BENTON COUNTY, OREGON

Agriculture and Wildlife Protection Program

2021 Annual Report

"Happy Hens": *Chickens are one of the main livestock species protected by AWPP grants. To date, more than 3,000 chickens in Benton County have been protected with non-lethal deterrent methods supported by the AWPP. Photo: Jennifer Ward*

*"**The Culprit":** A resident great horned owl peers towards game camera from the AWPP Lending Toolkit. The borrower then received an AWPP grant to enhance protection for her livestock.*

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1. Executive Summary

Introduction

In June 2021, the Benton County Budget Committee approved $45,000 to fund the **Agriculture and Wildlife Protection Program (AWPP),** which began as a pilot program in 2017. The AWPP is a community grant program where farmers in Benton County can apply for reimbursable grants to implement non-lethal deterrents to prevent and mitigate conflicts with wildlife. The funding is inclusive of $5,000 in funds allotted for education, outreach, and consultation services. $35,000 is designated for reimbursable grants designated for anticipated conflicts with wildlife, and $5,000 is specifically allotted for unexpected conflicts with beavers that arise outside of the annual application window.

AWPP grants have been awarded annually since 2018. Successful applicants are required to keep annual project records, report conflicts with wildlife, evaluate their project, and abide by program requirements for three years following the completion of their project.

This annual report summarizes:

(1) Programmatic updates,
(2) A summary of data from awarded grants, and
(3) The awarding of the 2021 grants.

Educational Outreach

Outreach-related activities in the past year have thus far included updates to the AWPP webpage, meeting with members of other municipalities (specifically Marion County, Oregon and Mendocino County, California) increasingly interested in replicating our program, and an in-person booth at the '2021 Beaver + Beaver Nation Celebration'. The last month has also included conversations with stakeholders and watershed managers with a hope to continue outreach activities and formulate new ones in upcoming months. A new webinar series, 'Bea-vallis' will take place March-May and Sheanna Steingass, Benton County Environmental Project Coordinator will be giving a brief talk on beavers in Benton County at the end of March 2022. We continue to maintain a "Lending Toolbox" (https://www.co.benton.or.us/awpp/page/lending-toolbox) to give county residents the opportunity to try non-lethal deterrent devices and materials before purchasing them for themselves.

Grant Program Results

In 2021, the AWPP awarded **$14,354.93 in grants to six Benton County farms** for non-lethal wildlife deterrence projects. All of the awarded projects were successfully completed. The average property size was 15.7 acres, ranging from half an acre up to 67. Four of six awarded grants applied to protect fruit or nut trees, and livestock proposed for protection included sheep, chicken, ducks, and turkeys.

Appendix II ("Program in a Nutshell") contains a summary infographic of the program's impact thus far for local farms and their livestock.

While there were no beaver-specific projects requesting funding in 2021, future AWPP outreach will focus especially on communication and public education regarding this aspect of the program.

Upcoming 2022 Awards: The AWPP awarded $14,354.93 in grant funds in 2021, leaving $25,645.07 of the remaining grant funds for the 2022 grant window, which will open July 6, 2022.

New Program Coordinator

After several years of successful coordination, the AWPP saw the departure of its Benton County coordinator, Jennifer Ward. We wish her well in her new position with the City of Dallas. In her absence, Benton County created and recruited for the new position of Environmental Project Coordinator, a role now filled by Sheanna (Shea) Steingass. Shea comes from Oregon State University, where she completed her master's and doctorate degrees in Wildlife Science, and more recently the Oregon Department of Fish and Wildlife where she worked since 2018. She is enthusiastic and ready to keep the momentum of the AWPP; Shea has a background in science outreach and education, which she hopes to use to bring more awareness to this valuable and unique program. The AWPP is also garnering wider interest on a state and national level as other localities are gathering information in the interested in creating similar programs.

2. Background

The community-based Agricultural and Wildlife Protection Program is funded by Benton County and managed by county officials in partnership with citizen volunteers and representatives from local agricultural and wildlife organizations.

Education and consultation services are provided by Benton County, Oregon State University Extension Service, Chintimini Wildlife Center, and Program Advisors. The Program Advisors include national experts in ranching with wildlife, predator ecology, and human-carnivore conflict.

3. Program Goals

The primary goals of the **Benton County Agriculture and Wildlife Protection Program** are to:

- ✓ **Protect** livestock, crops and property while coexisting with wildlife;
- ✓ **Provide opportunity** for use of non-lethal animal damage deterrents to prevent conflicts with wildlife;
- ✓ **Educate** farmers and the community about wildlife conflicts and non-lethal alternatives of control;
- ✓ Build a **collaborative relationship** between the farming and wildlife conservation communities and Benton County government around common goals.

The AWPP does not evaluate or make recommendations on everyday animal husbandry practices, farm animal welfare, wildlife habitat, or land use.

4. 2022 Program Timeline

January 31	Annual evaluation reports for 2020 and 2021 grant projects due
July 6	Grant application window opens
July 31	Grant applications due
August 10	Grant Review Committee reviews 2022 grant applications
September 1	Grant awards announced
December 31	Grant projects completed
Dec – Jan	Site visits to 2022 grant projects

5. Education and Outreach

The educational outreach program provides educational information in the form of webpages, brochures, press releases, information tables and occasional public presentations on wildlife conflict prevention. The AWPP webpage can be found at www.co.benton.or.us/awpp.

AWPP provides consultation services on the selection and use of non-lethal wildlife deterrents on request of agricultural operations in Benton County that are anticipating or have experienced conflicts with wildlife. Additional public-focused education and consultation services are provided by Benton County, Oregon State University Extension Service, Chintimini Wildlife Center, and AWPP Program Advisors. The Program Advisors include experts in ranching with wildlife, predator ecology, and human-carnivore conflict.

The AWPP continues to maintain and augment a "Lending Toolbox" to give county residents the opportunity to try non-lethal deterrent devices and materials before purchasing them for themselves, as well as a small library of books on the topic of agricultural coexistence with wildlife.

"County Sheep". *The AWPP's Mascot, Lady Baba, graces the AWPP booth at the 2021 Beaver + Beaver Nation Celebration Day | Photo: Jennifer Ward*

6. Grant Program

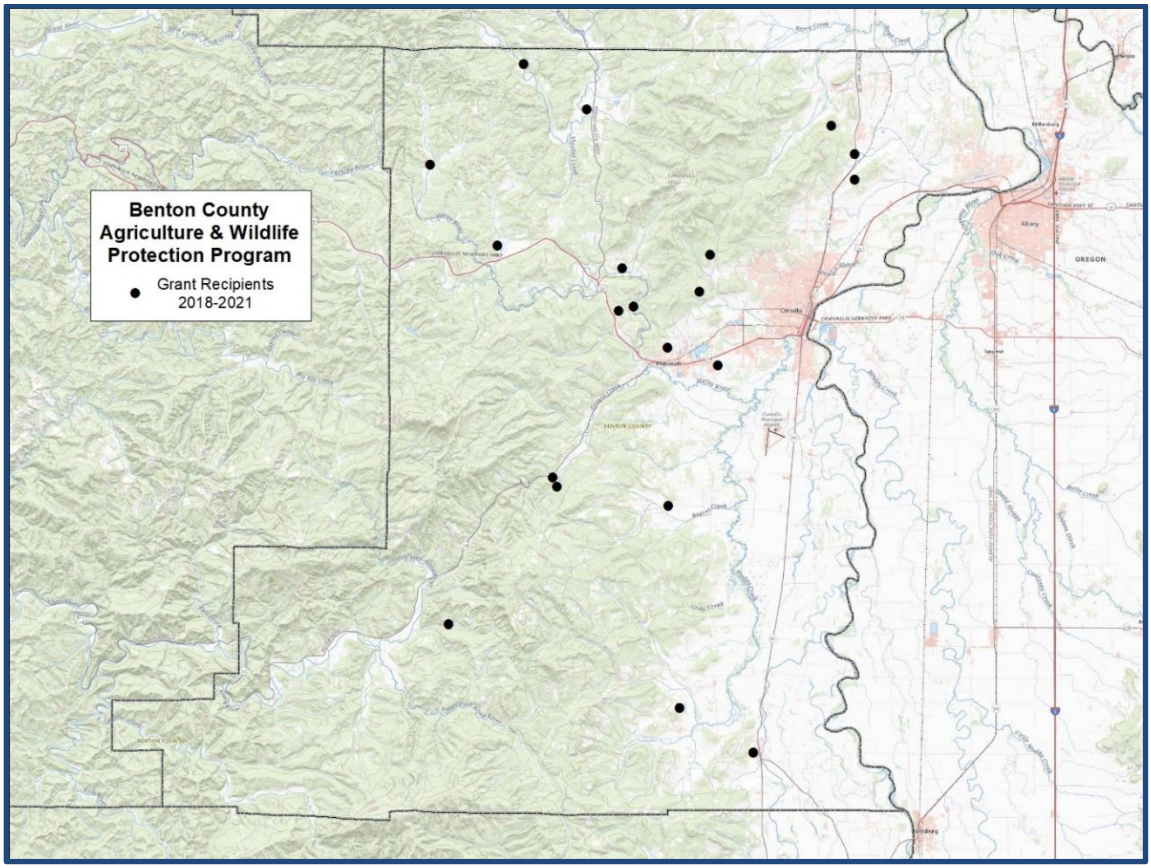
Grant Program Results

Map 1 shows the distribution of AWPP-funded projects across Benton County from 2018-2021. In 2021, the **AWPP awarded $14,354.92 in grants to six Benton County farms** to address wildlife conflicts. All six projects awarded in 2021 were completed (Table 1). AWPP grantees are required to keep project records, report conflicts, evaluate their project, and abide by program requirements for three years following the completion of their project.

To date, **87.5% of grant recipients report being overall 'Highly Satisfied'** with the program, and the remaining **12.5% report being 'Satisfied**' with the program.

55.0% of recipients report having **less conflicts with wildlife** after implementation of non-lethal deterrents, 20% report the **same number of conflicts,** and 15% reported **no conflicts.** Only one recipient reported **more conflicts with wildlife** since implementation, due to decimation of hazelnut trees by Stellar's jays in 2019.

Of the current biennial allotment for AWPP, $25,645.07 remains available for award during the upcoming 2022 request for proposals.



A map of Benton County AWPP grant recipients, 2018-Present. Courtesy of Randy Comeleo

2021 Grant Award Summary

Table 1. Five Benton County farms that completed AWPP-funded projects in 2021.

Farm	Location	Size (Acres)	Funded Non-lethal Deterrents	Livestock Protected	Funded Amount
1	Corvallis	0.5	Fencing supplies	Chickens	$462.80
2	Alsea	67	Scare devices	Sheep, goats, chickens, ducks, geese	$1,053.00
3	Monmouth	13	Bird netting	Fruit trees, berries	$1,874.23
4	Philomath	1.1	Bird netting	Fruit trees	$964.90
5	Corvallis	19	New fencing, protective housing	Ducks, geese, fruit trees	$5,000
6	Philomath	2.75	New fencing	Fruit trees, nut trees	$5,000

Appendix I: Past Award Summary Tables

Table 1. Six Benton County farms completed AWPP-funded projects in 2018.

Farm	Location	Size (Acres)	Funded Non-lethal Deterrents	Protecting	Funded Amount
1	Corvallis	4	Electronet and Deer Fencing	Sheep, Goats, Crops	$4,261
2	Philomath	50	Guardian Dogs, Electric Fencing, Foxlights	Chickens, Turkeys, Pigs	$5,000
3	Philomath	10	Woven Wire Fencing, Enclosed Barn	Goats, Chickens, Bee Hives	$5,000
4	Alsea	67	Electric Fencing, Nite Guard Lights	Variety of Livestock, Bee Hives	$2,621
5	Blodgett	52	Electric Fencing, Night Corrals	Goats	$3,713
6	Philomath	102	Guard Dogs, Electric Fencing, Bird Gard, Birthing Sheds	Sheep[1], Hazelnuts	$4,768

[1] *The sheep were sold off in the middle of 2019.*

Table 2. Seven Benton County farms completed AWPP-funded projects in 2019.

Farm	Location	Size (Acres)	Funded Non-lethal Deterrents	Protecting	Funded Amount
1	Corvallis	2	Electronet Fencing, Nite Guard Lights, Bird Repellent Tape, Motion Detection Cameras	Chickens	$1,677
2	Monroe	3.5	Electronet Fencing, Nite Guard Lights, Bird Repellent Tape	Chickens, Orchard, Vegetables	$560
3	Blodgett	32	Electric Fencing and Calving Shed	Cows, Turkeys, Pigs	$4,676
4	Philomath	90	Electric Fencing and Foxlights	Goats, Chickens, Turkeys, Pigs	$5,000
5	Philomath	10.5	Upgraded Fencing and Electric Fencing	Variety of Livestock, Orchard, Grass Crop	$3,409
6	Corvallis	4.5	Upgraded Fencing, Electric Fencing, Motion Detection Lighting, Pens	Variety of Livestock, Orchard	$4,810
7	Monroe	5.14	Birthing Barn	Sheep, Chickens, Timber, Orchard, Fruit	$3,000

Table 3. Four Benton County farms that completed AWPP-funded projects in 2020.

Farm	Location	Size (Acres)	Funded Non-lethal Deterrents	Protecting	Funded Amount
1	Corvallis	1.17	Coop Extension	Chickens	$274
2	Philomath	2.75	Electronet Fencing	Chickens	$638
3	Philomath	3	Electric Fencing and Shed	Goats, Chickens, Bees	$4,549
4	Philomath	5.46	Motion Lights and Barn	Goats, Pigs	$4,934

Appendix II: Past Recipient Feedback about the AWPP

The following testimonies from annual reports illustrate the experiences that Benton County farmers are having as they implement their AWPP-funded non-lethal deterrents projects:

"People ask if the fencing and lights work. All I can say is that I haven't lost any livestock while I have been using these methods."

…

"We used to shoot raccoons in the chicken yard. Now they don't appear to get in to kill the chickens. As for cougars, they have so far given our farm a pass while killing livestock on neighboring farms."

…

"…the combination of fencing and a protective structure appear to be working very well at this time – no losses even when the neighbors had goats killed by cougars."

…

"Predators are still present in the area (tracks and game camera pictures) but we have not lost any animals."

…

"The electric fencing, night light, and flashing ribbons all prevent predators from entering the chicken area. I am very impressed by the effectiveness and convenience of the electric fencing."

…

"Predation from owls has decreased every year as the dogs get better at alerting to them and perhaps the owls have grown tired of Foxlights and moved on. The electric perimeter fencing has completely excluded coyotes from the pastures."

…

"Our dog has brought home legs and the head of three different deer indicating that cougar are active in the riparian zone. We also had had feces of either coyote or cougar on our driveway and coyotes super close by, [but] no injuries to livestock nor any loss of life within our fences."

…

"The shed has saved our sheeps' lives, without a doubt. We are so happy to report zero losses – and are expecting lambs in the spring!

Appendix III. 'AWPP in a Nutshell'

Benton County OREGON

Agriculture and Wildlife Protection Program

In a Nutshell

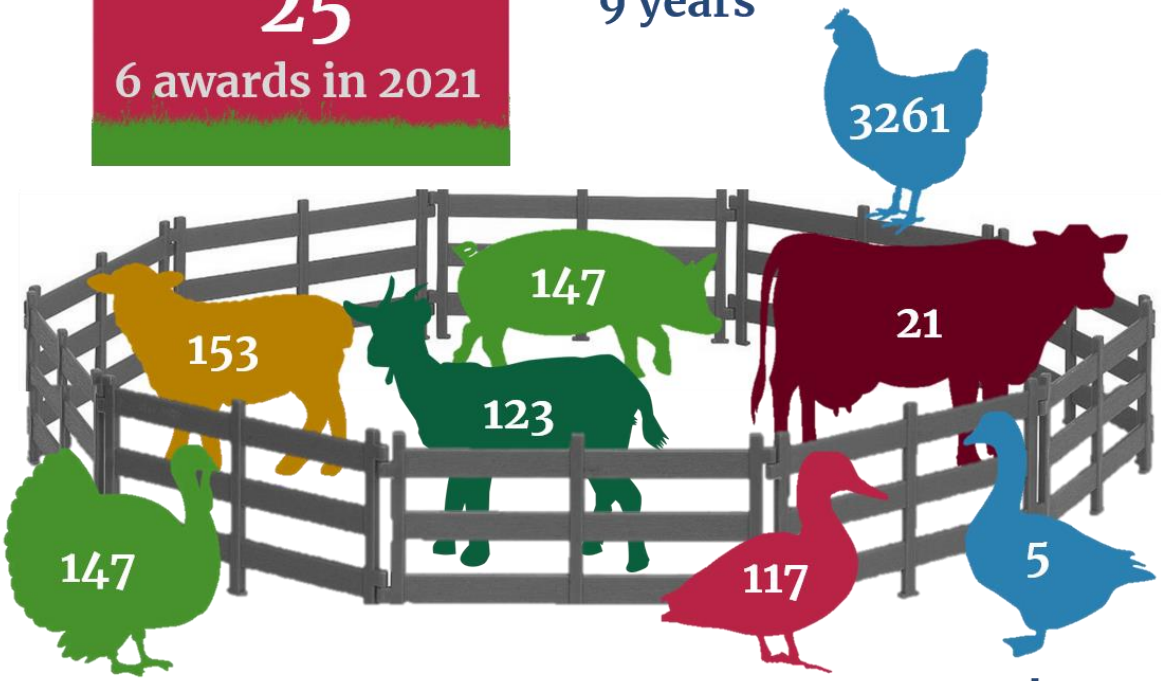
$66,359 awarded to Benton County farmers since 2017

Grants awarded since 2018: 25

6 awards in 2021

Average Farm Size: 18.5 acres

Average Age of Farm: 9 years



3,995 livestock protected...and counting!

Learn more at www.co.Benton.or.us/awpp

Appendix IV: Resources

7.1 Websites

AWPP Website	http://www.co.benton.or.us/awpp
Livestock-Predator Hub	http://rangelands.ucdavis.edu/predator-hub/current-research/
Farming with Carnivores Network	http://farmingwithcarnivoresnetwork.com/animal-husbandry/
Non-Lethal Solutions to Reduce Conflicts	https://tinyurl.com/y9eyed3h
The Encyclopedia of Animal Predators	https://www.jandohner.com/resources
Safeguarding Livestock	http://mountainlion.org/portalprotectlivestock.asp
Resolving Conflicts with Beaver	https://www.beaverinstitute.org/

7.2 Books

Dohner, J.V. 2017. The Encyclopedia of Animal Predators. Storey Publishing, North Adams, Massachusetts. https://www.amazon.com/Encyclopedia-Animal-Predators-Behaviors-Livestock/dp/1612127053

Goldfarb, B. 2018. Eager: The Surprising, Secret Life of Beavers and Why They Matter. Chelsea Green, White River Junction, Vermont. https://www.amazon.com/Eager-Surprising-Secret-Beavers-Matter/dp/160358739X

Shivik, J. A. 2014. The Predator Paradox – Ending the war with wolves, bears, cougars, and coyotes. Beacon Press, Boston, Massachusetts. https://www.amazon.com/The-Predator-Paradox-Cougars-Coyotes/dp/0807084964/

7.3 Newspapers and Magazines

Comeleo, Randy. "Using coyotes to protect livestock. Wait. What?." *Oregon Small Farm News*, Spring 2018, https://tinyurl.com/y7r4fjy2

Lies, Mitch. "Alternative Animal Damage Control Program Takes Root." *Growing Newsletter*, July-August 2018, https://tinyurl.com/y598cgs7

7.4 Scientific Journals

Blejwas, K. M., B. N. Sacks, M. M. Jaeger, and D. R. McCullough. 2002. The effectiveness of selective removal of breeding coyotes in reducing sheep predation. Journal of Wildlife Management 66:451-62.

Conner, M. M., M. M. Jaeger, T. J. Weller, and D. R. McCullough. 1998. Effect of coyote removal on sheep depredation in northern California. Journal of Wildlife Management 62:690-99. http://www.aphis.usda.gov/wildlife_damage/nwrc/publications/98pubs/98-24.pdf

Jaeger M. M. 2004. Selective targeting of alpha coyotes to stop sheep depredation. Sheep & Goat Research Journal 19:80-84. http://www.aphis.usda.gov/wildlife_damage/nwrc/publications/04pubs/jaeger041.pdf

Jaeger, M. M., K. M. Blejwas, B. N. Sacks, J. C. C. Neale, M. M. Conner, and D. R. McCullough. 2001. Targeting alphas can make coyote control more effective and socially acceptable. California Agriculture 55:32-36. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1599&context=icwdm_usdanwrc

Linnell, J.D.C., M.E. Smith, J. Odden, P. Kaczensky, J.E. Swenson. 1996. Strategies for the reduction of carnivore-livestock conflicts: a review. NINA Oppdragsmelding 443:1-116. http://tinyurl.com/y3czhj2a

Sacks, B. N., M. M. Jaeger, J. C. C. Neale, D. R. McCullough. 1999. Territoriality and breeding status of coyotes relative to sheep predation. The Journal of Wildlife Management 63:593-605. http://tinyurl.com/y2bupamd

Shivik, J. A., A. Treves, P. Callahan. 2003. Non-lethal techniques for managing predation: primary and secondary repellents. Conservation Biology 17:1531-37. http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1266&context=icwdm_usdanwrc

Shivik, J.A. 2004. Non-lethal Alternatives for Predation Management. Sheep & Goat Research Journal 19:64-71. http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1013&context=icwdmsheepgoat

Treves, A., M. Krofel, J. McManus. 2016. Predator control should not be a shot in the dark. Frontiers in Ecology and the Environment 14(7): 380–388. http://faculty.nelson.wisc.edu/treves/pubs/Treves_Krofel_McManus.pdf