additional presence in the area to ensure ANS regulations are followed. The Game and Fish Department monitors zebra mussels in a variety of ways. Plankton tow nets are used monthly to collect zebra mussel veligers from infested waterbodies. The data collected from these surveys allows the Department to determine the relative timing of spawning events, identify newly colonized areas, and helps with determining risk assessments associated with residual water. Settlement samplers will be placed this coming season to monitor the timing of settlement and growth. Zooplankton, water quality data, and benthic macroinvertebrate data will be collected to track possible changes in the ecosystem.

Zebra mussels are new to North Dakota, so the data collected from these initial waters, will help the Department better understand zebra mussel biology and ecological implications in state waters. Unfortunately, once zebra mussels are established in a waterbody, they are very costly and nearly impossible to eradicate. In a large reservoir like Lake Ashtabula, eradication is currently not possible. The best way to combat these species is to stop their spread through education and prevention practices.

Q: Much is made about zebra mussels and the problems they can cause. What is the fallout for a body of water with zebra mussels?

A: It is hard to say the exact effects zebra mussels will cause at any given waterbody because of the great variability that can exist in a lake's water chemistry, nutrient input, aquatic organisms and population levels of mussels. Some common impacts observed in lakes are clearer water and a shift of nutrients to the lake bottom, which causes an increase in plant growth and benthic macroinvertebrates. Some lakes see an increase in the severity of harmful algae blooms because zebra mussels selectively feed against

them. The changes in fish abundance and growth and water quality can also be highly variable. Zebra mussels cause major problems to infrastructure, they can clog water intakes, foul boating equipment and damage property.

Q: Other than zebra mussels, what other invasive species are a concern in North Dakota? And if there are some, where are they found?

A: We are fortunate in North Dakota to have low numbers of aquatic invasive species compared to many other areas in the country. Other than zebra mussels, North Dakota has just a few aquatic invasive plants and animals including curly leaf pondweed, Eurasian watermilfoil, bighead, silver and common carp. Curly leaf pondweed can be found throughout the Missouri River System, Lake Metigoshe, the Sheyenne River in Barnes County, and a few small reservoirs. In the last five years, Eurasian watermilfoil has only been documented in the Sheyenne River in Barnes County. Bighead and silver carp are only found in the James River, while common carp are widespread and are found in many waters across the state. Any ANS has the potential to cause harm to the aquatic ecosystem.

Q: What can water recreationists do to eliminate the spread and introduction of ANS in North Dakota?

A: All water recreationists, whether you are an angler, hunter, water sports enthusiast, or a pleasure boater, play a part in preventing the spread of aquatic nuisance species. It is important to clean, drain and dry all watercraft and water recreational equipment. Many boat owners practice these steps between every launch. However, other common items such as anchors, watersports equipment, decoys, canoes and kayaks are all possible vectors that can also spread aquatic nuisance species. Large equipment, such as boat lifts, docks and barges can be high risks for spreading ANS, especially if they are moved from one lake to another. It is important to remove any vegetation, mud, or residual water left on equipment, because it may harbor an aquatic nuisance species. Cleaning gear with hot water, (140-degree F) for 10 seconds, between recreational trips, can eliminate the risk of spreading ANS.

Before recreating on any water, everyone should take a few minutes to become familiar with North Dakota's aquatic nuisance species regulations, so we all can enjoy North Dakota's recreation opportunities for many years to come.



Ben Holen is the Game and Fish Department's aquatic nuisance species coordinator.

ASHLEY SALWEY

PROGRAM
HAS INFLUENCED

Generations of hunters

By Ron Wilson

A pioneering law in North Dakota's hunting circles was applauded decades ago in *North Dakota OUTDOORS*, setting the course for safer days in the field.

"Hundreds, perhaps thousands, of thinking sportsmen around the state herald a new law as a landmark decision destined to contribute positively toward the improvement and continuance of their most beloved sport," wrote William McDannold, North Dakota Game and Fish Department hunter education coordinator in the December 1977 NDO.

House Bill 1458, passed by lawmakers in the 45th legislative session in 1977 and signed by Governor Arthur Link, directed anyone born after December 31, 1961 who wanted to hunt in North Dakota to pass a certified hunter education course.

"My phone has been rung many times by dads calling to ask why in the heck Johnny or Suzie has to take the course. After all, he (dad) has taught the kid all he or she needs to know. I can't doubt the parent's word and must commend the caller for accepting the responsibility to give a son or daughter proper guidance. But at the same time, I am compelled to state that too many parents fail to give their youngsters enough – or any – training in safety and responsibilities before allowing them afield with a gun," McDannold wrote in NDO in 1977.

The effective date of the law was January 1, 1979. Since then, more than a quarter-million students have graduated from the North Dakota Game and Fish Department's hunter education program.

More than a quarter-million students have graduated from the North Dakota Game and Fish Department's hunter education program since its inception in 1979.







MIKE ANDERSON

In 2014, when this photo was taken, nearly 5,500 students were certified that year in the Department's hunter education program.

In 2019, the Department's hunter education program turned 40, a noteworthy milestone for a program that has influenced generations of hunters.

"Hunter education has evolved over the years," said Marty Egeland, Department education supervisor. "While first and foremost we want students to be able to handle firearms properly and make the correct, safe decisions while hunting, we also want them to leave the classroom with some background and understanding of conservation, game management, hunter ethics, those sorts of things."

To meet the challenges of a program that caters to students of varying ages in the urban and rural reaches of the state, Game and Fish relies on more than 700 volunteers to teach the courses.

"We don't have enough people in our agency to deliver a program like this, so we rely on volunteers to teach students around the state," Egeland said. "They give up a tremendous amount of time. This volunteered time is in addition to their regular jobs ... it's evenings and weekends of teaching others because they care enough about our hunting heritage and the next generation of hunters."

Egeland, who has been a hunter education instructor since 1992, before he started working for the agency, said not only has the course been adjusted over time, so too has the instructor certification process, which nowadays includes background checks.

"Once a year we have an academy for new instructors where they will learn a

variety of things," he said. "Because the instructors don't necessarily come from teaching backgrounds, we provide them the tools at the academy to be successful in the hunter education classrooms."

New instructors mentor under current instructors before teaching classes on their own.

"Most of the new instructors have been recruited by another instructor and that's typically who they team up with," Egeland said. "Our best recruiting tool is actually our current instructors."

Two of the biggest challenges in the Department's hunter education program is volunteer instructor recruitment and meeting the demand of students spread across North Dakota who want to take a course.

"We don't have instructors in every small town and some students are going to have to travel to where they can find a class," Egeland said. "And by no means is this a new problem, this is longstanding."

Egeland grew up in Edmore and enrolled in hunter education in 1984. There wasn't an instructor in town, so Egeland and friends carpooled about 30 miles to Langdon where a course was offered.

"Fast forward to the same small town just a few years ago ... We got a call from the superintendent of Edmore Public School saying that they needed a hunter education class for their kids," he said. "We found an instructor willing to drive up from Devils Lake to teach the class. So, yeah, it's always going to be a challenge to have hunter education in every town."

The Game and Fish Department offers the traditional 14-hour hunter education course taught entirely in the classroom, and a home study course. The latter is also a 14-hour course, split between the classroom and online study.

Today, most students are certified through the traditional in-class courses. In 2019, for example, just 273 students took the home study course, compared to 4,542 students who were certified in traditional courses.

"With the online course, students will come in for an initial classroom day to do some hands-on gun handling and talk about a few topics not covered in the book," Egeland said. "Then after completing the online work at home, they come in for a final night and we run them through a variety of things, such as how firearms operate, how to cross a fence, how to get in a vehicle with a firearm, those sorts of things."

Egeland said the Department's hunter education program continues to evolve and he suspects that online learning will become more pronounced sometime in the future.

"While you can do everything in life online nowadays, we still want to have some integrity in our courses, we want to make sure that people have those gun-handling skills," he said. "So, there's probably going to be some evolution in how the courses are taught, but we're still going to need to maintain the hands-on part of it."

The challenge of meeting the demands of students who want to take a hunter education class no matter where they live will likely remain a hurdle for some time to come.

"We're never going to have enough classes out there or have classes that fit everyone's schedule, and people will have to continue to make sacrifices to find a hunter education class that fits," Egeland said. "While it's not as easy as going down to the store and buying a box of shells, we know that the program is successful and has certainly reduced hunting accidents in North Dakota tremendously."

RON WILSON is editor of *North Dakota OUTDOORS*.

Online Hunter Education Certification

The North Dakota Game and Fish Department is offering an online hunter education course for students who will turn at least age 12 on or before December 31, 2020.

Marty Egeland, Department education supervisor, said with most in-person hunter education classes canceled this spring due to the coronavirus pandemic, Game and Fish needed to find a way to get students certified for hunter education this year.

“And with most classes held before the deer application deadline, we had to adjust the way we administer our classes,” Egeland said.

The online course is available to students who were already enrolled in classes that were canceled, and also to qualifying students who were not previously enrolled in a class. A 25% discount is being offered for taking the online course.

Students who were already enrolled in a 2020 class that was canceled do not have to register with Game and Fish again. They will automatically receive an email with instructions to start the online course.

Prospective students who had not previously registered, can sign up through the Game and Fish website, gf.nd.gov. After signing up for the class, the student will receive an email with further relevant information and instructions. The online portion of the class must be completed within two weeks of signup.

For both pre-registered and new students, when the online hunter education course and an accompanying virtual field day are completed, a temporary hunter education number will be provided, which will allow lottery applications and license purchases in 2020.

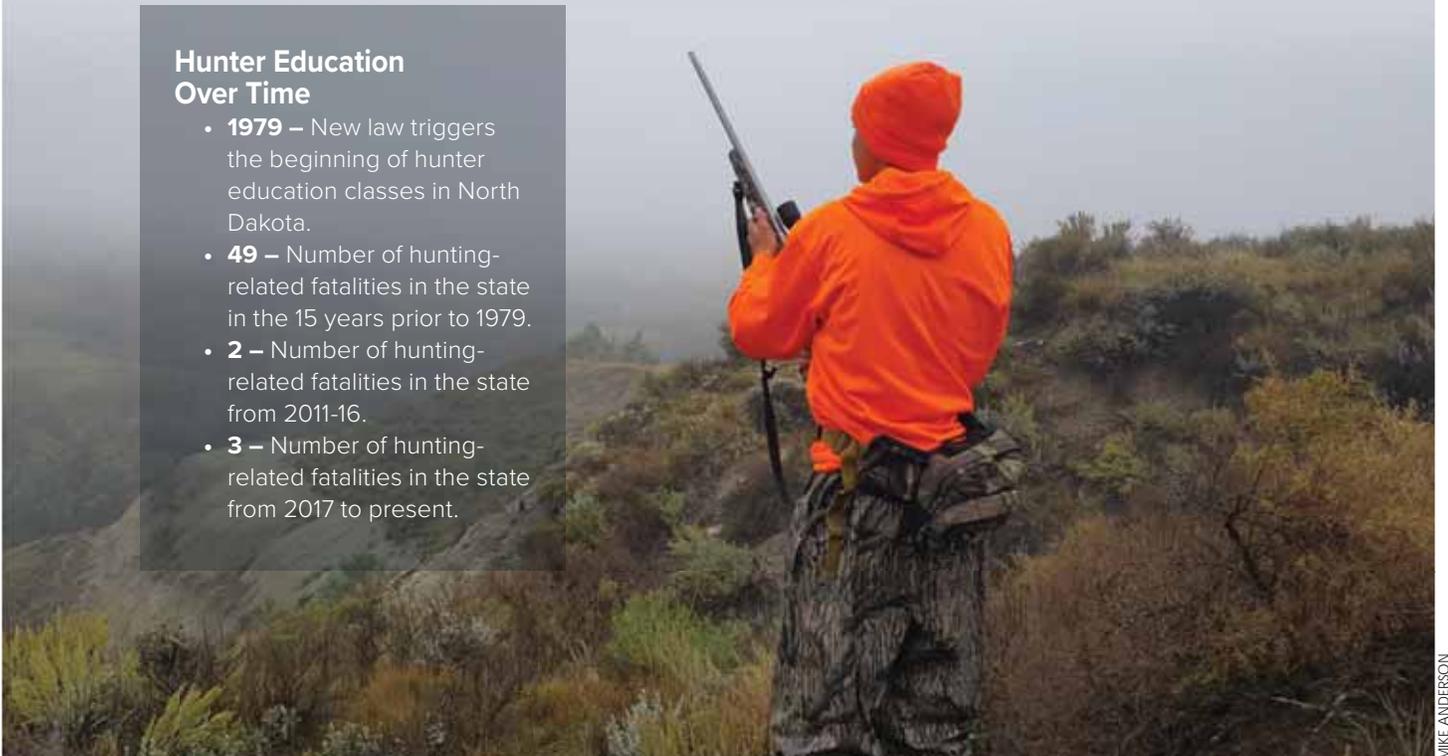
Each student will then have until December 31, 2020 to attend one in-person class session, to take the official North Dakota Game and Fish Department hunter education written and practical exams. If this is not completed by the end of the year, the temporary hunter education number will expire and the student will have to retake the course in the future.

Game and Fish will notify students when dates and locations are established for these final class sessions.

Another option for those who want to hunt in North Dakota in 2020, is a one-time exemption called an apprentice license. Individuals who are at least age 12 by the end of the calendar year, and who have not previously had an apprentice license, can apply for one and use that to purchase 2020 licenses without a hunter education number. An apprentice license holder must then complete the official hunter education course before being able to purchase hunting licenses in future years.

Hunter Education Over Time

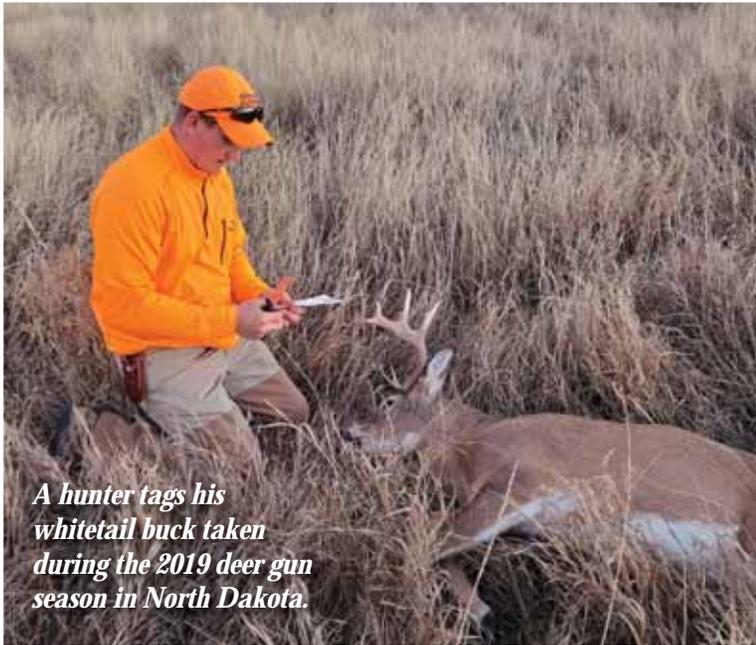
- **1979** – New law triggers the beginning of hunter education classes in North Dakota.
- **49** – Number of hunting-related fatalities in the state in the 15 years prior to 1979.
- **2** – Number of hunting-related fatalities in the state from 2011-16.
- **3** – Number of hunting-related fatalities in the state from 2017 to present.



MIKE ANDERSON



By Greg Freeman, Department News Editor



A hunter tags his whitetail buck taken during the 2019 deer gun season in North Dakota.

MIKE ANDERSON

2019 Deer Season Summarized

A total of 57,949 North Dakota deer hunters took approximately 37,250 deer during the 2019 deer gun hunting season, according to a post-season survey conducted by the state Game and Fish Department.

Game and Fish made available 65,500 deer gun licenses last year. Overall hunter success was 64%, with each hunter spending an average of 4.3 days in the field.

Hunter success for antlered white-tailed deer was 64%, and antlerless whitetail was 58%.

Mule deer buck success was 78%, and antlerless mule deer was 79%.

Hunters with any-antlered or any-antlerless licenses generally harvest white-tailed deer, as these licenses are predominantly in units with mostly whitetails. Buck hunters had a success rate of 68%, while doe hunters had a success rate of 65%.

Game and Fish issued 11,981

gratis licenses in 2019, and 9,767 hunters harvested 5,416 deer, for a success rate of 56%.

A total of 1,206 muzzleloader licenses were issued in 2019, and 1,040 hunters harvested 426 white-tailed deer (222 antlered, 204 antlerless). Hunter success was 41%.

A total of 27,582 archery licenses (24,902 resident, 2,680 nonresident) were issued in 2019. In total, 21,960 bow hunters harvested 8,978 deer (7,988 whitetails, 990 mule deer), for a success rate of 41%.

For 2020, 69,050 deer gun licenses are available, up 3,550 from last year. In addition to harvest rates and winter aerial surveys, Game and Fish staff monitor other population indices to determine license numbers, including depredation reports, hunter observations, input at advisory board meetings, and comments from the public, landowners and department field staff.

BOAT NORTH DAKOTA COURSE

Boat owners are reminded that children ages 12-15 who want to operate a boat or personal watercraft alone this summer must first take the state's boating basics course.

State law requires youngsters ages 12-15 to pass the course before they operate a boat or personal watercraft with at least a 10-horsepower motor. In addition, some insurance companies give adult boat owners who pass the course a discount on boat insurance.

The course is available for home-study from the North Dakota Game and Fish Department's Bismarck office. Two commercial providers also offer the course online, and links to those sites are found on the Department's website at gf.nd.gov.

While the home-study course is free, there is a fee for the online course. The online provider charges for the course, not the Game and Fish Department.

Upon completion of the online test, students can print out a temporary certification card, and within 10 days a permanent card will be mailed.

For more information contact Jackie Lundstrom, Game and Fish Department enforcement operations supervisor, at ndgf@nd.gov; or call 701-328-6300.

Report Black Bear Sightings

If you see a black bear in North Dakota, the state Game and Fish Department wants to know about it.

"Black bears are quite conspicuous and rarely mistaken for other species," said Stephanie Tucker, Department game management section leader. "Reports from the public are our primary means to keep track of black bears, so the information is valuable."

Game and Fish confirms 12-15 black bears in the state each year, Tucker said, with most documented in the northern or eastern portions of the state. However, she said they have the potential to turn up anywhere.

Anyone who observes a black bear is asked to report it online at the Game and Fish website, gf.nd.gov.

"It's important to keep your distance, but if you have an opportunity to take a photo, we ask that you upload it with your online observation report," Tucker said.



The state's bighorn sheep population in western North Dakota is above the five-year average.

TY STOCKTON

Bighorn Population Up

The North Dakota Game and Fish Department's 2019 bighorn sheep survey, completed by recounting lambs in March, revealed a minimum of 290 bighorn sheep in western North Dakota, up 2% from 2018 and 3% above the five-year average.

Altogether, biologists counted 77 rams, 162 ewes and 51 lambs. Not included are approximately 30 bighorn sheep in the North Unit of Theodore Roosevelt National Park and 30 bighorns recently translocated to the Fort Berthold Indian Reservation.

Brett Wiedmann, Department big game biologist, was pleased to see another increase in the survey, following a decline in 2017.

"The increase in the 2019 count reflects lessening effects of bacterial pneumonia that was detected in 2014," Wiedmann said.

The northern badlands population increased 12% from 2018 and was the highest count on record. The southern badlands population declined again to

the lowest level since 1999.

"The total count of adult rams unfortunately declined for a fourth consecutive year in 2019, but adult ewes remained near record numbers," Wiedmann said. "Most encouraging was the significant increase in the lamb count and recruitment rate following record lows in 2016 and 2017."

Game and Fish biologists count and classify all bighorn sheep in late summer, and then recount lambs the following March, as they approach one year of age, to determine recruitment.

"Fortunately, annual survival rates of adult bighorns are very high and similar to those prior to the die-off, and lamb survival continues to improve, which could indicate the population is becoming somewhat resilient to the deadly pathogens first observed in 2014," Wiedmann said. "The deadly pathogen, *Mycoplasma ovipneumoniae*, has not been detected the last two years in most of the northern herds via annual disease testing, and none are currently

showing symptoms of pneumonia. However, the next few years will be important in determining if the state's population shows signs of recovering from the disease outbreak, or if the pathogens are likely to persist and cause a long-term population decline."

Dr. Charlie Bahnson, Department wildlife veterinarian, said that four of the 25 adult bighorns tested for the deadly pathogens last winter were positive.

A bighorn sheep hunting season is tentatively scheduled to open in 2020, unless there is a recurrence of significant adult mortality from bacterial pneumonia. The status of the bighorn sheep season will be determined September 1, after the summer population survey is completed.

Game and Fish issued five licenses in 2019 and all hunters were successful in harvesting a ram.



NDGFD PHOTO

NASP Recognizes Prior Scores for State Tournament

Even though the 2020 North Dakota National Archery in the Schools Program state tournament in-person event was canceled due to the coronavirus pandemic, organizers had a plan in place to recognize archers based on earlier results from the school year.

State NASP coordinator Jeff Long said he always had a backup plan in place in case the live tournament was canceled because of a weather event. And in that situation, the state tournament would become a virtual tournament.

“Normally, a virtual tournament would consist of schools conducting tournaments back in their gyms and the coach would enter the scores online,” Long said. “The schools would normally be required to pair up so at least two schools were actually competing together. However, the unique thing about this cancellation was most, if not all schools, would not have been able to conduct the tournament back in their communities either, because of social distancing guidelines.”

Therefore, Long said in lieu of conducting an actual shooting event, coaches were allowed to select any score shot by an individual at a previously conducted local NASP tournament and enter those scores for their student archers.

“There were more than 25 local bull's-eye and 3-D tournaments completed in North Dakota before schools and facilities were shut down,” Long

said. “The coaches were given a window of time to enter their scores, and then we verified the results. We felt it was important to recognize the students and instructors for the time and effort they put into this program.”

This year's national tournaments scheduled in Louisville, Kentucky and Salt Lake City, Utah have been canceled.

The North Dakota Youth Archery Advisory Council contributed \$20,000 in college scholarships to the top five overall scorers in both boys and girls divisions.

The overall male winner was New Rockford-Sheyenne archer Koven Walford, while Griggs County Central student Rylee Suhr claimed the top spot in the female division.

- High school boys – 1) Koven Walford, New Rockford-Sheyenne; 2) Joshua Wiebusch, Wahpeton; 3) Clancey Zimbelman, Oakes.
- High school girls – 1) Lily Wiek, Oakes; 2) Allee Boyer, Edgeley; 3) Gracie Gunderson, Medina.
- Middle school boys – 1) Hunter Genre, New Rockford-Sheyenne; 2) Colin Olson, North Sargent; 3) Braysen Sagert, Oakes.
- Middle school girls – 1) Rylee Suhr, Griggs County Central; 2) Kaitlyn Folkman, Oakes; 3) Brooke Bundy, Barnes County North.
- Elementary boys – 1) Tucker Deering, Oakes; 2) Isaiah Wertz,

Oakes; 3) Andrew Undem Oakes.

- Elementary girls – 1) Jourdyn Buchholz, Griggs County Central; 2) Braylyn McKown, Oakes; 3) Claire Leidy, Wilton.

In addition, archers were scored in a NASP 3-D Challenge tournament.

Overall male and female winners were Clancey Zimbelman, Oakes and Danica Onchuck, Hankinson.

- 3-D high school boys – 1) Clancey Zimbelman, Oakes; 2) Koven Walford, New Rockford-Sheyenne; 3) Andrew Hill, Oakes.
- 3-D high school girls – 1) Grace Neameyer, Mt. Pleasant; 2) Avery Trittin, Lidgerwood; 3) Gracie Gunderson, Medina.
- 3-D middle school boys – 1) Braysen Sagert, Oakes; 2) Gage Hofmann, Medina; 3) Hunter Genre, New Rockford.
- 3-D middle school girls – 1) Danica Onchuck, Hankinson; 2) Rylee Suhr, Griggs County Central; 3) Kirstan Loewen, Hankinson.
- 3-D elementary boys – 1) Isaiah Wertz, Oakes; 2) Paul Hoyt, St. Johns Academy; 3) Tucker Deering, Oakes.
- 3-D elementary girls – 1) Braylyn McKown, Oakes; 2) Jourdyn Buchholz, Griggs County Central; 3) Ryleigh Walker, Griggs County Central.

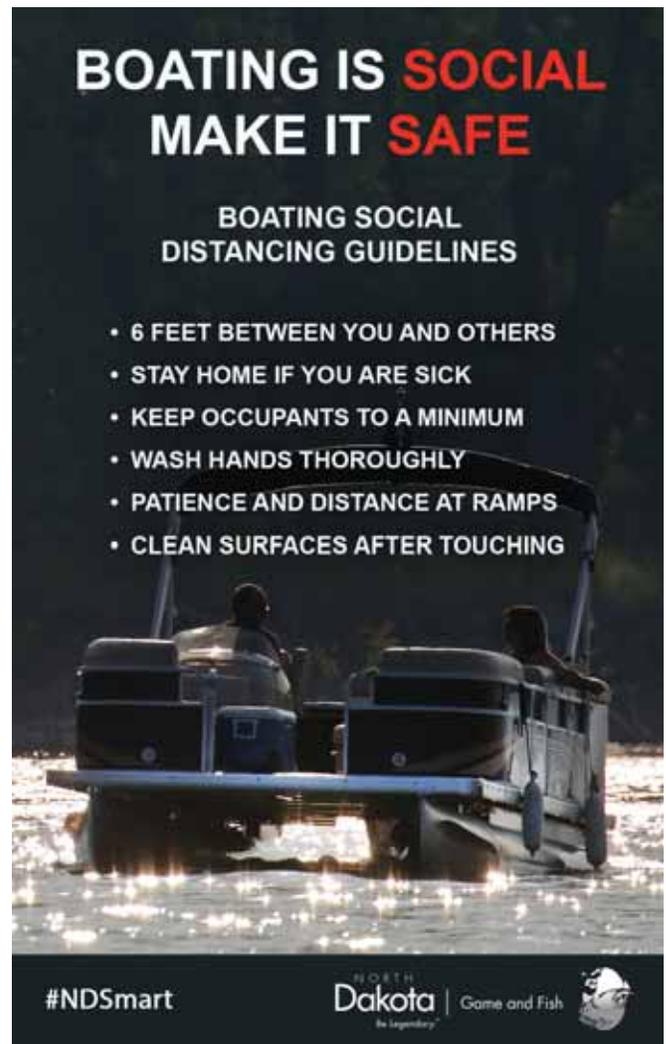
Game and Fish Pays Property Taxes

The North Dakota Game and Fish Department recently paid more than \$700,000 in taxes to counties in which the Department owns or leases land. The 2019 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 they received.

COUNTY	TAX DUE	COUNTY	TAX DUE	COUNTY	TAX DUE
Adams	184.70	Grand Forks	14,914.77	Pierce	2,905.99
Barnes	5,999.08	Grant	1,159.61	Ramsey	16,265.95
Benson	4,674.21	Griggs	88.79	Ransom	2,087.29
Billings	274.72	Hettinger	5,068.71	Richland	18,712.10
Bottineau	6,424.96	Kidder	12,060.51	Rolette	54,781.83
Bowman	2,112.27	LaMoure	10,648.24	Sargent	19,222.65
Burke	1,249.93	Logan	411.19	Sheridan	79,629.51
Burleigh	28,430.60	McHenry	1,636.94	Sioux	278.03
Cass	7,767.25	McIntosh	9,303.87	Slope	1,690.06
Cavalier	30,109.77	McKenzie	33,321.29	Stark	5,605.71
Dickey	13,038.51	McLean	116,089.12	Steele	9,471.12
Divide	2,351.91	Mercer	21,242.20	Stutsman	5,098.14
Dunn	5,638.21	Morton	24,080.01	Towner	2,444.15
Eddy	6,543.68	Mountrail	5,796.11	Walsh	11,121.10
Emmons	4,263.25	Nelson	5,462.77	Ward	61.46
Foster	1,013.41	Oliver	2,632.43	Wells	59,884.01
Golden Valley	167.20	Pembina	19,213.77	Williams	7,925.14



Boaters Reminded to Report Accidents, Practice Social Distancing

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

Jackie Lundstrom, Game and Fish Department enforcement operations supervisor, adds that in addition to wearing a life jacket, boaters are reminded to practice social distancing during these times of uncertainty.



EARTH DAY



*Allison Gudmundson,
Overall Winner
Mountain, ND*



*Kenzley Hausauer
1st Place,
Halliday, ND*



*Rowan Bushnell
1st Place,
Cartwright, ND*

Earth Day Patch Contest Winners

The North Dakota Game and Fish Department has announced the winners of this year's Earth Day patch contest.

Winners in the three age categories were Kenzley Hausauer of Halliday (6-9), Allison Gudmundson of Mountain (10-13), and Rowan Bushnell of Cartwright (14-18). Gudmundson's design was chosen as the contest winner.

Each year, the Game and Fish Department sponsors a contest to celebrate Earth Day, recognized April 22, for students ages 6-18 to design a North Dakota Earth Day Patch. Groups participating in cleaning up publicly owned or managed lands in April and May receive a specifically designed conservation patch.

This year's cleanup projects were canceled due to the coronavirus pandemic.

Agency Receives Funds for Conservation

The North Dakota Game and Fish Department has received \$12.8 million in 2020 as its share of excise taxes paid by America's recreational shooters, hunters, anglers and boaters. Altogether, 56 state and territorial fish and wildlife agencies shared more than \$971 million.

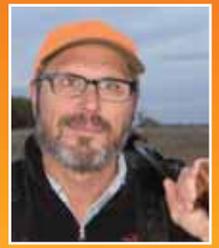
The funding is used by Game and Fish to support conservation programs such as fish and wildlife monitoring, habitat improvement, research and education. The money also helps pay for hunter and aquatic education, and fish and wildlife-related recreation projects. Federal assistance funds pay for up to 75% of the cost of each project, while the state contributes at least 25% from nonfederal sources. Game and Fish is a special fund agency in North Dakota, as it receives no state general fund dollars.

The federal funds are apportioned by a formula under two assistance programs – Wildlife Restoration and Sport Fish Restoration. The total 2020 Wildlife Restoration apportionment for all state and territorial agencies is more than \$601 million. Sport Fish Restoration support for 2020 totals nearly \$370 million. The funds are allocated to the states by a formula based 50% on the amount of land area of the state relative to the rest of the states, and 50% based on the number of hunting license holders in a state relative to other states.

Wildlife Restoration is guided by the Pittman-Robertson Wildlife Restoration Act of 1937 and is funded by the collection of excise taxes on firearms, ammunition and archery equipment. States use Wildlife Restoration Program funds to manage wildlife populations and habitat; conduct research, surveys and inventories; administer hunter education programs; and construct or maintain firearm and archery ranges for public use.

Sport Fish Restoration is guided by the Dingell-Johnson Sport Fish Restoration Act of 1950 and is funded by the collection of excise taxes on sport fishing equipment and electric motors, import duties on fishing tackle and pleasure boats, and a portion of gasoline tax attributable to motorboats and small engines. States use Sport Fish Restoration Program funds to stock fish; acquire and improve sport fish habitat; provide aquatic resource education opportunities; conduct fisheries research; and build boat ramps, fishing piers and other facilities necessary to provide recreational boating access.

BACKCAST



By Ron Wilson

Common garter snakes mate in a ball.

Understanding the biological necessity for this age-old exercise is certainly straightforward. Yet, wrapping my imagination around what this looks like – in person, in the flesh – is difficult because, well, they're snakes.

This has been an unusual spring. Because of the unease and precautions many people have adopted due to valid COVID-19 concerns, we're certainly doing things differently. And we're doing different things.

That's where the ball of snakes come in.

We've been hiking a lot this spring, certainly more than typical, starting before many of the lakes were completely free of ice. Getting outdoors and simply wandering for an hour or more, working up a sweat and watering our bird dog every so often on a prairie hilltop from a water bottle carried in a backpack has been good medicine.

We've typically tramped in places where we hunt sharp-tailed grouse and deer in fall – up and down cattle pastures, with patches of buckbrush scattered here and there and darn few trees.

These places don't look like they'd hold deer, especially whitetails, but they do in fall. If you put in enough time on the ground, you'll bump deer from cover that, at least from a distance, doesn't look tall and thick enough to hide an animal of much size.

These lands in spring, before green-up, look like they do in fall – mostly a shade of light brown, weathered, indistinct. The beauty, I've often considered, wasn't the seemingly worn landscapes themselves, but that we are free to access them without question, to hunt, hike and leave no trace no matter the time of year.

Turns out, I wasn't entirely correct.

On one of our hikes, on a patch of hillside no bigger than my office, were spots of light purple, sticking maybe 3 inches out of the ground. The dozen or so little pasque flowers, not yet reaching full height, were a welcome and colorful announcement of what we already knew. That the days were getting longer and the slide from winter to spring was downhill from here.

Because the flowers, the earliest bloomers of North Dakota's prairie wildflowers, were easily obscured by the taller grasses, we spent much of what remained of our hike looking yards ahead, instead of tracing the horizon or the top of the next hill.

That's how we spied the snakes.

A herpetologist will tell you that sometime in spring common garter snakes, after hibernating in large groups in dens in winter, emerge and not long thereafter form mating balls.

What they neglected to tell us, or maybe they did and I wasn't listening, is that these reptiles, while fond of the edge of woodlands, meadows and wetlands, could be found in habitat that feels so uncharacteristically different than their preferred choices.

While I'll grant you that the yellows, blacks and reds of the twisting ball of snakes did light up that piece of weathered pasture, their attendance was, well, unexpected, but appreciated as they provided a colorful peek into a world that so often goes unnoticed.

RON WILSON is editor of North Dakota *OUTDOORS*.

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From early March through May in North Dakota, male sharp-tailed grouse, with females also in attendance, gather on dancing grounds to perform ritualized mating displays that have blessed select prairie hilltops and flat spots for thousands of years.



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