

Circle Speaker

JULY–SEPTEMBER 2021

WHITE CLAY & NAKODA ENVIRONMENTAL NEWSLETTER

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Old Hays Community Garden Wins Grant

By Donna Miller | August 25, 2021

<https://www.blainecountyjournal.com/story/2021/08/25/news/old-hays-community-garden-wins-grant/6852.html>

Supplemental Nutrition Assistance Education Program, or SNAP-Ed program, awarded six Growing Together Montana mini grants this year to Master Gardeners across the state. One of those recipients was Hillary Maxwell and the Old Hays Community Garden on the Fort Belknap Reservation. These mini grants, worth up to \$2,000, help to address food insecurity in Montana.

Growing Together Montana (GTMT) is a collaboration between the MSU Extension Nutrition Education Program and the Master Gardener program that provides grants to active Master Gardener volunteers with a focus on growing and donating produce to local food banks and supplying other emergency food resources. Master Gardeners also have the opportunity to work with SNAP-Ed

instructors in their communities to deliver nutrition education to the individuals and families that utilize the food banks.

At the Old Hays Community Garden on the Fort Belknap Reservation, Master Gardeners created a new garden on a plot that was donated by the tribal council. According to organizers, this project has attracted many community volunteers who are first-time gardeners.

"Having fresh produce right in the neighborhood has been the greatest impact," said Maxwell, who is a Family Consumer Science Agent for MSU-Extension on Fort Belknap as well as a Master Gardener. "Community members are getting more comfortable with the garden space and are appreciating its value."

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Old Hays Community Garden Wins Grant

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For providing leadership with the garden, Maxwell wishes to thank Colette Werk. The Hays Garden was also the location for community Bingo on August 12, and children play in the garden area frequently.

About her role, Werk commented, "I wouldn't say I'm the primary caregiver of the garden, but I do make sure it's watered and weeded a little bit. I have the help of the Extension Office intern Kayla Tandy, who takes care of it, too."

Throughout the summer, some young people from the Summer Youth Employment Program have also stepped in with assistance, not only with weeding but with mowing the grounds. Other community members have added their labor to the project, building a 50' x 30' fence around the garden to deter the wildlife from encroachment.

"The fence was built by community members Olie and Sharlo Doney with assistance from Colton Werk and me. It's just a wire fence with set posts and a gate. At the moment, we don't have a water source, so we got a hose from the nearest house, which is generously offered up by Dutch Helgeson, so he will be getting some veggies out of the garden for sure; very thankful for it. I just really want the community to have the credit. This garden is for them, and I want them to know that. Sure proud of our little community," Werk explained.

The garden features several raised beds, which are growing tomatoes, cabbage, lettuce, peppers, potatoes, radishes, squash, and cilantro/herbs. Adding to the food forest on the grounds are bee balm, rhubarb, spearmint, echinacea, and an apple tree.

"This project was actually headed up by Hillary Maxwell. She just included me on it because I am part of the Old Hays community and I thought it would be a great opportunity for our little community to get some food sovereignty going. It was a bit of a challenge just getting things started with the fence, but the garden has been looking great and things are growing. Our cabbage took a toll from the grasshoppers and beetles, but we're hoping to fix that next year," Werk stated.

Werk went on to explain that the fence is doing its job, as no animals have invaded the garden, and the children who play there always close the gate. "It's great to see them respect the garden and know that this is for them and their families. I told them if they ever need anything, to just go right in and make sure

to close the gate behind them. It's nice to see everything grow, and we look forward to what we can continue to do next year. Hopefully, we can develop an apple orchard like the Lodgepole community has or continue to make the garden bigger with maybe a plowed area plot. None of this would have been possible without MSU-Extension and Hillary Maxwell's help; so very thankful for that."

Produce from the garden will be distributed to local organizations that serve families with limited resources. Recipients also receive invitations for free in-person and virtual nutrition education classes taught by MSU-Extension nutrition educators.



One of those classes is a Food Preservation and Canning Workshop to preserve garden produce. Sponsored by MSU-Extension at Fort Belknap, this training will be a series beginning August 30. With locations still to be determined, Maxwell shared that she will be in Lodgepole on Mondays, in Hays on Wednesdays, and at the Agency on Thursdays. Jars will be provided for those attending. Anyone with questions is encouraged to call Maxwell at 390-1085.

Other 2021 projects that received GTMT grants are Sixth Ward Garden Park in Helena, Northern Cheyenne Reservation Donation Garden at Busby, Helping Hands Food Bank Garden in Hardin, Sagebrush Food Pantry Garden in Shelby, and Fort Peck Reservation Donation Garden at Poplar.

For more information on the GTMT program or to apply for a grant for the 2022 garden season, interested individuals can visit the GTMT website or contact Project Coordinator, Lydia Sakowski by emailing lydia.sakowski@montana.edu or calling 406-994-6022.



Water Quality Program Sampling

By Mitchell Healy, Water Quality Program Coordinator | August 11, 2021

Hello to all Fort Belknap Indian Community. Over the year, there has been several cases of tribal members asking if their private wells and ponds can be tested and/or if we can do something to make the water quality better. The Water Quality Program was established for the purpose of monitoring surface waters, which include rivers, lakes, streams, reservoirs, and lakes, that are on tribal lands, and not private lands, but this is not to say nothing can be done to assist you. Briefly, let me explain the requirements of the WQ Program. The WQ Program is funded through a Water Pollution Control Grant under section 106 of the Clean Water Act. With this type of funding, the general requirements are restricted to monitoring of tribal waterbodies, which includes:

- Collecting water samples from tribal waterbodies. Although it's possible to work with landowners if a waterbody flows through private lands, this has been a tried and failed experience, so we do not sample waterbodies within private lands any more.
- Water samples are collected based on a monitoring strategy, which means collecting at specific sites, collecting at specific frequencies, and getting samples analyzed for specific parameters. For example: if we are sampling within a watershed where agricultural activities are predominant, our monitoring strategy is to analyze for nutrients and pesticides, and if we were monitoring in the Little Rockies near the mine sites, our parameters change to heavy metals.
- Other activities we do would include fish surveys and fish tissue collection, habitat assessments, benthic macroinvertebrate collection, and stream surveys.
- Future sampling we can do might include things like blue-green algae monitoring, lake assessments, and more in-depth river assessments.
- Data analysis or assessments are produced through all the monitoring or data collection. Over the years, since 1994, the WQ Program has collected enough data to conduct data assessments on a majority of our tribal waters. We do these assessments to monitor trends in water quality and if there were any issues, we would report this to the EPA.

So, in essence, the WQ Program role is primarily for

data collection of all the different types of activities we do. This is not the stopping point though, as we are working on Tribal Water Quality Standards, so we can better protect our tribal waters through tribal law and through the Federal Clean Water Act.

I hope this brief Program summary makes sense and provides valuable information for everybody. But keep in mind that the WQ Program DOES NOT:

- Sample private wells
- Sample waterbodies within private lands

So, if you are having water quality issues, I apologize that our WQ Program does not provide actual assistance with sampling and getting samples analyzed, but what I can do is provide you with some possible resources that may be of help to you or be able to provide you with some answers. But, just keep in mind that private landowners are responsible for their own wells and stock ponds. Some of the resources include:

- EPA – Private Drinking Water Wells webpage. <https://www.epa.gov/privatewells>
- USGS – Water Resources webpage. <https://www.usgs.gov/mission-areas/water-resources/science>
- Centers for Disease Control and Prevention – Private Ground Water Wells webpage. <https://www.cdc.gov/healthywater/drinking/privatewells/index.html>
- Natural Resources Conservation Science - <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/>



State's retreat from 'bad actor' enforcement is outrageous

Associated Press | Jul 18, 2021

https://mtstandard.com/standard-view-states-retreat-from-bad-actor-enforcement-is-outrageous/article_2e8ab393-e47a-582f-850f-cf23d994879c.html

As is often pointed out, elections have consequences, and the environmental consequences of Gov. Greg Gianforte's election are becoming all too clear.

The recent deemphasis of science in Fish, Wildlife and Parks decision-making and the governor's withdrawal from the U.S. Climate Alliance are concerning enough.

But the decision to drop "bad actor" enforcement action against former Pegasus Gold Corp. executive Phillips Baker is an outrage.

To be clear: We like mining.

It is indisputably essential to modern life, now more than ever when you consider green energy essentials like electric cars, solar panels and wind turbines. This is being written from atop the Richest Hill on Earth, where there's more copper remaining than has been mined over the past 120 years. Weaning ourselves from fossil fuels means more and more demand for copper and other metals. We are entering what amounts to a new electrification of America, and just as the first depended on Butte's copper, this phase depends on metals and minerals that must be mined. But the mining must be done responsibly.

What Pegasus did — with Zortman, with Beal Mountain, with Basin Creek — was the antithesis of responsible mining. The company left enormous environmental damage behind from cyanide heap-leach operations that both federal and state governments must clean up. Last we checked, Montanans pay taxes to both.

The state has already paid out more than \$50 million in costs. Zortman alone has cost state and federal agencies combined more than \$70 million to date.

Over 17 years of mining there, Pegasus extracted more than 2.5 million ounces of gold.

Butte's own Judy Martz signed the 2001 Montana



This 1998 file photo shows the now-defunct Zortman-Landusky mine in the Little Rocky Mountains.

Metals Mine Reclamation Act, containing the "bad actor" provision, which requires mining companies and their executives to complete past cleanup operations or reimburse the state for cleanup costs before they can get permits for new mines.

The twist in this case is that Baker is now CEO of Hecla Mining Co., which is seeking permits for two mines on the edge of the Cabinet Wilderness near Noxon.

We have nothing against those projects. Hecla itself has a good record — but the company knew both the bad actor law and the contents of Baker's resume when Baker was chosen as its leader.

Obviously, the state DEQ made the decision to apply the "bad actor" law to Baker, and therefore to Hecla, when Gov. Steve Bullock was in charge.

And in May of this year, District Judge Mike Menahan rejected Baker's attempt to evade the law, ruling that the bad actor law did indeed apply to Baker and Hecla.

"Baker has purposely availed himself of the privilege of mining in Montana, and in doing so has accepted the jurisdiction of Montana courts with respect to that

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State's retreat from 'bad actor' enforcement is outrageous

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mining activity,” Menahan wrote in the ruling.

Despite winning that ruling, it's clear the state of Montana, under Gianforte, had no appetite to bar Baker under the law.

Preeminent Montana constitutional lawyer Jim Goetz had been asked to handle the case against Baker by the Bullock administration. He agreed to do so — pro bono — and put in years of work.

After he prevailed before Menahan, the state informed Goetz that it no longer needed his services. “Were my rates too high?” he asked wryly.

A month later, the state simply walked away from the enforcement of the law.

DEQ attorney Sarah Clerget told the court that Gianforte's election and the appointment of new DEQ Director Chris Dorrington prompted “a very careful look at the entire record of this case.” On the campaign trail, Gianforte had been sharply critical of the time DEQ had spent in considering Hecla's mining applications.

Dorrington insisted Wednesday that his agency had the ability to pursue out-of-state bad actors, but said

the law should not be applied to Baker.

“We have to make tough decisions in order to make the best use of state resources,” Dorrington said in the press release. “I am committed to pursuing other avenues, including legislation. Changing the law is the best way to ensure it is clearer and easier to go after bad actors in the future.”

We are hard-pressed to think of a case that fits the intent of the bad-actor law more precisely than this one. Ironically, it was the Pegasus bankruptcy that directly led to the law Martz signed. Pegasus made millions and left taxpayers holding the bag for millions. Water will have to be pumped from the Zortman site in perpetuity.

Dorrington's attempt to justify backing away from enforcement by saying the law ought to be changed is a complete cop-out. We can only imagine what the Legislature would do with this law, with the aid and concurrence of the Gianforte administration.

This decision is a slap in the face for every Montana taxpayer and for anyone, inside or outside of our state's government, who believes in environmental regulation.

Montana drops 'bad actor' case against Hecla Mining Co.

By CHAD SOKOL | Daily Inter Lake | July 21, 2021 12:00 AM

<https://vp-mi.com/news/2021/jul/21/montana-drops-bad-actor-case-against-hecla-mining/>

Montana's Department of Environmental Quality is dropping its lawsuit against a North Idaho-based company seeking to develop two large silver and copper mines in Northwest Montana.

The decision prompted conservation groups involved in the case to allege political interference by Republican Gov. Greg Gianforte, who promoted the projects on the campaign trail. Administration officials rejected the assertion.

Coeur d'Alene-based Hecla Mining Co. sued in March

2018 after the DEQ attempted to label the company's chief executive, Phillips Baker Jr., a "bad actor" under Montana's Metal Mine Reclamation Act. The law was designed to block individuals and companies who don't clean up their old mines from starting new ones.

The department — under then-Gov. Steve Bullock, a Democrat — sued back, saying Baker and Hecla should not be granted permits for the proposed mines in Lincoln and Sanders counties because of



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Montana drops 'bad actor' case against Hecla Mining Co.

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Baker's past involvement with the Pegasus Gold Corp.

Pegasus went bankrupt in 1998, abandoning three mines in the Little Rocky Mountains south of the Fort Belknap Indian Reservation and leaving taxpayers on the hook for tens of millions of dollars in reclamation and water-treatment efforts that continue to this day.

Lewis and Clark County District Court Judge Mike Menahan handed the state a victory in May, ruling the DEQ has the authority to apply the "bad actor" label to Baker and other out-of-state actors, though the ruling did not address the merits of the case.

ON WEDNESDAY, the department filed a motion to dismiss the case, citing what it called "a number of factors including complex procedural hurdles that complicate the case and potentially risk DEQ's ultimate goal of preventing bad actors from operating in Montana."

DEQ Director Chris Dorrington, a Gianforte appointee, added the case seems "highly unlikely" to result in reimbursement for the cleanup of the former Pegasus mines from either Hecla or Baker, who was a vice president at Pegasus before it went bankrupt.

"When deciding to further pursue this case, DEQ has to consider all demands on our time and all of the demands on our resources, as well as the potential environmental benefits or consequences," Dorrington told the Daily Inter Lake in an interview Thursday.

A coalition of tribal and conservation groups lambast-

ed the agency's decision, saying the state has thrown away a chance to hold mining executives accountable and prevent further pollution.

"In dropping this case, DEQ is walking away from its only real shot at defending Montanans from being bilked out of millions of dollars of taxpayer money by Baker and Pegasus," David Brooks, executive director of Montana Trout Unlimited, said in a statement. "The bad actor law is meant to be a deterrent, not just a punishment."

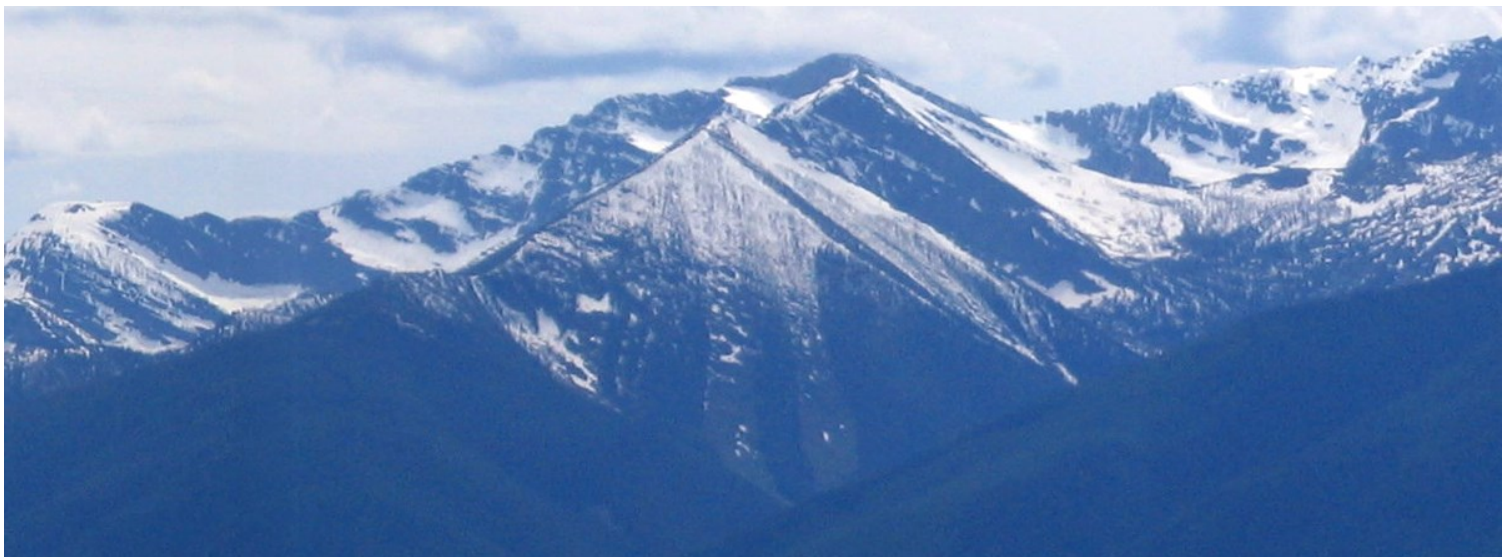
Andy Werk, president of the Fort Belknap Indian Community, said the DEQ's decision would perpetuate "the devastating burden of environmental injustice."

"The state of Montana must prioritize protecting the health of Montana communities, including the Aaniiih and Nakoda tribes of the Fort Belknap Indian Community, and protecting the natural resources that sustain all life," Werk said in a statement. "DEQ's dismissal of the enforcement action flies in the face of this responsibility and prioritizes mining executives over Montanans."

The groups said the state has spent more than \$50 million cleaning up acid mine waste in soil and water from the Zortman-Landusky Mine alone. Pegasus also ran the defunct Beal Mountain and Basin Creek gold mines in the Little Rocky Mountains.

Luke Russell, a Hecla spokesman and vice president, said the state's case was "unwinnable" as the company had no involvement with the former Pegasus

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Montana drops 'bad actor' case against Hecla Mining Co.

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mines. Hecla previously has said Baker left Pegasus before it went bankrupt.

"Mr. Baker is not a bad actor under Montana law," Russell said. "His employ at Pegasus more than 20 years ago was the only basis for bringing this case."

The DEQ noted the three mines at issue in the case — the Rock Creek, Montanore and Troy mines — are all in compliance with the Metal Mine Reclamation Act. The Troy Mine is undergoing final reclamation and the two proposed mines face environmental review, technical evaluation and public comment before they would be issued permits, the agency said.

"These projects should, therefore, individually succeed or fail on their own merit through the permitting processes, where DEQ can thoroughly consider all relevant scientific and technical details and public input before deciding whether each should proceed," the department said in its motion to dismiss.

Dorf Johnson, who directs the nonprofit Montana Environmental Information Center's clean water program, said the permitting process is beside the point and the DEQ should have continued pursuing its claim under the bad actor law.

"What good are the laws if they're not actually enforced? And what message does that send to the currently operating mines if, through political persuasion, they can ignore and get around Montana's bad actor law?" Johnson said.

MONTANA IS one of many states with bad actor statutes that let state environmental agencies consider a company or individual's environmental record in deciding whether to grant permits.

The Montana Legislature passed the law in 1989 and expanded it in 2001 to apply to company executives. It's been enforced once before, in 2008, in a case that did not involve a major project like the ones Hecla is pursuing at the Rock Creek Mine near Noxon and the Montanore Mine near Libby, according to state officials. Both projects have been in the works for decades.

The two copper and silver mines would tunnel beneath the Cabinet Mountains Wilderness. They've been stalled for years as environmentalists have re-

peatedly sued over concerns the mines would harm area rivers and wildlife, including bull trout and grizzly bears.

During a July 2020 campaign event at Hecla's offices in Libby, Gianforte panned the DEQ and the state Department of Natural Resources and Conservation as "project-prevention departments," criticizing how long it's taken to secure permits for the Rock Creek and Montanore mines, the Montana Free Press reported. (State and federal agencies have issued permits for the mines, but they have been successfully challenged in court multiple times.)

"I don't think we should approve every permit, but we ought to be able to get a 'yes' or 'no' in less than 35 years," Gianforte said at the time.

Johnson, with the Montana Environmental Information Center, alleged: "It's clear that this is a very political decision. It's clear that this is a policy change from the governor's office."

Dorrington, the DEQ director, and Gianforte spokeswoman Brooke Stroyke said the governor did not advocate for the lawsuit to be withdrawn.

"As with matters relating to protecting Montana's environment and Montana taxpayers, the governor entrusted and empowered DEQ to take the action the agency thought most appropriate," Stroyke said in an email.

Dorrington reiterated that point, almost verbatim, in Thursday's phone call.

"The governor relied upon us to make those decisions," he added.

While environmentalists worry the proposed mines could do permanent damage to the federally protected Cabinet Mountains Wilderness, mining executives note copper and silver are needed for the production of electric vehicles, wind turbines and other components of an eco-friendly economy.

"We are looking forward to moving these projects forward," said Russell, the Hecla spokesman. "They are important for clean energy, they can be done responsibly and they will have a huge economic impact for Northwest Montana."

SMALL GRANT REPORT

Revitalizing Sweetgrass for the Fort Belknap Indian Community

By Colette Werk, Nonpoint Source Pollution Coordinator

We were fortunate to be awarded a small grant from the Montana Native Plant Society. Our grant was based on cultural revitalization by means of repopulating sweetgrass in the Little Rocky Mountains. To begin, a GIS Technician marked off a spot for planting, and Sweetgrass saplings were ordered from the Prairie Moon Nursery. The place we marked out is very boggy and wet, the exact type of conditions that sweetgrass thrive in. It is also an already known spot for sweetgrass picking. The vegetation is high in this area but sweetgrass spreads quickly when disturbed and can be sometimes referred to as weed-like in its growth. The soil proves to be highly suitable for sweetgrass, since it needs a lot of water.

Water Quality or the Brownfields Department would have assisted me without hesitation prior to COVID-19, but I'm very grateful that my family volunteered to help with planting in the area right behind the pow-

wow grounds. It is an easily accessible area to all, whether you are walking or driving.

The transplants are thriving. This project is coming to an end, but it is also a new beginning for our community. More and more we see traditional plants being harvested by tribal members. How beautiful that is.

The land is healing. Coming back to it provides growth in oneself. Like all things, we now wait and hope that these plants will grow for our community and help continue our journey of self-sustainability and cultural revitalization.

Colette Werk is an enrolled member of the Aaniiih (White Clay) people, more commonly known as the federally recognized name, Gros Ventre. Colette lives in Hays, Montana on the southern end of the Fort Belknap Indian Reservation. She works in the Fort Belknap Environmental Protection Department.



EPA's Safer Choice Program Highlighted in Sustainable Shopping Initiative

Contact Information: EPA Press Office (press@epa.gov) | 07/13/2021

<https://www.epa.gov/newsreleases/epas-safer-choice-program-highlighted-sustainable-shopping-initiative>

WASHINGTON - Amazon's Climate Pledge Friendly initiative has announced that it now includes cleaning and other products certified by the Environmental Protection Agency's (EPA) Safer Choice program. Safer Choice is now one of 30 sustainability certifications highlighted under Amazon's Climate Pledge

Friendly initiative which helps customers shop for more than 75,000 products through the company's online store. Highlighting Safer Choice-certified products makes it easier for consumers to locate products that contain safer chemical ingredients without

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EPA's Safer Choice Program Highlighted in Sustainable Shopping Initiative

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sacrificing quality or performance.

"We are pleased that Amazon is increasing awareness of products with safer ingredients by including EPA's Safer Choice certification in its initiative," said EPA Office of Chemical Safety and Pollution Prevention Assistant Administrator Michal Freedhoff. "EPA's Safer Choice program provides national and international leadership for our chemical safety mission in a way that benefits families, children, workers, communities, pets, and the environment."

EPA reviews all ingredients in Safer Choice-certified products, regardless of percentage, and they must meet specific human health and environmental criteria. For example, they cannot contain volatile organic compounds (VOCs) and must meet low-toxicity limits and biodegrade quickly. Limiting VOCs can improve indoor air quality. Ensuring low toxicity and rapid biodegradation can help protect water resources impacted by climate change. This is particularly important

when products like detergents go down the drain or when products are used outside and may go directly into the environment and waterways.

Products identified as Climate Pledge Friendly are distinguished on Amazon's website by an hourglass-with-wings symbol. The company also provides its customers with detailed web pages that include information on how and why products are certified as sustainable.

Later this year, EPA will award the 2021 Safer Choice Partner of the Year awards. In support of the Biden-Harris Administration's goals, EPA will select winners with consideration for those that show how their work in the design, manufacture, selection and use of those products promotes environmental justice, bolsters resilience to the impacts of climate change, results in cleaner air or water, or improves drinking water quality.

A perfect storm dries up hay supply

By Patrick Johnston | 7/21/2021

<https://www.havredailynews.com/story/2021/07/21/local/a-perfect-storm-dries-up-hay-supply/534670.html>

North-central Montana is in the midst of a serious hay shortage, the result of a perfect storm of severe drought conditions, a population explosion of grasshoppers and blister beetles, and the effects of last year's drop failure at the St. Mary Diversion.

Montana State University Hill County Extension Agriculture and 4-H Agent Colleen Buck said the drought conditions and less-than-ideal nitrate levels in the soil have made it difficult to grow much of anything and a lot of people have had trouble finding the hay they need to feed their livestock.

"The plants aren't growing, and everyone is just doing what they can to get hay," Buck said.

Unfortunately for those producers, the shortage has been so severe that it has caused some to have to sell cattle younger and earlier in the season because they don't have enough hay to winter them.

Buck said no producers she's spoken to in Hill County yet have talked about needing to sell cattle, but recent sales she's observed in Lewistown saw quite a

few yearlings being sold, and it appears some producers are trying to get rid of replacement heifers as well.

She said this appears to be more common the further east in the state one goes. But they don't need to go far to see the difference, as the situation just one county over seems notably worse.

Montana State University Blaine County Extension Agriculture and 4-H Agent Juli Snedigar said things in her county are very serious both for cattle and hay producers.

Snedigar said she has seen a few producers have to sell off cattle they couldn't afford to keep, and the state of the hay market is such that even those who do have hay to sell are worried about how to price it.

"We've got people who are hesitant to even price hay because they don't know what it will be later into the summer and fall," she said.

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A perfect storm dries up hay supply

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She said the general drought conditions and hot weather have been further exacerbated by last year's drop structure collapse at the St. Mary Diversion which supplies water to the area's irrigators.

The diversion is one of the most important infrastructure projects in the region. Unfortunately, the catastrophic drop collapse in May of last year was the culmination of years of warnings that were not followed up on in time.

The diversion, one of the first projects the Bureau of Reclamation was authorized to build after it was created in 1902, was completed more than a century ago to provide irrigation water to Milk River Valley farmers and ranchers, and last year's failure meant they could only do one irrigation.

Patchwork repairs have been done to the system over the years, paid for primarily by the users, and more than 20 years ago Milk River water users began campaigning to find funding to rehabilitate the system to prevent catastrophic failure, which led to the state establishing the St. Mary Rehabilitation Working Group in 2003. The group has been working to plan and find funding for rehabilitation ever since.

Emergency repairs to the diversion were completed last year, and efforts by Montana's congressional delegation to see the project funded continue.

Snedigar said all of this has further compounded this year's population explosion of grasshoppers which has plagued hay producers.

Buck said these are the offspring of last year's grasshoppers who had a population boom of their own.

Snedigar said the grasshoppers are especially worse to the east.

Producers feeling the effects

Henry Gordon of the Gordon Cattle Company said he and his fellow producers are really feeling the effects of the shortage.

Gordon said he'd normally have put up around 2,000 tons of hay by this time of year, but this year has been a struggle.

"I don't think right now I have 200 ton," he said. "I haven't seen this bad a drought I don't think since way back in the '80s."

He said, due to how his operations are set up and the fact that he still has some hay from last year, he hasn't had to offload any cattle, but he still needs to find hay to get his cattle through the winter.

Unfortunately, he said, other producers haven't been so lucky, with many of them having to sell pairs of cattle they bought separately, at a reduced

price, because buyers are so scarce.

"I mean, who's going to buy the pair, because there ain't nowhere to go with it," he said.

Gordon said he's still on the lookout for ways to get hay whether that means growing it or buying it, though neither avenue is easy at the moment.

"I'd take any moisture I can get right now," he said.

He also said the man he'd usually buy straw from has absolutely nothing to sell this year.

Gordon said he is having some luck getting hay out of Canada, but the prices are high.

He said he's paying between \$185 and \$220 a ton, but he's heard of some procedures having to pay

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A grasshopper rests in the sun. High levels of grasshoppers in the area are causing severe damage to crops, just one of several major problems local agricultural producers are facing this season.

A perfect storm dries up hay supply

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around \$300, far higher than it would normally be.

Gordon also said, while some of his land has been spared, the grasshoppers are really becoming a problem for other parts.

A long list of problems

Despite all of these issues, Gordon said his main concern at the moment is the potential for fires.

He said everything is still so dry that what little can be grown could be gone in hours if a fire occurred.

"Everything is just kindling, and things would go fast," he said.

Gordon said these issues are obviously a big concern, but ultimately producers like him have to keep on keeping on like they've always done and hope for the best.

"We're kind of at Mother Nature's mercy," he said. "... I mean who knows, we might get into September and it may start raining and never quit."

This increase in the grasshopper population that has plagued folks like Gordon has brought with it an increase in blister beetles as well. These beetles feed on grasshopper eggs and are very dangerous to livestock if eaten.

A release from Hill County Extension says while the insects usually are found in alfalfa, their numbers this year have caused them to move into grass hay.

Blister beetles have cantharidin fluid in their bodies that causes blisters when it comes into contact with skin or is ingested. They mainly affect horses fed hay, but they can be toxic to other livestock as well, the release says. When the beetles are consumed livestock can suffer from blistering of the esophagus and stomach and kidney and heart function can be impaired, in severe cases, death can result.

Extension recommends that producers monitor their fields for black, grey, brown, striped or spotted type of beetles that are up to one inch long, and points out that self-propelled swathers without condition rollers but with windrowing attachments are safer than

mower conditioners and sicklebar mowers.

They also said raking hay before baling also allows the beetles to leave the windrows and people should let hay dry down before baling, so that the beetles have a chance at getting out of the windrows.

More information can be found in the MontGuide MT200209AG, Blister Beetles of Montana, or by contacting MSU Hill County Extension Office at 406-400-2333.

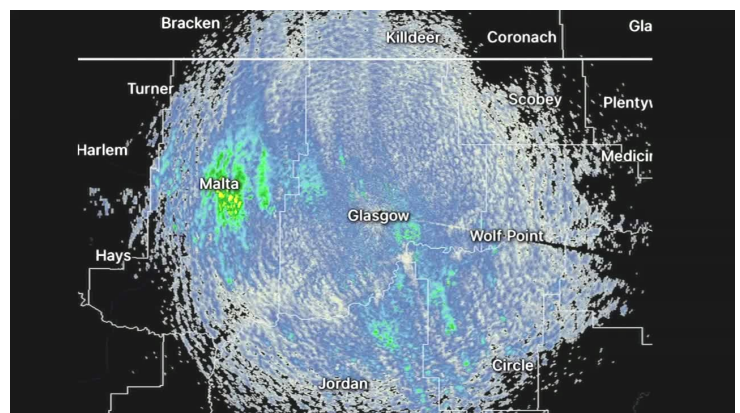
On the other hand, to the west in Liberty County, the situation isn't quite as dire, though MSU Liberty County Extension Agent Jesse Fulbright said his county doesn't have as many hay and cattle producers as Hill or Blaine counties.

Fulbright said he hasn't heard much from local cattle producers, but hay producers in the area have been asking for nitrate tests on some of their other crops like winter and spring wheat because they want to bale them for potential hay.

He said many of them have been using the Montana Department of Agriculture's hay hotline, an online portal where producers can donate, buy or sell hay, pasture available or pasture wanted.

The hotline's website says producers who need donated hay can find it there at https://ext.services.agr.mt.gov/Hay_List/.

More information about the Hay Hotline program can be found there as well.



The radar is lighting up! But it's not rain, unfortunately. Just countless grasshoppers flying as high as 10,000 feet above the ground! — NWS Glasgow (@NWSGlasgow) July 2, 2021



Fort Belknap Indian Community—Environmental Protection Department

Brownfields / Tribal Response Program

PUBLIC RECORD

SITE NAME →	Old Agency Landfill	Old Agency Dump	Lodge Pole Community Hall	Peoples Creek Dipping Vat
<i>Type of Site</i>	Abandoned Landfill	Abandoned Landfill	Abandoned Historic Building	Former Cattle Dipping Vat
<i>What Type of Response Action was Taken?</i>	<ul style="list-style-type: none"> • Aug 2002-Phase I ESA Final Report • Dec 2003-Phase II ESA Final Report • Sept 2006-Phase III Final Report (included further sampling activities) 	<ul style="list-style-type: none"> • Sept 2003- Phase I ESA Final Report • Targeted Brownfields Assessment (TBA) • March 2004-Phase II ESA Final Report • April 2019- FBIC Brownfields received a State of Montana DNRC Planning grant to be utilized in conducting further assessment of contamination of the Old Agency Dump. • 2nd Phase II ESA Scheduled for Summer/Fall 2020 postponed due to COVID-19 concerns. • 2nd Phase II ESA conducted in April/May 2021. • 2nd Phase II ESA completed September, 2021. 	<ul style="list-style-type: none"> • Jan 2007- Final Report Phase I ESA (Lead and Asbestos survey included) • Dec 2007-Final Phase II ESA Report • April 2008- Phase III Report completed • Oct 2008-Cleanup Process implemented • Dec 2010-Cleanup activities & post sampling completed • April 2011-Final Report 	<ul style="list-style-type: none"> • Sept 2010-Final Report-Phase I ESA complete. • Mar 3, 2010-EPA Site Eligibility form complete and approved. • June 2011-QAPP/ Field Sampling Plan completed. • Aug 16, 2011-Phase II ESA field sampling event completed. • Jan 2012-TBA-Phase II ESA Final Report. • June 2015–Programmatic Quality Assurance Project Plan (QAPP), Sampling and Analysis Plan (SAP), and Correctible Action Plan (CAP) completed & approved. • Oct 12, 2015-Cleanup of arsenic contaminated soils and confirmation sampling. • Dec 29, 2015–Cleanup Verification Report.
<i>Date Action is Planned</i>	No Action Planned at this time.	TBD	Renovation for community hall	Oct 2015-Cleanup of soils and confirmation sampling completed.
<i>Name of Owner at Time of Clean-up</i>	Fort Belknap Indian Community	Fort Belknap Indian Community	Fort Belknap Indian Community	Fort Belknap Indian Community
<i>Owner Address, City, State, Zip</i>	Fort Belknap Agency 656 Agency Main St. Harlem, MT 59526	Fort Belknap Agency 656 Agency Main St. Harlem, MT 59526	Fort Belknap Agency 656 Agency Main St. Harlem, MT 59526	Fort Belknap Agency 656 Agency Main St. Harlem, MT 59526
<i>Latitude/ Longitude</i>	N48.48283° W108.77411°	N48.47454° W108.78374°	N48.20606° W108.319750°	N48.155270° W108.302386°
<i>Legal Description</i>	T32N, R23E, SEC32	T31N, R23E, SEC6	T26N, R25E, SEC8	T29N, R25E, SEC 20
<i>Are Institutional Controls (IC) Needed at Site?</i>	Yes	Yes	Yes-Lead Based Paint Dust exceed cleanup levels	Yes
<i>Are ICs in Place?</i>	Yes	Yes	Yes	Yes
<i>Type of Institutional Control (IC)</i>	<ul style="list-style-type: none"> • Aug 2008-Signage posted • Sept 2009-Tribal Resolution-notification requiring further sampling or soil removal before future use of site 	<ul style="list-style-type: none"> • Aug 2008-Signage posted • Sept 2009-Tribal Resolution-notification requiring further sampling or soil removal before future use of site 	<ul style="list-style-type: none"> • Building locked and signage posted describing environmental concerns. • Final Report provided to Transportation/ Planning. 	<ul style="list-style-type: none"> • Nov 2015–Fencing completed and Signage placed at site.
<i>Summarize Nature of Contamination at Site</i>	DDD, DDE, DDT, - Specific areas of landfill. Sampling in 2006 confirmed site does not warrant cleanup.	DDE, DDT, DEHP, PCB'S	Lead Based Paint dust remains. Asbestos-abated, DPH, EPH (diesel derivatives)-cleaned up.	Arsenic in soils
<i>Site Size in Acres</i>	5 acres	10 acres	<5	<2 acres

(Continued on page 13)

SITE NAME →	Snake Butte Rock Quarry	Old Lodge Pole Elementary School	Old Sacred Heart Church	Old Agency Water Treatment Plant
Type of Site	Rock Quarry Site	Abandoned School	Abandoned Historic Building	Abandoned Water Treatment Facility
What Type of Response Action was Taken?	<ul style="list-style-type: none"> • August 2002-Phase I ESA conducted • Dec 2003-Phase II ESA Report (Brownfields Assessment Project) • June 28, 2016-START Contractor conducted Phase II ESA Sampling. • August 22, 2016- received Draft Phase II ESA – Snake Butte Quarry report for review/ comment. • August 30, 2016- copy provided to Brownfields Environmental Technician & Environmental Compliance Officer. • No additional assessment is recommended. 	<ul style="list-style-type: none"> • July 2019 TBA submitted to EPA Region 8 to conduct ESA. • December 10-14, 2019, Weston Solutions, Inc., EPA Contractors, conduct Phase II ESA. 	<ul style="list-style-type: none"> • July 2019 TBA submitted to EPA Region 8 to conduct ESA. • December 10-14, 2019, Weston Solutions, Inc., EPA Contractors, conduct Phase II ESA. 	<ul style="list-style-type: none"> • July 2019 TBA submitted to EPA Region 8 to conduct ESA. • December 10-14, 2019, Weston Solutions, Inc., EPA Contractors, conduct Phase II ESA.
Date Action is Planned	Spring 2017-Signage & fencing at site.	Fall/Winter FY 2019-2020	Fall/Winter FY 2019-2020	Fall/Winter FY 2019-2020
Name of Owner at Time of Clean-up	Fort Belknap Indian Community	Fort Belknap Indian Community	Fort Belknap Indian Community	Fort Belknap Indian Community
Owner Address, City, State, Zip	Fort Belknap Agency 656 Agency Main St. Harlem, MT 59526	Fort Belknap Agency 656 Agency Main St. Harlem, MT 59526	Fort Belknap Agency 656 Agency Main St. Harlem, MT 59526	Fort Belknap Agency 656 Agency Main St. Harlem, MT 59526
Latitude/ Longitude	N48.23445° W108.50179°	N 48.48428° W108.7722°	N48.4488° W108.65863°	N48.48428° W108.7722°
Legal Description	T31N, R22E, SEC 35	T26N, R25E, Sec 5	T31N, R24E, Sec 18	T32N, R23E, Sec 32
Are Institutional Controls (IC) Needed at Site?	Yes	Yes	Yes	Yes
Are ICs in Place?	No	Yes	Yes	No
Type of Institutional Control (IC)	<ul style="list-style-type: none"> • Signage- Spring #1 (Alternate DW) & Springs #2 & #3 (Toluene Presence). • Fencing-Spring #1 (Spring Box); Springs #2 & #3 (Perimeter); and 2-Tunnels (Remove Access). 	<ul style="list-style-type: none"> • Building is locked up. 	<ul style="list-style-type: none"> • Building boarded up. 	<ul style="list-style-type: none"> • Building is not locked up/ secured.
Summarize Nature of Contamination at Site	Springs #2 & #3 indicate low levels of toluene, but due to no human contact, pathway is incomplete. Spring #1 indicates no exceedances above EPA Regional Screening Level (RSL). No contamination of surface soils or waste rock soil piles.	Lodge Pole Elementary School was built in 1957. ACM - Shop, Residence, North Addition, School Old Section Exterior, School Old Section Interior, School New Section. LBP - Shop Interior, Shop Exterior, School Residence Interior, School Residence Exterior, School Old Section. Lead in Soils – Around Shop and Residences. PCB-Containing Ballasts – School Old Section, School New Section. Mercury Thermostat Switches – Maintenance Garage and School Old Section. Mold – School Old Section. Guano – School Old Section. Petroleum Hydrocarbons & Unknown Chemicals – Several containers in Maintenance Garage.	Sacred Heart Catholic Church was built in 1931. ACM in Boiler Jacket in Basement. LBP on exterior door frame, door jam, window frame. Guano	Agency Water Treatment Plant was built in 1973. ACM in Dry Wall Compound, in ceiling, walls throughout building, seam tape in north addition. PCB-Containing Ballasts Guano > 1 foot in interior throughout building. Petroleum Hydrocarbons & Unknown Chemicals 3-drums diallyl dimethylammonium chloride; 1-drum corrosive liquid coagulant; 1-drum unknown contents, labeled "mixup"; and 1-drum over-packed (inside and outside facility).
Site Size in Acres	<800 acres	8.750 acres	10 acres	314.390 acres

EPA to Overhaul Pollution Standards for Passenger Vehicles and Heavy-Duty Trucks, Paving Way for Zero-Emission Future

EPA Press Office (press@epa.gov) | August 5, 2021

<https://www.epa.gov/newsreleases/epa-overhaul-pollution-standards-passenger-vehicles-and-heavy-duty-trucks-paving-way>

Washington, DC (August 5, 2021) – Today, the Environmental Protection Agency (EPA) is proposing to set robust federal greenhouse gas (GHG) emissions standards for passenger cars and light trucks to secure pollution reductions through Model Year (MY) 2026. The proposal, which revises standards set by the previous administration, also outlines the Agency's plans to initiate a subsequent rulemaking to set standards for MY 2027 and beyond, to speed the transition of the light-duty vehicle fleet toward a zero emissions future. In addition, EPA is announcing plans to update air pollution standards for heavy-duty vehicles.

Today's proposal would get EPA's clean cars program back on track using technology available to make vehicles cleaner and to encourage more hybrid and electric vehicle technology. The proposed 2023-2026 MY light-duty standards would achieve significant GHG and other pollution reductions and related public health and welfare benefits, while providing drivers with lower operating costs resulting from significant fuel savings.

"Today, EPA takes a major step forward in delivering on President Biden's ambitious agenda to address the climate crisis and create good paying, union jobs," said EPA Administrator Michael S. Regan. "These robust standards are underpinned by sound science and technical expertise, encouraging the development of technology and innovation that will drive America forward into a clean energy future. We are excited about building on the partnerships with states, cities, industry, labor, and NGO stakeholders to realize this vision together."

To revise the previous administration's standards, which undercut public health, consumer, and environmental benefits, under its "SAFE" rule in 2020, the proposal would establish more stringent standards for each model year starting in 2023. The proposed standards drive 10 percent greater emissions improvement than the SAFE rule standards for MY 2023 vehicles and then 5 percent greater emissions

improvement each year after. For MY 2026, the proposed standards would be the most robust federal GHG standards in U.S. history.

EPA estimates that this proposal would result in 2.2 billion tons of avoided CO2 emissions through 2050. The cumulative emissions avoided through 2050 are roughly equal to one year's worth of GHG emissions from all petroleum combustion in the U.S. in 2019. Those avoided emissions would provide between \$86 and \$140 billion in net benefits for Americans. The benefits result from reduced impacts from climate change including harm to human health, property damages from increased flood risk, and changes to agricultural productivity. Further, American drivers would save between \$120 to \$250 billion in fuel costs through 2050. With these fuel savings, consumers would benefit from reduced operating costs over the vehicles' lifetimes.

With this action, EPA is responding to President Biden's Executive Order 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis" (January 20, 2021), and is taking a decisive first step in reestablishing the U.S. auto industry as the global leader in clean vehicle technology.

EPA's analysis shows that manufacturers would be able to comply with these stronger standards using technology that is already used in today's vehicles including technologies that improve efficiency of internal combustion vehicles, with modest increases in the numbers of electric vehicles entering the fleet. These standards provide adequate lead time for manufacturers to comply with reasonable costs.

Heavy-Duty Trucks

Separately, EPA is today announcing plans to reduce GHG emissions and other harmful air pollutants from heavy-duty trucks. The agency is working on a series of major rulemakings over the next three years. The

(Continued on page 15)

EPA to Overhaul Pollution Standards for Passenger Vehicles and Heavy-Duty Trucks...

(Continued from page 14)

first rulemaking, to be finalized in 2022, will apply to heavy duty vehicles starting in MY 2027. That action will set new standards for criteria pollutants for the entire sector as well as targeted upgrades to the current "Phase 2" GHG emissions standards for that model year. A second rule would set more robust GHG emission standards for new heavy-duty vehicles sold as soon as MY 2030 and beyond.

"Pollution from trucks has been a long-standing obstacle to advancing environmental justice, as many low-income and minority communities live near highways or in heavily polluted areas with frequent truck congestion and idling," said Administrator Regan. "EPA is committed to walking our talk and delivering tangible benefits to historically underserved and overburdened communities. Setting clear and stringent standards for truck pollution is critical to delivering on this commitment."

Taken together, today's announcements would set the U.S. on a course to achieve aggressive GHG and other harmful pollutant emissions reductions from highway transportation over the long term, paving the way for deploying rapidly developing trends toward zero-emission technologies and the substantial improvements in air quality they will make possible.

For more information on the proposal, please visit: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-revise-existing-national-ghg-emissions>

For more information on the heavy duty trucks announcement, please visit: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/clean-trucks-plan>

One year wrap up MNPS Sweet grass grant

By Colette Werk, Nonpoint Source Pollution Coordinator

There is a lot going on in the world and our own community. Covid-19 has truly taken a toll on how we interact with one another. Our connections have been steered to not be involved and step back from one another. Something good I have personally taken from the pandemic is our connection to the land. How we do things may have changed but they still need to be done. Last fall we planted Sweet grass saplings with the help of the Montana Native Plant Society, small grant program. With some fear, I was worried they would not survive the Little Rocky Mountain winters because of how harsh they can be. I wasn't able to check on them till most of the snow was gone in May but didn't see any vegetation. Some doubt occurred as I thought they didn't survive. I didn't check again till about July and to my surprise I was able to see



Sweet grass plant next to a peppermint plant that was growing beside it.

actual seeds in the tall grass.

Not only did it survive but it was beginning to seed out. The area we planted them in was rather marshy and still wet despite the drought we had throughout the summer. Sweet grass grows the more you bother it so you can't really harm it in any way. It's just a bit hard to identify but as you can see it has a reddish/ purple stem and the seeds look like tiny wheat plant tops. I thought they



wouldn't grow because we didn't clean the ground out as much for them to spread but I guess they wanted to survive. It was quite the feeling seeing the plants grow and thrive for our community. We weren't able to conduct sweet grass braiding class like we wanted because of covid-19 restrictions but hopefully someday we will.



Four Ways To Improve Indoor Air Quality In K-12 Schools

By Danny White | July 8, 2021

<https://facilityexecutive.com/2021/07/four-ways-to-improve-indoor-air-quality-in-k-12-schools/>

Upgrades and modifications to enhance IAQ are critical, and funding from COVID-19 relief bills can help facilities teams make them happen.

One thousand hours. That's how much time most American children spend at school every year — when there isn't a pandemic, that is. COVID-19 closed school buildings for much of 2020 and parts of 2021 to keep kids — as well as educators, administrators, and school facility employees — out of confined indoor spaces where the virus could spread through the air or via close contact.

While COVID-19 shined a light on indoor air quality (IAQ) in schools, it should have been a priority long before the pandemic. Poor IAQ can lead to health problems such as fatigue and headaches; cause or worsen asthma and other respiratory illnesses; and even affect students' ability to learn. Recent academic research found “compelling evidence...of an association of increased student performance with increased ventilation rates,” yet “ventilation rates in classrooms often fall far short of the minimum ventilation rates specified in standards.” An estimated 41% of U.S. school districts need to update or replace heating, ventilation and air conditioning (HVAC) systems in at least half of their schools, amounting to about 36,000 schools across the country.

Improving IAQ in schools should be treated as a priority. It starts with upgrading, modifying or retrofitting critical building systems or features, such as HVAC systems. School facilities teams, therefore, have an important role to play in creating healthier indoor spaces with building improvements that support better IAQ.

But any talk of building improvements raises two questions: How can schools pay for these projects and where do they begin?

FUNDING IAQ UPGRADES

While school budgets are always top of mind, it's also important to realize poor IAQ can end up costing

schools more in the long run by accelerating deterioration and reducing the efficiency of their physical plant and equipment, leading to expensive repairs. HVAC systems are also among the largest energy users in schools, and system improvements could cut the \$6 billion that public schools spend on energy annually by up to 25% — a potential savings of \$1.5 billion.

Total costs for improvements will vary, but are unlikely to drain a school's budget, even if multiple HVAC systems need to be replaced. Academic research found the net annual costs of increasing ventilation rates in U.S. public schools is “less than 0.1% of typical public spending on elementary and secondary education in the United States.” In schools with relatively modern infrastructure, Honeywell estimates that the cost of improving IAQ is just \$11 to \$15 per student.

In addition, schools have an opportunity right now to partially, or even fully, pay for building upgrades by capitalizing on available government funding. In 2020 and 2021, Congress passed three stimulus bills that provided close to \$190.5 billion to the Elementary and Secondary Emergency Education Relief (ESSER) Fund. The ESSER fact sheet specifies that this funding can be used to improve the indoor air quality in K-12 school facilities, as well as repair and improve school facilities to reduce risk of virus transmission and exposure to environmental health hazards.

The funding from the three bills is available to State Education Agencies (SEAs) through September 2023. The application process varies by state, but usually requires a LEA (Local Education Agency) to submit a budget for approval to their SEA. The last chance to receive any funding from the first bill is approaching in September 2021, which means the time to apply is now.

As facility teams work together with school administrators, LEAs and SEAs to recommend the best improvements for their individual buildings, they should

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Four Ways To Improve Indoor Air Quality In K-12 Schools

(Continued from page 16)

take into consideration four best practices that support better IAQ.

1. Improve Ventilation

Effective ventilation requires both bringing in oxygenated air from outdoors and removing stale indoor air. To adjust ventilation within school buildings:

- Avoid shutting down HVAC systems. Purge building air by extending the operating times of HVAC systems to run before the earliest staff arrive for the day and after the last occupants have left for the night.
- When possible, increase the number of air exchanges per hour to provide fresh air to closed spaces. This can be achieved through natural or mechanical ventilation.
- Fresh air intake should also be increased to 100% or the maximum amount possible.

Recent research from the Centers for Disease Control and Prevention found the incidence of COVID-19 was 39% lower in schools that improved ventilation by opening windows, opening doors or using fans, or those tactics in combination with air filtration methods.

2. Filter and Clean the Air

Air filtration and cleaning technologies capture contaminants that can linger in the air. Electronic air cleaners (EACs) — which use an electric charge to help remove solid and liquid impurities from the air without impeding air flow — with UV systems can be installed inside a commercial HVAC system as a retrofit without causing a pressure drop, so facility managers do not need to remove old equipment and install a new system entirely.

Additionally, new research shows mobile HEPA air purifiers can help reduce airborne contaminants by capturing 97% of particles as small as 0.3 microns and even smaller. Placing these purifiers in a school's most highly trafficked areas would be especially effective for reducing contaminants.

3. Measure IAQ with Sensors

Pollutants, temperature, and relative humidity of in-

door air also affect students. Researchers found higher air temperatures resulted in lower grades on tests that evaluated students' reading and math skills. High humidity can promote bacteria and mold growth as well as conditions for dust mites, which exacerbate respiratory conditions and allergies, while low humidity can cause dry, itchy skin and upper respiratory irritations. Relative humidity is an important factor in maintaining optimal air quality and comfort, and IAQ sensors can provide a real-time understanding of this as occupancy increases.

IAQ sensors that determine a building's environmental state and air quality status offer an effective, automated solution to monitor the presence of a range of pollutants as well as humidity and temperature. Integrating these sensors into an HVAC system allows the system to detect contaminants and then automatically clean the air and adjust ventilation as needed.

4. Pair Building Management with Analytics

Centralized monitoring and control via dashboards make management of a school simpler and more user friendly while supporting IAQ. Analytics systems can be integrated into a Building Management System (BMS), allowing teams to monitor humidity, ventilation, temperature, pressure and pollutant levels through real-time data on dashboards. Facility managers can run reports to analyze historical data and spot trends.

A BMS also can be used to maximize energy efficiency by load-balancing heating or air conditioning based on occupancy levels of certain rooms or spaces (e.g., a sports facility that is only used certain days of the week or times of day), which can lower overall energy costs.

BETTER IAQ MEANS HEALTHIER SCHOOLS

While there isn't one single solution for better-quality IAQ, a number of technologies are available, and the newly available federal funding makes them accessible for schools, no matter the budget. U.S. schools should treat this point in time as an opportunity to improve the quality of the air that students and school employees breathe every day and build healthier environments that enhance the academic experience.

The West Nile Virus is here to stay!

Authors: Dan Kinsey, Dr. Elizabeth McClain, and the many ANC student researchers that have worked on the project over the years



What role has Aaniiih Nakoda College played in our understanding of this emerging disease and what are your frequently asked questions.

What can I do to protect myself and family from getting the West Nile Virus? The 4 D's will help.

1. **DAWN AND DUSK:** avoid spending time outside at dawn and dusk when mosquitoes are most active and the female *Culex tarsalis* (our common mosquitoes to carry the virus in this area) is actively searching for a blood meal.
2. **DRESS:** cover yourself and children with light colored garments that keep mosquitoes away from the skin.
3. **DRAIN:** remove any standing water where you live as mosquitoes can lay their eggs in it and start another life cycle. For example an old flowerpot or tire that is close to the house that contains even a bit of water.
4. **DEET:** to ensure protection from mosquitoes use DEET which is off the shelf and comes in different concentrations. Other natural insect repellents are various herbs, garlic, mint, cloves, and horse mint to mention a few; and plants like citronella, lemon balm, marigolds, lavender, peppermint, rosemary, geraniums. (see Cheryl Morales for additional traditional plants used for mosquito repellent.)

What symptoms might you experience if you get infected with the West Nile Virus?

Most of us here probably have been infected and experience no symptoms. Some people get a fever, headache, body aches, and a skin rash or lymph glands become swollen. Severe symptoms may occur though after a week or two of being infected, such as high fever, neck stiffness, stupor, coma, tremors, muscle weakness in a few people leading to hospitalization.

Is there a human vaccine for the West Nile Virus?

No

Is there a vaccine for horses if they get infected with West Nile Virus?

Yes

Can you get West Nile Virus from an infected horse?

No

Can you get West Nile Virus from a person that is infected?

No (but see CDC for organ transplant information).

What is the West Nile Virus?

It is a virus that is found in different countries around the globe, an old disease but new to America. First discovered in our country in 1999 in New York when birds, like the common crow, were found dead and in subsequent days two people became infected and very ill. The microbiologists tell us that the virus is an Arbovirus in the family Flaviviridae, with a spherical enveloped capsid that contains a single stranded RNA.

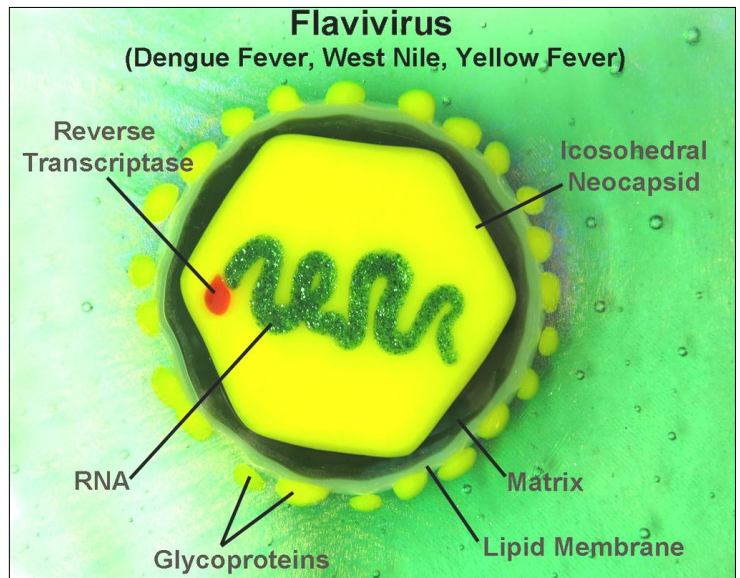


Figure 1. Diagram of Flaviviridae (virus family for West Nile Virus) at approximately 64,000x magnification.

You and I will never see it in our lifetime but most of us living along the Hi-Line in this part of Montana will have experienced it first hand! When a mosquito carrying the virus bites us, we then become infected. Normally our own immune system takes care of the

(Continued on page 19)

The West Nile Virus is here to stay!

(Continued from page 18)

West Nile Virus with very little effect on us. We then become immune and suffer no consequences if bitten again at some later date. The immunity will last our lifetime. However, in a very few cases where the person develops severe symptoms this can lead to death.

What type of mosquito carries the West Nile virus and how does it become infected?

There are over 43 kinds of mosquitoes (out of the 2,300 or so known species) that carry the virus, however the virus doesn't seem to replicate in large amounts in many of them so they do not cause the disease in us. There are over 100 kinds of birds that can harbor the virus in their blood. Many mammals, like horses, dogs, cats, and deer are known to be infected, but show few symptoms of the disease. For the State of Montana, and especially in Blaine County there is one mosquito in particular that can transmit the virus to us, birds, horses, or game animals. It is *Culex tarsalis*, a common species that is often associated with feeding on different birds but will also feed on cattle, humans and white-tailed deer in our area.

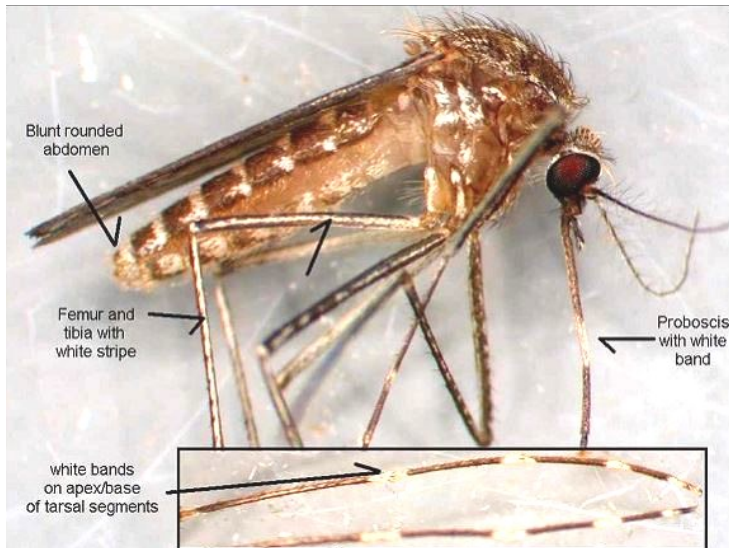
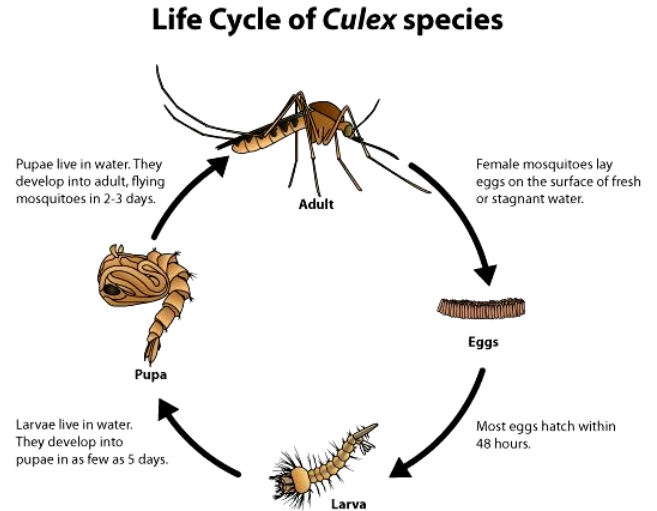


Figure 2. Picture of *Culex tarsalis*, the mosquito that is most likely to carry WNV in MT

In Montana *Culex tarsalis* inhabits areas where irrigated agriculture and the prairie lands where there is irrigation water, small streams, prairie potholes, old tires anything that can hold a bit of water is a place to start a new generation of mosquito. For example, mosquitos can easily breed around any water in Blaine County, on or off Fort Belknap as we all know.

Figure 3. Shows the life cycle of *Culex tarsalis* and indicates the various stages in the development of the mosquito. It is important to know that it is only the female mosquito that seeks out a blood meal. This is necessary for the eggs to mature (a protein source) before she lays them in the water. The males feed on nectar found in the plant sources where they live and do not seek a blood meal.

Figure 3: *Culex tarsalis* life cycle



(Continued on page 20)

The West Nile Virus is here to stay!

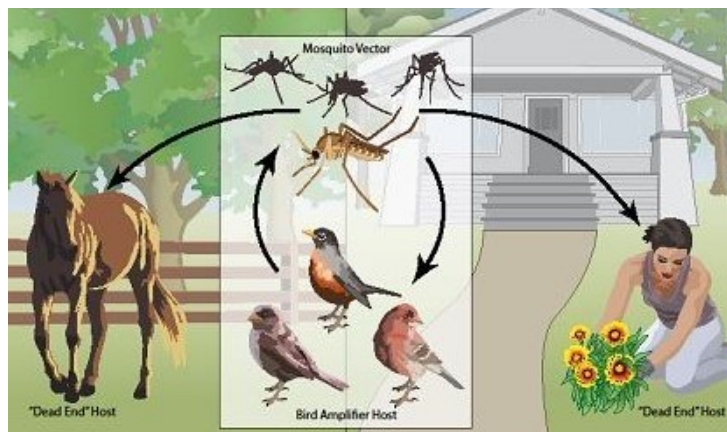
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What is the transmission cycle for the West Nile Virus in *Culex tarsalis*?

For us here in Montana, more importantly in Blaine County, and on and off the Fort Belknap reservation there is a cycle between the *Culex tarsalis* mosquito feeding on birds (often associated with migrating birds, but others too like Robins) that develop high levels of the virus in their blood. The female mosquito then bites these infected birds

The virus multiplies in the mosquito's gut and ends up in the salivary glands. When the mosquito bites you the salivary glands inject the virus particles into your own your own blood and the war is on!

Figure 4. West Nile Virus Transmission Cycle



In nature, West Nile virus cycles between mosquitoes (especially *Culex* species) and birds. Some infected birds, can develop high levels of the virus in their bloodstream and mosquitoes can become infected by biting these infected birds. After about a week, infected mosquitoes can pass the virus to more birds when they bite.

Mosquitoes with West Nile virus also bite and infect people, horses and other mammals. However, humans, horses and other mammals are 'dead end' hosts. This means that they do not develop high levels of virus in their bloodstream, and cannot pass the virus on to other biting mosquitoes.

Note that the mosquito bites a bird infected with the virus and if lots of birds are around will bite another one before laying eggs. But if birds aren't in the neighborhood the mosquito can bite a horse or you to seek that blood meal.

What is the role of Aaniiih Nakoda College has played n our understanding of West Nile Virus for our community?

The West Nile virus and its link to mosquitoes is during the summer months when they are active. As West Nile moved from the east coast towards us, research conducted by Dr. Greg Johnson, entomology department Montana State University in Bozeman, determined that West Nile Virus followed the river drainages (flyways for birds) of the Missouri, Yellowstone and the Milk Rivers. Transmission of the disease was found to be during the months of end of June, July, August and early September. We started working with Dr. Johnson in 2002. This began a long collaboration with Greg. Further networking and collaboration with Dr. Grant Hokit of Carroll College and his research in developing a model to be used, as a predictive tool for outbreaks of West Nile Virus, has been ongoing to this day. The research data we gather has helped in our understanding of this emerging disease. For several years, ANC Allied Health and Environmental Science students traveled to Bozeman to learn how to identify the mosquitoes in our area. They also traveled to Carroll College to Grant's laboratory and learn how to test for the virus in *Culex tarsalis*. No mean feat as this is high technology under the name of PCR (polymerase chain reaction) that amplifies the virus so it can be identified. **The first positive *Culex tarsalis* pool identified in the state of Montana, confirmed in the laboratory in Helena for this emerging disease was collected at our research site by our own Kristy Crazy, working as an intern while finishing up her Allied Health degree.**



Figure 5. Mosquito Trap

(Continued on page 21)

The West Nile Virus is here to stay!

(Continued from page 20)

For over 15 years, ANC students have trapped mosquitoes, identified them, and run samples for PCR confirmation. Positive mosquito samples have been detected for West Nile Virus every year except for last year. This year, positive mosquito samples collected near the ANC campus were trapped on August 10. For Montana since 2014-2020 there have been 84 human cases and only 3 deaths. This is a disease in which each death in America has to be reported to the Center for Disease Control (CDC). The information goes into a data bank that is shared by other nations around the globe. There are many counties in Montana that have mosquito trapping programs like ours. All data is collated from Montana and sent to the CDC. So Aaniiih Nakoda College plays a role in surveillance of the emerging West Nile Virus story for not only America but also the world. The Fort Belknap Community should be proud that our local knowledge about West Nile Virus (WNV) gained from the Aaniiih Nakoda College research program that helps predict our season for us being bitten by a *Culex tarsalis* mosquito and getting the West Nile Virus and also has a much broader impact.

The metal sculpture in the picture below is a perfect representation of *Culex tarsalis*, the mosquito responsible for transmitting West Nile Virus in Montana. It is a tribute to the ongoing West Nile Virus research program at Aaniiih Nakoda College.



Figure 6. Photo of *Culex tarsalis* metal sculpture



Summary of swift fox activities on Fort Belknap Indian Reservation

By Dana Nelson <dnelso2@clemson.edu | as of 9/2021

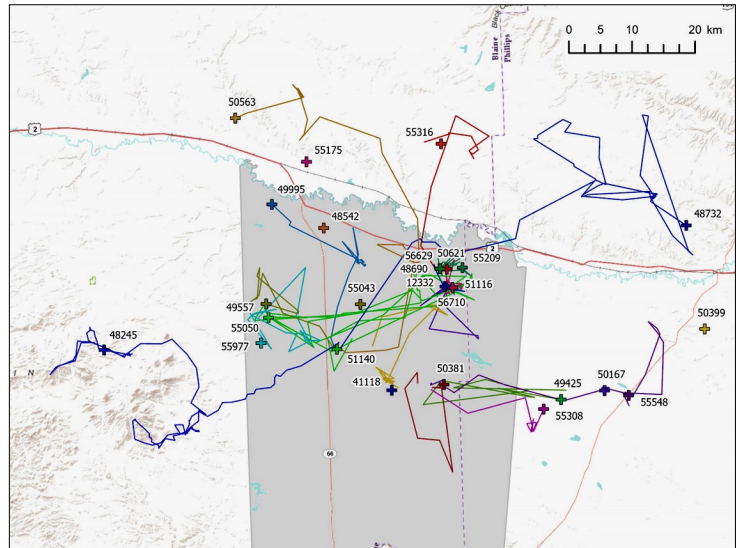
After extensive background research on reintroduction feasibility and consultation with numerous partners, the translocation of swift foxes to the Fort Belknap Indian Reservation began in September 2020. The translocation process entails trapping up to 50 foxes in healthy source populations from one of three states (WY, CO, or KS) each August-September. After foxes receive health checks by their source population's state wildlife veterinary staff, they are transported and released into suitable habitat on Fort Belknap. The Fort Belknap Fish and Wildlife Department, in partnership with the Smithsonian Conservation Biology Institute, have completed the first year of the 5-year project, and results through Fall 2021 are reported here.

In 2020, complications induced by the pandemic cut trapping efforts short, but a total of 27 foxes (12F:15M) were still able to be translocated from Wyoming to Fort Belknap. These foxes were released into two main areas: the Peoples Creek flats and on prairie dog colonies near Lake Seventeen. Because the foxes are fitted with GPS collars that transmit locations through the cellular network, their movements can be monitored. There were issues with cell service coverage and connectivity with the first batch of GPS collars, but their locations along with observations from the community indicated that foxes reproduced within the first year of reintroduction. Remote cameras at one den site confirmed that 4 pups were present.



An image from a remote camera that confirmed successful reproduction near the Lake Seventeen release area in June 2021.

In August 2021, 30 foxes (15F:15M) were translocated from southeastern Colorado. These foxes were released in three different areas: the Peoples Creek flats again, near Strike Reservoir, and off of Wild Horse Road. Of these 30 foxes, 27 of their collars have already provided GPS location data showing their movements from release sites.



Fox movements as of September 12, 2021. In their second week since release, the maximum straight-line distance away from release pens is approximately 60 kilometers (37 miles).

In September 2021, the Wyoming Game and Fish Department allowed for more foxes to be translocated to make up for the shortened 2020 effort. Fortunately, 18 more individuals were trapped and deemed suitable for translocation to Fort Belknap. These foxes will be released before the end of the month, and their movements and survival will be closely monitored.

In addition to GPS collar data, the nascent swift fox population will be monitored through a large-scale camera trapping and scat collection survey from October-December. The genetic data from scats will provide estimates of population size, as well as details on their diet, stress, and nutrition levels. Den searches will resume in spring of 2022, and results will continue to be shared through community social media pages and through Department reports.



Montana at high risk as feral swine population continues to grow

By Elijah Collins | June 30, 2021

https://www.kulr8.com/regional/montana-at-high-risk-as-feral-swine-population-continues-to-grow/article_5924ea1e-27c7-5fd0-8c81-9cee00892c6e.html

GREAT FALLS, Mont. - The Montana Department of Livestock called for an alert Wednesday as the feral swine population continues to grow now bringing a high risk to Montana.

Thankfully, the state isn't seeing much activity right now but due to the increase in sightings in surrounding areas the Department of Livestock is taking a safe approach and asking everyone to be aware.

While the country records over six million feral swine, Montana is seeing an uptick along the high-line.

Canadian officials are reporting expanded ranges of these swine just north of the border, which is why Montana is urging people to be on the lookout.

Feral swine carry diseases that can negatively impact livestock, people, and wildlife, which is why the MDOL is telling people to watch out for specific signs.

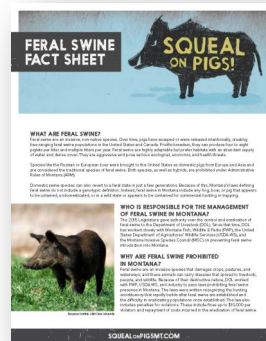
"They can really tear up a lawn, a golf course, a pasture; you know a crop land or whatever it might be. They will make wallows or nest-like structures near waterways, or you might see footprints that don't match up with any of our other expected wildlife species. You might see their soft tracks in soft soil around water or wherever it may be," said Dr. Tahnee Szymanski, assistant state veterinarian.

According to state law, feral swine includes any hog, boar, or pig that appears to be untamed or in a wild state.

Although it is legal for private landowners to kill swine on their property Dr. Szymanski says the best thing to do is call for help.

"Even if you were successful or eradicating those animals you would scatter the rest of that group or if you didn't get them all you would scatter them. Once pigs have had hunting pressure put on them they can move pretty tremendous distances, that's why we consider people calling first before using that legal option to shoot pigs."

Right now there are no confirmed sightings in Montana but the MDOL is asking people to call and report any suspicious sightings at (406)-444-2976.

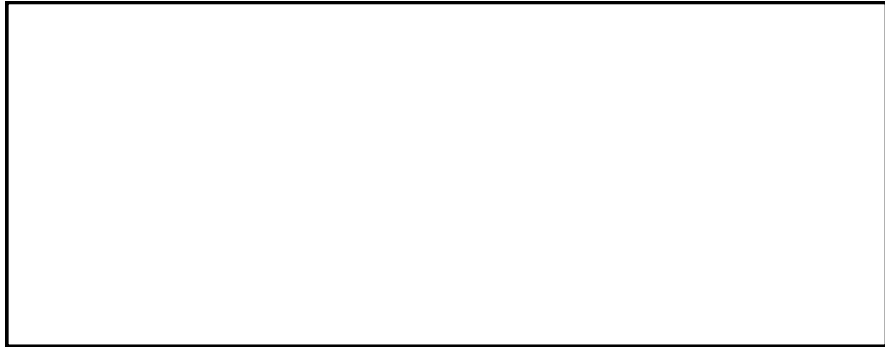


For more information, check out the Feral Swine Fact Sheet at

https://invasivespecies.mt.gov/docs/invasivespecies/documents/SquealOnPigsFactSheet_508.pdf

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