

December 2023



CASE STUDY

Livestock depredation and large carnivores in Europe: Germany - livestock damages and wolf

EU PLATFORM ON COEXISTENCE BETWEEN PEOPLE & LARGE CARNIVORES

Minimizing
Conflict

Finding
Solutions

Produced by the EU Large Carnivore Platform Secretariat (adelphi consult GmbH and Callisto) as part of the services provided to DG Environment for Service Contract 07.0202/2020/835172/SER/ENV.D. The report does not necessarily reflect the official view of the European Commission.

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Germany

The wolf returned to Germany in the early 2000s from Poland and has gradually established populations across most of the North and East of Germany, travelling West. At the same time, wolves from the Alpine population have established in Bayern and Baden-Württemberg. Germany's wolf population is now comparable to France's though damages are much lower, partly due to the prevalence of lowland farming which allows fencing. In many regions, breeders have adapted such practices. However, in others, coexistence is more complicated, for example where dykes and steep areas make fencing more difficult.

Germany also has several (reintroduced) lynx populations (Harz, Palantine and Bohemian) and passing bears in the Alps.

Wolf estimate = 162 packs, 47 pairs, 21 territorial individuals¹.

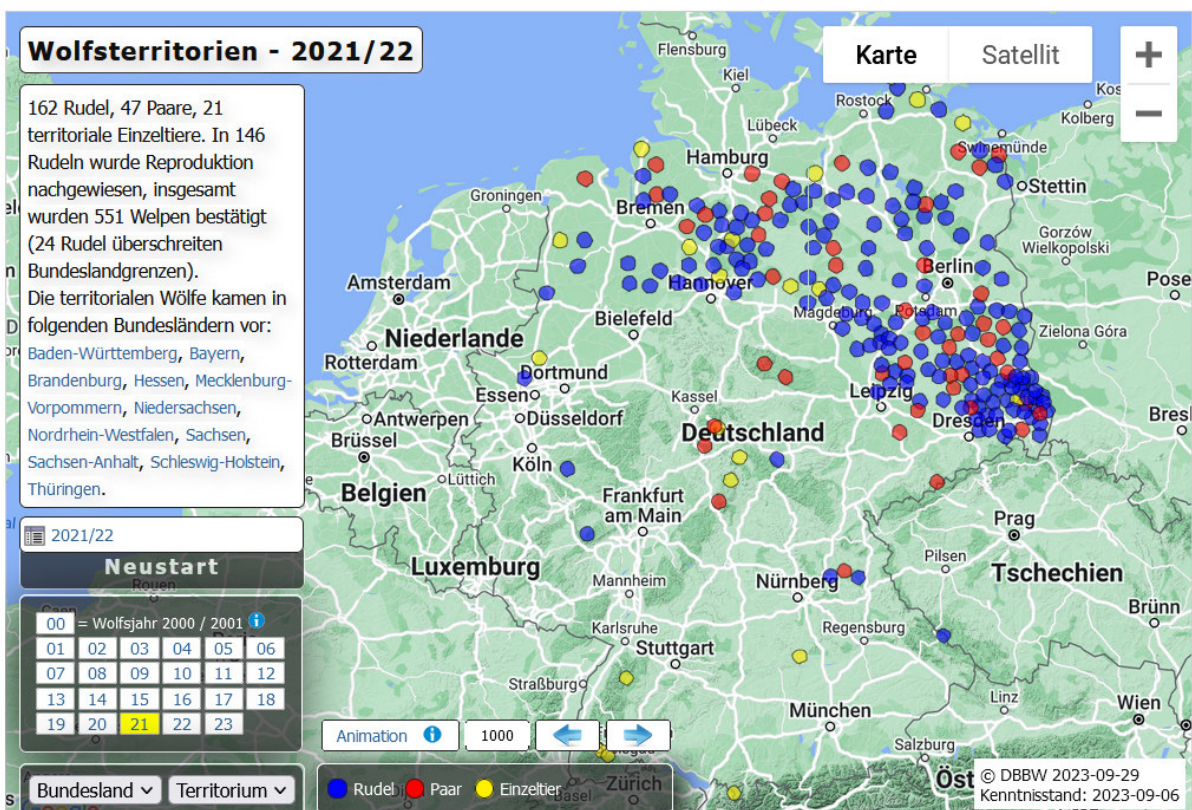


Figure 1. Wolf territories in Germany (162 packs (blue), 47 pairs (red), 21 territorial individuals (yellow))

Institutional structure

Wolf management is regionalised in Germany, the different regions decide on their approach to protection, compensation and the use of derogations within a national framework. Each has its own

¹ DBBW - German Federal Documentation and Consultation Centre on Wolves (2023). Wolfsterritorien - 2022/23. <https://www.dbbw-wolf.de/Wolfsvorkommen/territorien/karte-der-territorien>

management plan² and legal framework. These vary according to the surrounding conditions; how long the wolf has been present; as well as according to the politics of the regional government.

On a national level, the wolf falls under the competencies of the Federal Nature Agency (BfN)³ and Federal Environment Ministry (BMUV), agricultural policy under the Federal Ministry of Food and Agriculture (BMEL). Several networks help to share information on wolf management across Germany. The Documentation and Federal Advisory Council on topic wolf (DBBW)⁴, established by BfN, advises the federal and state authorities regarding all questions concerning wolves in the wild. Further, they compile all wolf data collected in the federal states and prepare it for presentation to the public. The Federal centre for livestock and wolf (BZWW)⁵ established by the BMEL, collects information on livestock protection across Germany and beyond and organises information events and projects. Through the centre, the environment and agricultural ministries collaborate on a dialogue series on the wolf, as promised in the coalition contract between the ruling parties in Germany, which started in June 2023⁶.

Livestock damages

Across Germany, the number of wolf attacks on livestock increased from 2020 to 2021 by 3.5%. Yet, the number of damages decreased by 15%. In 2021, 3374 wolf caused damages on livestock occurred. This includes killed, wounded and missing animals. Sheep and goats are most often killed or wounded by wolves (85% of total incidents). In 2772 cases, sheep were attacked, in 109 goats, in 251 cattle, in 202 fenced deer and in 40 cases, other animals. In 2022, first assessments indicate that the number of animals killed has increased slightly as new territories are established. The wolf is still spreading across Germany and establishing new territories. A high proportion of attacks on livestock happen where in newly established territories where the livestock owners are not yet prepared with protection measures. In those areas, damages usually decline after one to two years when practices have been adapted⁷.

² DBBW – German Federal Documentation and Consultation Centre on Wolves (2023). Managements plans.

<https://www.dbb-wolf.de/wolf-management/wolf-management-of-federal-states/management-plans>

³ BfN - German Federal Agency for Nature Conservation (2023). Artensportraits: Canis lupus – Wolf.

<https://www.bfn.de/artenportraits/canis-lupus>

⁴ DBBW - German Federal Documentation and Consultation Centre on Wolves (2023). <https://www.dbb-wolf.de/home>

⁵ German Federal Information Centre for Agriculture (2022). Spannungsfeld Weidetiere und Wolf - Wege zur Koexistenz: Bundeszentrum Weidetiere und Wolf. <https://www.praxis-agrar.de/bundeszentrum-weidetiere-wolf>

⁶ BMUV – German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (2023). Rede von Bundesumweltministerin Steffi Lemke bei der Auftaktveranstaltung zur Dialogreihe Wolf.

<https://www.bmuv.de/rede/rede-von-bundesumweltministerin-steffi-lemke-bei-der-auftaktveranstaltung-zur-dialogreihe-wolf>

⁷ DBBW - German Federal Documentation and Consultation Centre on Wolves (2023). Bundesweite Schadensstatistik.

<https://www.dbb-wolf.de/wolfsmanagement/herdenschutz/schadensstatistik>

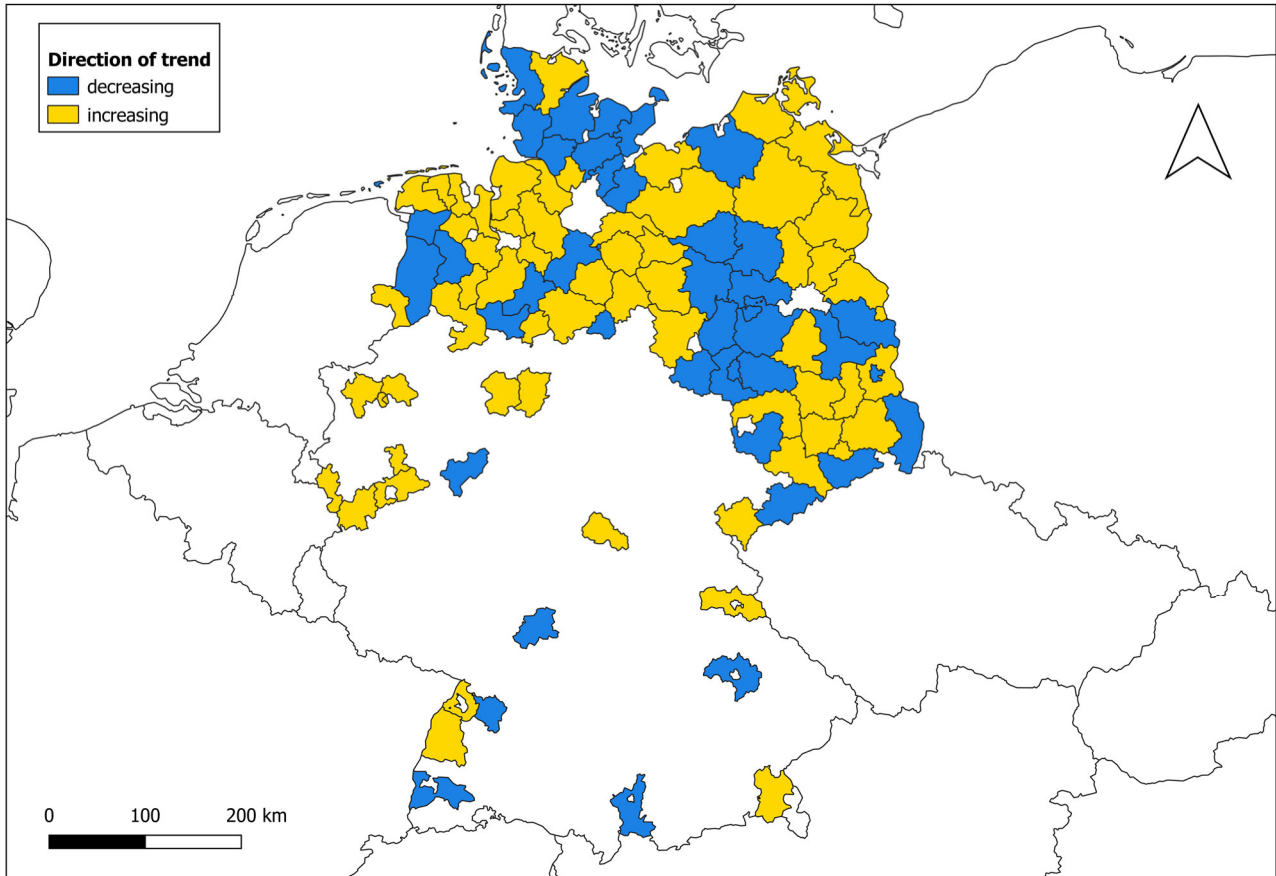


Figure 2. Trends in damages across Germany, see EU LC Platform (2023) for more information⁸

Overall national trend: slowing increase with a dip in damages in 2021

Management response

Compensation and protection

All German federal states issue compensation payments in the case of damages caused by wolves. With the exception of Berlin, all German federal states also finance protection measures to prevent wolf attacks. In Berlin, protective fences are already in place, originally for the protection from dogs. In 2022 payments for preventive measures in Germany as a whole (18,428,830 €) were 30 times as high as compensation payments⁹. In general, regional financing (under State Aid rules) are used rather than the Common Agricultural Policy⁹. Based on the initial CAP Strategic Plans, only Baden-Württemberg intended to use EU CAP funding to support prevention measures.

⁸ EU Platform on Coexistence Between People and Large Carnivores (2023) Livestock depredation and large carnivores in Europe: Overview for the EU Platform: https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive/large-carnivores/eu-large-carnivore-platform/national-large-carnivore-management_en#large-carnivore-livestock-damages

⁹ DBBW - German Federal Documentation and Consultation Centre on Wolves (2022). Wolfsverursachte Schäden, Präventions- und Ausgleichszahlungen in Deutschland 2022. <https://www.dbb-wolf.de/mehr/literatur-download/berichte-und-praevention-und-nutztierschaeden>



Figure 3. Livestock protective electric netting © Klose

Wolf removal

Wolf removal remains relatively rare in Germany. The Federal Nature Conservation Act strictly protects wolves (paragraph 44), however, paragraph 45, section 7.1, allows an exception in the case of severe agricultural or economic damage and if the removal does not threaten the population's conservation status. Wolves should only be removed if DNA analysis has been carried out, indicating that they are most likely individual responsible for an attack. Between the years 2000-2023, 14 wolves were legally killed as part of management measures, a small proportion of the total of 983 wolves found dead in this time period (other causes of death were traffic incidents (736), illegally killing (87) and unclear (49)¹⁰.

Removal of wolves is likely to become easier in the future. The ministry of environment, recently announced proposed changes in reaction to growing wolf numbers and increasing conflict to facilitate the shooting of wolves in certain cases. In the future, any wolf within the radius of one kilometre from the site of livestock damages up to 21 days later, can be removed. A shooting permit is still required, and it applies to "previously defined regions with increased incidences of livestock damages." Additionally, the wolf must have overcome "reasonable herd protection measures"¹¹.

Zoom in: Brandenburg

¹⁰ DBBW - German Federal Documentation and Consultation Centre on Wolves (2023). Totfunde von Wölfen in Deutschland. <https://dbb-wolf.de/Totfunde/>

¹¹ Zeit Online (2023). Risse von Wölfen: Umweltministerin Lemke will Abschuss von Wölfen erleichtern. <https://www.zeit.de/gesellschaft/2023-10/umweltministerin-steffi-lemke-abschuss-woelfe-erleichtern>



Figure 4. Sheep grazing in Brandenburg © EU LC Platform Secretariat

More than 45% of Brandenburg's area is used for agricultural activities which are dominated by crop cultivation. Of this area, roughly 16% are used in accordance with organic agricultural standards. On average, each of the 5413 businesses owns 242 ha land which is significantly more than the average across Germany (63 ha per business). Cattle, poultry, pigs, sheep and goats, as well as bees are kept. In 2022, 75,000 sheep, 598,000 pigs, and 448,000 cattle were farmed¹².

Brandenburg is the federal state with the highest number of residing wolves in Germany. In the year 2022/2023, 52 packs and 10 pairs were confirmed in 62 territories. Among those were 190 pups and an additional 6 potential territories (frequent presence of wolves but no confirmed territoriality)¹³.

¹² LEFL – German State Office for Rural Development, Agriculture and Land Consolidation (2023). Tierzuchtreport. <https://lflf.brandenburg.de/lflf/de/landwirtschaft/tierzucht-und-tierhaltung/tierzuchtreport/>

¹³ LfU - Brandenburg State Office for the Environment (2023). Entwicklung des Wolfsbestands im Land Brandenburg. <https://lfu.brandenburg.de/lfu/de/aufgaben/natur/tiere-und-pflanzen/saeugetiere/woelfe-in-brandenburg/wolfsbestand-brandenburg/>

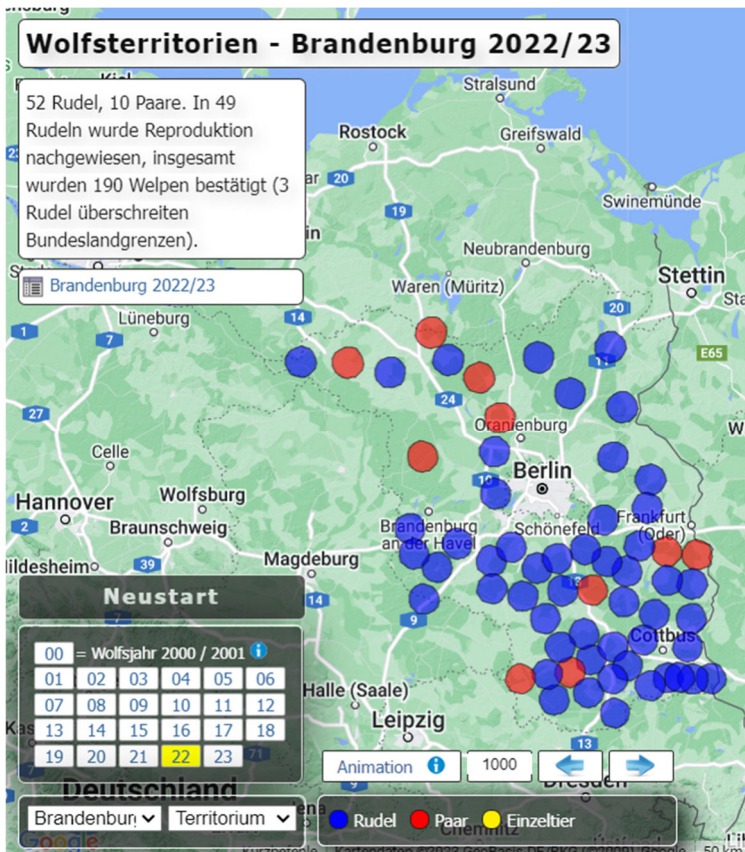
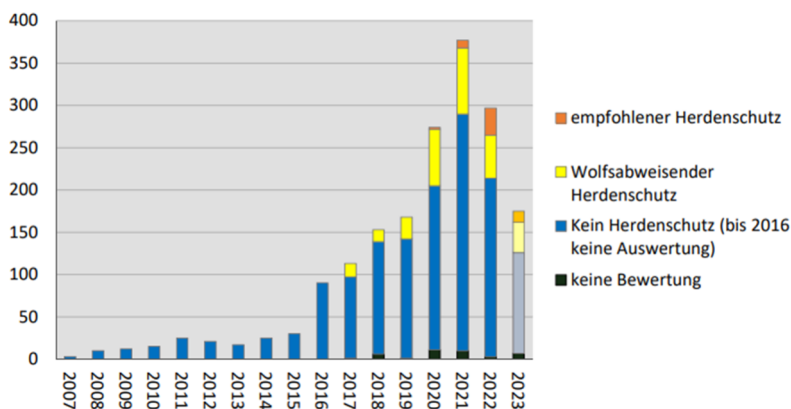


Figure 5: Wolf presence Brandenburg 22/23¹⁴

Damages

In 2022, 297 wolf attacks on livestock were reported. 945 damages on sheep occurred, 32 on fallow deer, 106 on cattle, and 4 on “other”¹⁵.



¹⁴ DBBW - German Federal Documentation and Consultation Centre on Wolves (2023). Wolfsterritorien - 2022/23. <https://dbb-wolf.de/Wolfsvorkommen/territorien/karte-der-territorien>

¹⁵ DBBW - German Federal Documentation and Consultation Centre on Wolves (2022). Wolfsverursachte Schäden, Präventions- und Ausgleichszahlungen in Deutschland 2022. <https://www.dbb-wolf.de/mehr/literatur-download/berichte-zu-praevention-und-nutztierschaeden>

Figure 2: Livestock damages (Wolf cannot be excluded as cause)¹⁶

While damages remain relatively high in Brandenburg, analysis carried out by the state agency for the environment indicates that the persisting livestock predation can mainly be attributed to the fact that herd protection measures have not been consistently implemented, particularly in areas where wolves have been present for a long time. **Fehler! Verweisquelle konnte nicht gefunden werden.** shows livestock damages in Brandenburg from 2007 to 2023. Blue shows incidences where no herd protection measures were implemented, yellow shows that “wolf-repellent” herd protection measures were implemented (but not using the current full suite of recommended measures) and orange shows incidences where the recommended herd protection measures were fully implemented. In 2023, only 7% of recorded cases occurred where recommended protection measures were implemented and for over half of these attacks, a single wolf (with learned behaviour) was responsible. As in this case, the state agency’s data indicates that wolves, successful in overcoming inadequate herd protection, apply this learned behaviour in different areas and among different livestock herds. They therefore recommend the early implementation of recommended protective measures to prevent this learning effect.

Herd protection measures are supported by the state of Brandenburg, as are the operational expenses for fence maintenance and livestock guarding dogs. The State Environmental Agency continues to prioritize high levels of consultation and support¹⁷.

In 2022, Brandenburg spent 16 times as much on prevention measures (2,334,00€) than compensation payments (143,796€).

Zoom in: Lower Saxony

The area of Lower Saxony is 47,709 km² of which 12,045 km² are forests¹⁸ and 26,000 km² agriculture. Of this, 19,000 km² is cropland, 7,000 km² pastures and 200 km² permanent crop areas¹⁹. 179,887 sheep are kept on 2255 farms and 2,359,904 cattle on 15,664 farms²⁰. In general sheep farms in Lower Saxony are small (average 80 sheep)²¹. In the lower Saxon context, sheep are regarded as well suited for the maintenance and conservation of various landscapes, rural

¹⁶ Brandenburg State Office for the Environment (2023). Nutztierschäden (Wolf als Verursacher zumindest nicht ausgeschlossen). https://lfu.brandenburg.de/sixcms/media.php/9/2023_nutztierfaelle.pdf

¹⁷ LfU - Brandenburg State Office for the Environment (2023). Gemeldete Nutztierschäden und Rissstatistik im Land Brandenburg. <https://lfu.brandenburg.de/lfu/de/aufgaben/natur/tiere-und-pflanzen/saeugetiere/woelfe-in-brandenburg/schadensmanagement/nutztierrisse/>

¹⁸ NdS - Lower Saxony Ministry of Food, Agriculture and Consumer Protection (2014). Der Wald in Niedersachsen : Ergebnisse der Bundeswaldinventur 3. https://www.ml.niedersachsen.de/startseite/themen/wald_holz_jagd/wald_und_forstwirtschaft/waelder-fuer-niedersachsen-4982.html#:~:text=Niedersachsens%20W%C3%A4lder%20heute,von%2025%20%25%20der%20Landesfl%C3%A4che%20ermittelt.

¹⁹ NdS - Lower Saxony Ministry of Food, Agriculture and Consumer Protection (2022). Agrarland Nummer 1. <https://www.ml.niedersachsen.de/startseite/themen/landwirtschaft/landwirtschaft-in-niedersachsen-4513.html#:~:text=Als%20gr%C3%B6%C3%9Fter%20Fl%C3%A4chennutzer%20bewirtschaftet%20die,der%20landwirtschaftlichen%20Nutzfl%C3%A4che%20ist%20gepachtet.>

²⁰ NdS - Lower Saxony Ministry of Food, Agriculture and Consumer Protection (2022). Bericht zur niedersächsischen Nutztierhaltung 2021. <https://www.ml.niedersachsen.de/startseite/themen/landwirtschaft/tiere/tierproduktion-in-niedersachsen-211831.html>

²¹ NdS - Lower Saxony Ministry of Food, Agriculture and Consumer Protection (2021). Die niedersächsische Landwirtschaft in Zahlen 2021. https://www.ml.niedersachsen.de/startseite/aktuelles_veranstaltungen/veroeffentlichungen/die-niedersaechsische-landwirtschaft-in-zahlen-121348.html

areas, and, specifically, extensive agricultural lands, in particular, they play an important role in the protection of coastal areas and maintenance of dykes in coastal regions²². In general, the number of livestock farms are declining in Lower Saxony, while the size of farms and number of animals kept, increases²⁰.



Figure 6. Sheep grazing on Lüneberg Heath © EU LC Platform Secretariat

The wolf returned to Lower Saxony in 2011/12, since then the number of individuals has increased each year. In 2022/2023, a total of 253 wolves in 55 territories could be confirmed consisting of 39 packs and 15 pairs.^{23,24}

²² German Federal Information Centre for Agriculture (2022). Weidetiere und Wolf: Weidetierarten im Porträt: Schafe. <https://www.praxis-agrar.de/bundeszentrum-weidetiere-wolf/weidetiere-und-wolf/weidetierarten-im-portraet-schaf>

²³ Lower Saxony Hunters' Association e.V. (2023). Wolfsverbreitung in Deutschland und Europa. <https://www.wolfsmonitoring.com/monitoring/verbreitung>

²⁴ DBBW – German Federal Documentation and Consultation Centre on Wolves (2023). Wolfsterritorien in Deutschland. <https://dbb-wolf.de/Wolfsvorkommen/territorien/status-und-reproduktion?Bundesland=Niedersachsen&Jahr=2022>

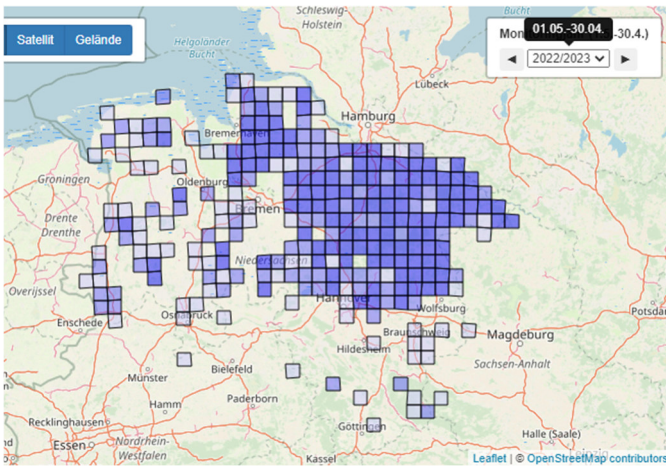


Figure 7: Presence of Wolves in Lower Saxony in 2022/2023²⁵.

Damages

Damages in Lower Saxony are currently high, and there is much conflict and debate around wolf presence. In 2022/2023, 300 wolf attacks on livestock were recorded killing or injuring 930 sheep.

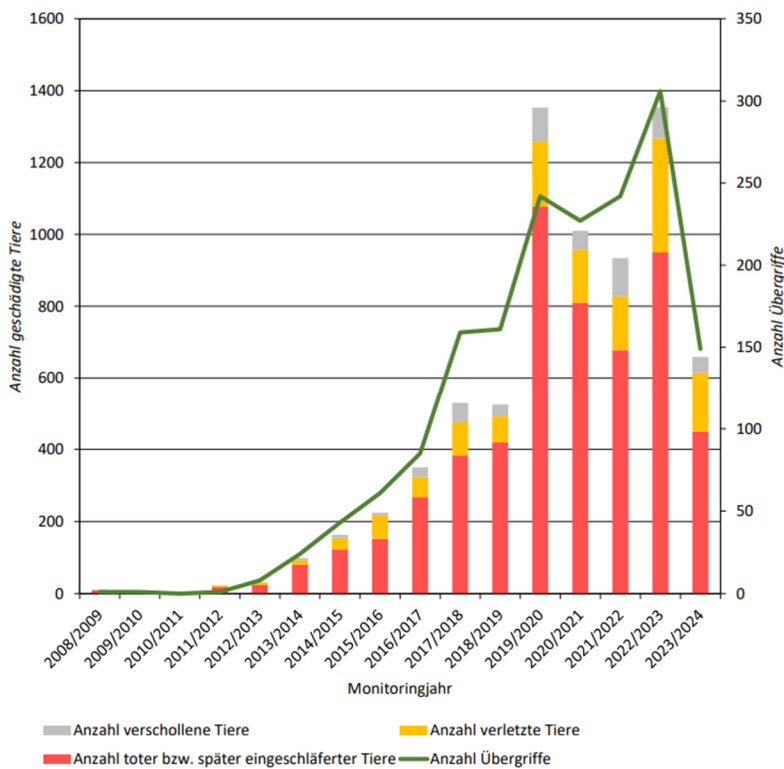


Figure 8: Number of wolf attacks on livestock (green) over the years and corresponding number of damaged livestock (bars)²⁶

²⁵ Lower Saxony Hunters' Association e.V. (2023). Wolfsnachweise in Niedersachsen. <https://www.wolfsmonitoring.com/monitoring/wolfsnachweise>

²⁶ Lower Saxony Hunters' Association e.V. (2023). Nutztierschäden in Niedersachsen. <https://www.wolfsmonitoring.com/nutztierrisse>

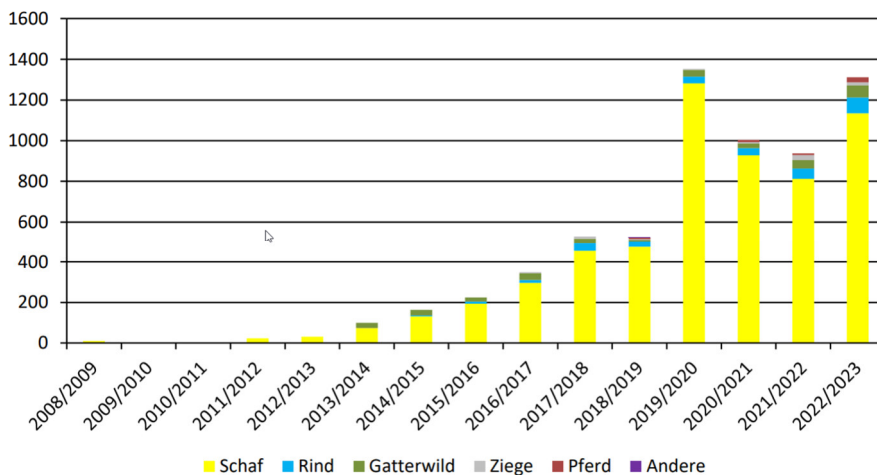


Figure 9: Livestock damages by wolves per species from 2008/2009 to 2022/2023. Yellow: sheep, blue: cattle, green: fallow deer, grey: goats, red: horses²⁷

Compensation

Compensation is paid in case of damages proven to be for wolves. The injured party must contact a trained but volunteer “wolf consultant” (appointed by the Lower Saxony State Agency for Water Management, Coastal Defence and Nature Conservation, NLWKN). The consultant report to the NLWKN which is responsible for approving or rejecting the claim. An official record of the animals killed, injured or otherwise affected is required for each individual case in order to determine the wolf as cause of damage. The NLWKN is responsible for centrally gathering all reported depredation events. There is no mandatory reporting deadline. However, reporting shall happen “immediately after noticing the damage”. Assessment of each case is to be carried out within 24 hours after reporting. In order for the compensation payment to be granted, the wolf must be indicated with explicit certainty or with high probability.

The compensation payment includes compensation for kills, further consequent losses due to miscarriages or abortions as well as veterinary costs (up to a maximum of 100% of the respective value of the animal, including the cost of medication). Compensation payments also cover trained hunting dogs and livestock guarding dogs or other herd protection animals. For sheep, goats, and fenced deer, prevention measures (as described above) must be in place to receive compensation. For cattle and horses, no prevention measures are required, however, livestock must be kept in accordance with the requirements of good professional practice and the resulting minimum standards for fencing animals must be implemented. No lower limit of compensation payments exists. The upper limit is a maximum of 5,000€ per animal as well as 30,000€ per year per livestock owner²⁸.

²⁷ Wolfsmonitoring.com (2023) Nutztierschäden in Niedersachsen <https://www.wolfsmonitoring.com/nutztierische>

²⁸ DBBW - German Federal Documentation and Consultation Centre on Wolves (2022). Wolfsverursachte Schäden, Präventions- und Ausgleichszahlungen in Deutschland (2021). <https://www.dbb-wolf.de/mehr/literatur-download/berichte-zu-praevention-und-nutztierschaeden>

Deaths by causes other than large carnivores remain much more common. In 2018, 15,624 sheep were recorded as fallen stock²⁹, dying outside planned slaughter of a variety of causes compared to 430 sheep killed by wolves.

Protection

Payments for preventive measures are provided through state funding by the Landwirtschaftskammer Niedersachsen (Agriculture Chamber Lower Saxony). Preventive measures include upgrades and one-off new purchases of protective fences and accessories to achieve basic protection against wolves, as well as for the purchase of livestock guarding dogs.

Protection measures include:

- Electrical fences and electrical braid fences (min. 90 cm high)
- Wire mesh fences (min. 120 cm high) including one electrical braid running at the bottom
- Fence supplies (min. 1 Joule discharging energy), security boxes, solar panels, livestock guarding dogs)

For cattle, horses and deer the measures are similar but with differences in the type of fencing.

For all existing prevention measures, up to 100% of the costs can be covered. The upper limit of financial support is 30,000€ per year following *de minimus* rules.

Subsequent costs (one-off or ongoing personnel and material costs) for setting up and maintaining the aforementioned prevention measures as well as food, dog tax, insurance, veterinary costs and costs for training the dogs and their owners are not funded.

In 2022, Lower Saxony paid 4,033,378 € for prevention measures and 212,247 € for compensating wolf caused damages³⁰.

There are no payments for protection measures under the CAP. There are measures to support extensive livestock under Voluntary Coupled Support.

As with Brandenburg, data collected by the state indicates that basic protection is lacking for half the livestock killed. In 25% of the cases basic protection measures existed and in the other 25%, it was declared that basic protection was not necessary³¹.

²⁹ Parliament of Lower Saxony (2019). Kleine Anfrage zur schriftlichen Beantwortung gemäß § 46 Abs. 1 GO LT mit Antwort der Landesregierung. https://www.landtag-niedersachsen.de/drucksachen/drucksachen_18_05000/04001-04500/18-04368.pdf

³⁰ DBBW - German Federal Documentation and Consultation Centre on Wolves (2022). Wolfsverursachte Schäden, Präventions- und Ausgleichszahlungen in Deutschland 2022. <https://www.dbb-wolf.de/mehr/literatur-download/berichte-zu-praevention-und-nutztierschaeden>

³¹ Lower Saxony Hunters' Association e.V. (2023). Wolfsmonitoring der Landesjägerschaft Niedersachsen e.V. https://www.wolfsmonitoring.com/fileadmin/dateien/wolfsmonitoring.com/Dateien/TAB_NRi.pdf

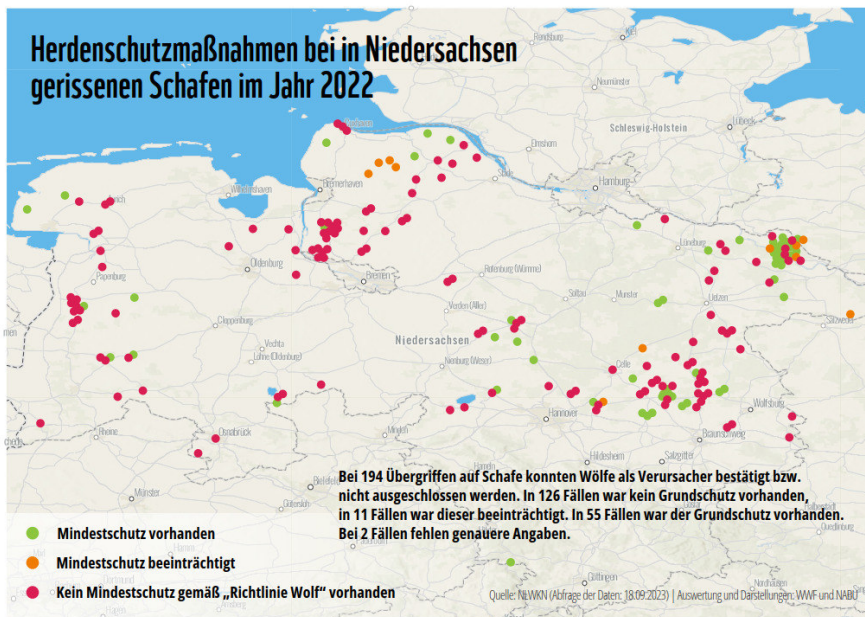


Figure 10. Livestock protection measures in Lower Saxony. Green = minimum protection in place, red = no protection in place³²

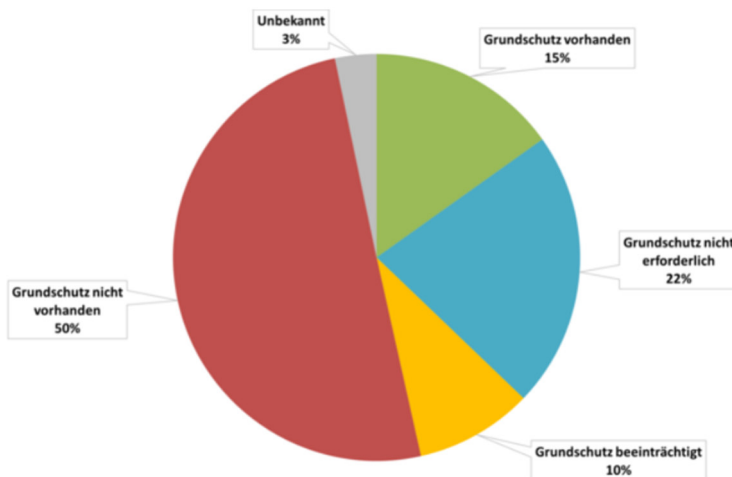


Figure 11: Percentage of attacks with basic protection measures installed. Red: not installed, green: installed, blue: not required, yellow: measures damaged, grey: unknown³³

In addition to the state scheme, NGO managed schemes support breeders by providing targeted advice on implementation of prevention measures. Since 2017, the NABU-run project “Livestock Protection Lower Saxony” has offered technical support to over 350 breeders on the implementation of effective herd protection measures and has supported more than 160 of these in building wolf-repellent fences with trained volunteers. Over 350 pastures covering almost 1,700 hectares were protected by around 400 km of modern, wolf-deterrent fences. Of those receiving the targeted support, none have recorded damage caused by wolves since³⁴.

³² Map produced by WWF and NABU based on data from NLWKN

³³ Lower Saxony Hunters' Association e.V. (2023). Nutztierschäden in Niedersachsen. <https://www.wolfsmonitoring.com/nutztierisse>

³⁴ NABU Lower Saxony - Nature and Biodiversity Conservation Union (2023). Wirkungsvolle Herdenschutzmaßnahmen vor Wolfsübergriffen. <https://niedersachsen.nabu.de/tiere-und-pflanzen/aktionen-und-projekte/herdenschutz/index.html>



Produced by the EU Large Carnivore Platform Secretariat (adelphi consult GmbH and Callisto) as part of the services provided to the European Commission and for the EU Platform Members