

Wild Pig Symposium

20 June 2019, University of Saskatchewan Campus
Organizer: Dr. Ryan Brook

Executive Summary

A Wild Pig Symposium had over 80 in-person participants, from Quebec to Montana, and at least another 40 people participating (listening in) online. Participants' interest ranged from sport hunters, wildlife federations to Agriculture Canada, Canadian Food and Inspection Agency, Environment and Pork Producers. There was a broad agenda that covered basic background and origin of the animals, the extent of the animal's range, research on the animals, the issues of problems from physical damage to flora and fauna to disease.

Wild Pigs is the recommended term used to describe the animals as they mostly are a combination of true Eurasian Wild Boar and domestic swine. This 'hybrid' has turned into a 'super pig' that exhibits a bigger body than the typical 'pure wild boar', an extra rib, produces larger litters and appears to adapt to the northern climate. The heaviest sow captured by the UofS Research Team was 638#, but sows weighing 400# are not uncommon. Wild pigs are prolific breeders, typical litter size is 5.5 piglets, but can range from 1-14 piglets. Typically, the larger the sow the bigger the litter. Females obtain sexual maturity in 4-8 months, 115-day gestation, typically 2 litters per year. Juvenile pigs typically exhibit a lateral stripe. Animals can range in colour from pink to black. The more pressure that is put on wild pigs the more their population increases. Wild pigs are extremely intelligent and are difficult to hunt and almost impossible to eradicate. Wild pigs can jump over 1.5 m (5') or bury under a fence.

Sport hunting is NOT an effective method to eradicate wild pigs, in fact, areas that are serious about eradication have banned sport hunting because it causes the population to disperse, form smaller groups, go nocturnal as a survival response. The net effect is that sport hunting will cause the population to increase. However, some areas where wild pigs are prevalent have decided to not eradicate the animals, but to turn hunting into an economic generator. For example, France uses hunting and as many as 1 million animals have been killed in a single year.

The overwhelming consensus of the group was that wild pigs are an invasive species that pose significant risk to the territory they occupy and should be eradicated. The longer Canada waits to start the eradication process the more damage will occur and the more it will cost to eradicate the animals. It will be an expensive and likely socially unacceptable process to attempt to eradicate wild pigs in Saskatchewan and Canada. If neighbouring provinces and states do not participate in the eradication and if game farms and domestic breeders are not regulated, then the eradication will almost certainly fail.

Robert Schultz,
Wildlife Advisory Committee Member
Saskatchewan Black Powder Association

Wild Boar

Thursday, June 21, 2018

9:00 AM

Background:

- Funding
 - USDA funding ~96% of the research
 - FWDF
 - Moose Mountain Eradication Team
 - SARM
 - NSERC
 - SWF

Need to understand the ecology and biology, then population control or even eradication (not likely)
No clue of how many wild pigs in Canada

Domestic Wild Boar in Canada

- Source:
 - On meat and penned shoot farms
- Starts in 1980's--diversification of agriculture
- Western Canadian Wild Boar Association--was active, Box 1454 Saskatoon, S7K 3P7
- International market never took off (not enough volume/production), local market is OK
- Lots of the original animals came from Russia, Poland, no clear indication of origin
- Origin of the Wild Boar is Eurasia
- 92 producers in Canada by early 1990's
- # farms peaked in 2001, boars peaked (on farms) in 1995, under 200 farms in 2011, Stat Can doesn't record the number of wild boar farms in Canada now.
- Thought was the pigs would never survive in northern Canada--but some came from Siberia
- France has killed over 1M hogs in 1 year (recently)
- Last few decades the population has exploded
- Sask had the most farms, up to 150 in 2001, and quickly declined
- NE had the most farms and now the major area for populations
- 6 farms in Yukon, last year 6 pigs got out but were recaptured
- Pig Tract program in 2015--required a tattoo or ear tags--not really working--could be an opportunity
- Can still buy piglets--Kijiji 4 for \$100 from Manitoba
- Some penned shoot farms--these farms leak a lot of animals

Escapes and Releases

- Don't know where all the farms are
- No real regulations in starting a farm
- Alberta set some strong standards
- Sask is looking at new regulations
- MB isn't offering permits
- Federal regulations--don't need a to tag animals on a farm--only for transportation,
- Would be a good idea to tag every animal
- ~15 farms in Saskatchewan now, handful in MB

What is a wild pig?

- Anything running outside a fence
- Not just Eurasian, lots of hybrids
 - a. Eurasian Wild Boar
 - b. Feral Domestic Pigs (not a lot, but some)
 - c. Hybrids of Wild Boar and Domestic Pig (most animals today are a hybrid) because bigger animals (extra rib), bigger litters
 - d. Pot-bellied Pigs--major invasive in Spain and Minnesota

All as *Sus Scrofa*

Important implication to avoid term "Wild Boar" use "Free Ranging SUID", "wild pig", or "feral swine". Wild boar is a specific species and will conflate the issue.

Research: Collecting ears and creating genetics

Hybrids are turning into super pigs, bigger animals have a better survival rate

Lots of big animals in Saskatchewan, 400 # isn't uncommon, biggest the UofS team captured was 638#

Haven't had a lot of issues with attacks, but don't touch or approach a juvenile as the sow and all the siblings are highly protective.

Huge range in colours, from pink to black

Sounder Group

- Family group
- Males wander on their own unless following females
- Biggest is probably the lead,
- Groups of 4-15
- Young have horizontal light coloured stripes

Fundamental challenge is to find them, find cattail marshes but they burry under

Best way to find pigs is to follow one. The research teams will capture and GPS collar an animal and then release it and track it to the sounder group.

Huge travel patterns, massive home ranges, don't know why such a big range, maybe low populations, feed timing (follow the food source)

- Adult male up to 301 km²
- Female 232 km²

Learn from other countries, but every country (habitat) is different

Risks and Impacts

Rip up the ground, will take down adult deer, not uncommon to take fawns and other young animals. A sounder group will come into a marsh and flush out birds and then eat all of their eggs; becoming a serious issue for migratory birds. One of the ways to elevate the issue is with the damage wild pigs cause to species at risk, e.g., burrowing owls.

Cause huge damage to hay bales. As much of this damage occurs at night farmers don't see the pigs and may incorrectly blame deer and elk. More on crop insurance claims later.

Swath grazing, bale grazing, grain bags, love canola and corn.

38 GPS collard pigs in the province as we speak.

Ruth Aschim (PhD candidate) --3 years of data collection ending in 2017

- Snowball Stakeholder Sampling--300 participants (wildlife events, booths, presentations, etc.), network with other contacts, lots of photos
- Expert Interviews--wildlife officers, 260 interviews, at least one person from each WMZ
- Rural Telephone Survey--completed 3000 calls
- Alberta Bounty: 272 locations received (2003-2016), \$50 for a set of ears, needed location and date of kill
- Population and range really started to expand exponentially around 2010
- No bad habitat for wild pig
- Pigs can jump 1.5m, will bury under a fence
- 50 operating boar farms, 100 historical farms
- 45% of the farms have had known escapes or releases
- Estimate damage in the USA is \$1.5B, some states are indicating that eradication is not possible, possibly control
- Quebec has ~50 registered farms
- USA--probably 80% of the range expansion due to illegal hunting and transportation

Wild Pig and Domestic Livestock Spatial Overlap

- Almost 100% overlap in domestic pig and cattle and wild pig
- Concerns
 - Direct and indirect disease transmission
 - Contamination of food & water
 - Predate young farm animals
 - Mate with domestic pigs
 - Competition for food and water
 - Beef cattle highest economic loss
- Wild pigs are reservoirs, maintenance hosts and vectors of numerous diseases, viruses and parasite, this is probably the only mechanism that can be used to elevate the importance of eradication of the species.

Bacterial to cattle, sheep, goats, equine

Parasitic--humans

Viral to cattle and goats

Pathogens to cattle

Disease transmission to wildlife...unknown

Diseases of Concern of the Wild Pig- John Harding/Egan Brockhoff

- Big implications for pork producers
- Search on research found 47 papers in 2019
- Wild pigs have potential to be infected with and transmit any swine pathogen. Potential reservoirs of disease
- Disease prevalence/presence of pathogens in the wild pig is likely dependent on pop density, home range & exposure to domestic swine premise
- Small scale, backyard is most relevant
- Wild pigs pose a broad risk to multiple stakeholders
- Should we consider an eradication strategy
- Should we be fearful of initiating a surveillance of wild populations

Pig-trace--register movement and 6500 backyard--for every commercial operation there is a back-yard operation

- Domestic producer, registered, backyard is anyone not registered or a small. Typically, rural. Trend to allow livestock in urban centres. Calgary allows 'comfort' chickens, likely to be 'comfort' pigs
- Pigs are susceptible to bovine encephalitic, pigs are not known to have the disease, pigs typically don't live long enough to carry the disease. Standard hog production slaughter is after a year to 2 years.
 - However, wild pigs can live 20+ years, typically live 10-15 years
- Has been a study CWD oral and trans-cranial transfer to pigs, would imply pigs could carry or reservoir CWD
- Really only one paper to date, last year SK killed 41 pigs and have not receive results yet--CFIA is doing the tests. Surveillance makes sense if we are prepared to take action
- Trade implications are huge in testing...therefore don't test and you won't find anything

Corey Kramer

- Habitat selection
- Patterns of crops plays a huge role, pigs love corn (but most of the kills show canola in their guts). [I think they like corn grazing due to the cover provided. The Moose Mountain eradication team--of the 1,038 pigs killed, only 8 had corn in their guts.]
- Collared 2015-2019
- 38 pigs in MB & SK now.
- 40,000 GPS locations in SK
- Typically send signal every 3 hours (4 hrs for the pigs in MB, not sure why the different time scale, causing some issues for analysis)
 - Collars die
 - Shot pigs
 - Slipped collars, pigs heads are smaller than their neck.
- In broadleaf cover 56%, shrubland 9%, wetland 7.7%, canola 7%, spring wheat 5.6%, pasture 3.3%, grassland 0.4%
- Habitat--17 times more likely to seek corn.

Canola & spring wheat (13%)

Crops near broadleaf forest (provides cover)

LUNCH

Ticks on Pigs, over 1,000 ticks off 3 pigs, concentrated in and behind the ear
Hunters have been very cooperative in providing samples

Reproductive ecology of Wild Pigs (Bailey)

- Non-seasonal breeders
- Large litter sizes 1-14, avg 5.5
- Young age to sexual maturity - 4-8 months
- Polyestrous, every 21 days
- Short 115-day gestation, typically 2 litters per year
- Avg pregnant sow 74kg, the larger the sow the bigger the litter
- Characteristic juvenile stripe
- Single litter will have a mix, some looking very much domestic, and some very wild boar looking
- St Brieux area is heavily infested

Lethal Management

- Precede parturition (Jan/Feb & May/June), i.e., kill the pigs before they give birth. Every pig that escapes cause

Baiting similar to bear baiting

Mature males dominate their territory, may not 'mark', kill lots of less dominate males

Wolves are about the only natural predator

Sow is very protective, all animals will come to rescue

Beet mixture (deer) for wild pigs, almost anything should work

Stripe on juvenile likely for camouflage

Attitudes of rural Canadians toward Wild Pigs

- Support or barrier?
- Seems to be a high concern about wild pigs
- Should they be eradicated? 52% say yes in SK, but not a lot of support across Canada
- Some hunters are supportive of a hunting opportunity--don't want eradication
 - Worst case scenario is hunting and only taking out a portion of a Sound
 - Sport hunting can take 8-24% of the population, need to take out 75% to control
 - Sport Hunting will actually increase the wild pig population.
- Is eradication possible
- Under current regulations and process the eradication probability is zero
- Big undertaking, but control is possible, need a large coordinated effort, funding
- Low hanging fruit
 - Atlantic Canada is wild pig free--keep it that way
 - Keep the 3 territories wild pig free--keep it that way
 - Eradicate in Quebec (small problem today)
 - Eradicate in BC & Ontario (small problem today)
 - Get domestic wild boar farms under control
 - Need to get on the issue the faster, with Population control on the prairies
- Need a pig sighting hotline, see a wild pig then bring in the experts to eradicate

Majority of the pigs in the 3 prairie provinces

Waiting another year will increase the cost to eradicate

Window of eradication is closing

Population reduction is feasible

- Wild Pigs are elusive, widespread, often nocturnal, extremely smart, highly reproductive, large, diverse diet, generalist from Mexico to 58.5N
- No international or national plan,
- Alberta has a plan, but unsure if they are putting feet to the ground
- Manitoba had a great start, but stopped
- Sport hunting--key barrier to control/eradication
 - **In fact, if we are serious about eradication we will NOT allow sport hunting.**
- No monitoring of wild pig health/disease
- To stabilize a population need 66-90% reduction per year

There is no magic solution

Sterilization--anything that doesn't kill pigs is a distraction--or can become political distraction

- Possibly sterilize the dominant boar--vasectomy is different, difficult to find the single boars
- For every collared pig they found 9
- When the boar stops moving go out immediately and take out the sound
- Ear tag all domestic (fenced) animals to know origin
- Eradication won't work if the tap isn't turned off
- Alberta has a plan for eradication, but probably not big enough scale yet
- National rep talking to support and plan an national eradication program, but eradication would be at the provincial level.
- Similar national approach to CWD, but hasn't been implemented

Who's responsible--Agriculture or Environment--slips between, very highly improbably to eradicate

Aim for eradication, hope for significant population control

There is no one tool to eradicate or population control--need strong leadership--industry needs to step up and put pressure on government. Pork Producers are starting this, think cattle farmers are too Canadian Pork Agency has stated that wild pigs need to be eradicated

Fencing and bounties are political tools to show action, but not effective. Large scale fencing isn't feasible.

Biosecurity issue

Bait sites are a concentration point for multiple species (pigs, deer & elk)

Salt blocks--pigs go for sale

USA invested a lot into a nitrate-based poison, warfarin, trick is to be species specific,

Some USA smart feeders that block out bears and open up for pigs

Diversions feeding doesn't work well

Crushed beets and salt

Use Reconyx camera, about \$500, definitely worth the money

Break

Can effectively shoot out of a helicopter. Groups in the US have recorded 2000 animals per day. UofS shoots a net gun

Spotter plane is critical along with a chopper

Bob-Moose Mountain Eradication Team experience

- Jerry Swanson, one of the best fixed wing pilots
- Started 20 years ago
- Committed to eradication
- Started with 14 pigs that 'fell' out of a trailer

- Were swath grazing cattle, pigs moved the cattle off the feed, lost 6+ cows
- Never saw the pigs, all pigs had ear tags
- Over 3 months they got 10, 4 left, took refuge in the park
- Over the next summer did some lobbying to get access to the park to eradicate the animals (difficult)
- That fall they saw 16 (MULTIPLY BY FACTOR OF 4)
- SERM was going to trap, hired the individual that lost the pigs to manage the trap
- Mature pigs came within 60 m, got most of the juveniles
- Thought there were about 6 left
- Next fall figure they had about 30 (multiply by 4 each year)
- Were told the best they could do is control, never eradicate
- Started hunting. Not hard to find the sign in the snow, snowmobiles, hunting. First year 20, second year 44
- Population in excess of 150. Their hunting tactics were pushing the pigs farther into the park, dispersing, sounding groups were getting smaller, populating faster than killing
- Occasionally come across a group in the nest. 14 on a hill, steam coming out of the nest. 5 hunters. Set up correctly and got all 14. Became the Moose Mountain strategy. Only attack in nest, know how many in the nest and set up to get them all
- Got a local pilot. One cell had 27. Had to get all animals
- Need someone with commitment to go every day it was fit to fly
- Need to know # pigs, had to get different guns, needed the right terrain
- Imperative to get them all--would leave the sound alone (not disturb it) if they couldn't get them all
- Don't know if we are beyond the point of eradication because we haven't tried
- This group rose to the challenge. On one group of pigs they flew on them 11 times.
- Need the attitude that you aren't going to stop until you get them.
- Need to know the area extremely well
- SWF was extremely helpful, fund raised, lobbied government, SWF, gained support of 6 surrounding RM's, then Environment and Parks
- Team effort--second to none
- Need someone to take leadership--pork industry to drive the eradication process
- Dedicated 1000's of man hours, committed to eradication
- 100's of hunts
- Convinced that eradication is possible, but the window is closing
- Going to be a huge cost to eradicate, but what is the cost if we do nothing?
- Silverwood RM (had a wild pig producer), will pay whatever it takes to eradicate.
- Not a problem until you see it.
- What made government respond--outcome to Agriculture, photos of the damage, estimates from the US of their cost,
- Minister of AG asked if Bob was a pork producer
- Local Wawota SWF raised \$1000's and was a big supporter of eradication around the Moose Mountain area

Darby, Sask Crop Insurance

- Problem will not go away
- Sport Hunting will not solve the problem
- Using panel traps
- Very unpredictable
- Very cold weather they hunker down, may not leave for a week
- Pigs can metabolize Sodium Nitrate (used for bacon), no conflict with bear, need a food carrier
- 3 hunt teams in Sask
- Don't put a lot of effort into a single boar, but go after the sounds
- Not getting much for claims (4-5 per year)
- Access to property is an issue. First Nations--left the meat for them, same with the farmers--helping with access
- 3000 wildlife claims for \$21M, 4 pigs claims for \$19,000
- Society needs to understand the risk,
- Were offered \$100k, but need the people to man

AFS has raised the profile of wild pigs
-interested at the disease interface

Economic evaluation---cost of eradication now or later? Doesn't appear to have been done
Minister attention--no significant # claims through crop insurance, is there a \$ value? Isn't it better to do it now rather than when it is a huge claim amount.

Need a coordinated effort

There is an eradication for rats and we don't see rats, there is for leafy spurge, treat as an invasive species

Need to continue the research (Ruth population study), still need population and density

Maybe we can do regional eradication (like Moose Mountain), grass roots

Current funding is typically better tied to species of risk, not necessarily habitat

Montana: couldn't get legislation to listen. \$6M investment to save \$250M. Need the grass roots movement to mobilize government

California has turned them into a hunting opportunity—not planning to eradicate. If California doesn't buy into eradication, then the neighbouring states will have a persistent wild pig population issue.

Meeting back in 2013 to establish a national swine strategy. Eradication was recommended (I think), but nothing has really happened since this time. Pessimistic that even after this symposium that nothing will happen to cause an organized and wholistic eradication program in Canada or North America.