

Wild boars are turning Swedish ecosystems upside down

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Farmers see them as a pest, hunters see them as a resource. House owners and golf-players get upset because their lawns are getting dug up. Dog owners are afraid to get their dogs attacked and to road users they present a constant danger. The animal causing these different feelings is the wild boar. The wild boar has been gone from the Swedish fauna for about 200 years but is now making a comeback. Both an increase in population size and geographic expansion has been noted during the past decades. The presence of wild boar in Sweden has been, and still is, a subject of much controversy due to the species impact on many areas.

The comeback

The wild boar was present in Sweden until the 18th century when it became extinct. It was missing for about 200 years before it was reintroduced, but only in enclosures. Captive wild boars escaped from enclosures in Scania and Södermanland in the later 1970's and established wild populations. Rapid increases of the free-living wild boars occurred and in 1983 the estimated number of free-living wild boars in Sweden was about 300. In 1987 the Swedish government decided that the wild boar should be considered as a part of the Swedish fauna and the wild boars began spreading throughout the country. Less than 30 years later, estimates suggest that there are more than 150 000 wild boars in Sweden. However, estimates of wild boar numbers are relatively uncertain since inventory is difficult. Today the wild boars have reclaimed many areas of their former range and in regard to the increased cull and number of road traffic accidents it seems as if the population is still increasing and expanding geographically.



Figure 1. Sow with her piglets rooting for food. Young piglets have characteristic stripes, but after 3-4 months these stripes disappear and the fur gets reddish-brown. Picture from Wikimedia Commons (2009).

Ecosystem effects

One of the most characteristic features created by wild boars are the rooted areas. Rooting is produced when wild boars are searching for food and serves as a natural disturbance to plants. A disturbance is an event that kills or damages individuals and this creates an opportunity for other individuals to get established. Thus rooting creates opportunities for less competitive species to co-exist with more competitive species and thereby high diversity of plant species can be maintained. Without disturbances the most competitive species would outcompete the others and biodiversity would be lower. Studies from Sweden have shown that the number of plant species in patches disturbed by wild boar is about 30 % higher than in undisturbed patches, which indicates that rooting is beneficial for many plant species. Since wild boars have been a part of the Swedish fauna for a long time rooting may be a disturbance to which many plant species have become adapted, a point to keep in mind in wild boar management.

Due to the behaviour, fur and diet of the wild boar, it's also a great seed disperser. Seeds can stick to their relatively thick fur, the hoofs or be ingested. This way seeds can be transported over many kilometres, since wild boar are a highly mobile species travelling a distance of about 7 kilometres per night. One can say that wild boars act as mobile links that connect isolated populations. The dispersal of seeds between populations is important to maintain viable populations and also to colonize new habitats.

Wetlands are regularly visited by wild boars for wallowing and feeding. Due to this mode of acting wild boars may also be important for the dispersal of aquatic organisms. A study from France showed that wild boars could act as dispersal vectors for different aquatic invertebrates, such as small crustaceans, roundworms, different unicellular eukaryotic organisms etcetera.

Wild boars may affect other species through competition for food. Acorns and beechnuts are important food resources for wild boars but also to some birds and small rodents. Studies have shown that when availability of mast is low wild boars actively search for acorns and beechnuts buried by small mammals and birds. This behaviour may influence the population dynamics of the birds and small rodents. In addition wild boar diet can include eggs and nestlings and wild boars could thereby represent a threat to ground-nesting birds. However, studies have shown that wild boar is just a minor predator of eggs and nestlings and predation by other species such as crows, foxes and badgers is higher.

The main threat to wild boars are humans, but sometimes wild boar also fall prey to lynx, bears and wolves but only the later is of greater importance. In some areas in Italy for example wild boars are the main prey to wolves, but since the distribution of wild boar and wolves are not really overlapping in Sweden this has not been demonstrated in Sweden yet. In future, if the wolves are spreading southward and wild boars continue to spread up north, we may see this happen in Sweden as well.

Relationship with humans

Wild boars and humans have had a close relationship for a long time. Both of these species migrated to Sweden in postglacial time. Ever since the hunter-gatherer society until recent time wild boars have served as an important game and after domestication the species also became important in agriculture. Since wild boars have large impact on their environment sometimes resources normally used by humans are affected, and this is not always appreciated.

The expansion and increase of wild boar populations cause severe economical problems, both in agriculture and in traffic. The risk of damage is mainly a result of the wild boars foraging behaviour. Normally wild boars avoid exposed habitats, such as agricultural fields, but when crops are ripe the wild boars seem willing to expose themselves to this risk since the agricultural fields can provide them with food. In areas with small fields close to the forest damage is often more severe, since the forest provides shelter. Trampling and feeding

Wild boar

Latin name: *Sus scrofa*

Withers height: 1 m

Body length: 1,5 m

Body weight: Male 80-200 kg, female 70-150 kg

Age: 15-20 years in captivity, 10 years in the wild

Group structure: Females and young live together in groups, males live mainly on their own

Diet: Omnivore, but mainly vegetarian

primarily cause damage in crop fields and the subsequent income losses can be devastating at the local scale. Along with the increasing wild boar populations the number of road traffic accidents with wild boars has also increased. In 2012 the number of reported accidents was 4 198, only moose and roe deer caused more road traffic accidents.

Wild boars are favoured for hunting and have become an important game in Sweden. Compared to other game wild boar can be hunted throughout the year and is important for recreational hunting and as a food source. Only in 2010 about 2 400 tonnes of wild boar meat was consumed in Sweden. Selling the meat or leasing hunting rights can make profits and this could to some extent compensate the economical losses from wild boar damage. But much work still has to be done to prevent or minimize wild boar damage.

Why so successful?

The wild boar has the widest distribution area of any hoofed animal in the world. Originally its distribution ranges from Western Europe to eastern Asia, but it has also been introduced in parts of Australia, North and South America and a number of Pacific islands (fig. 2).

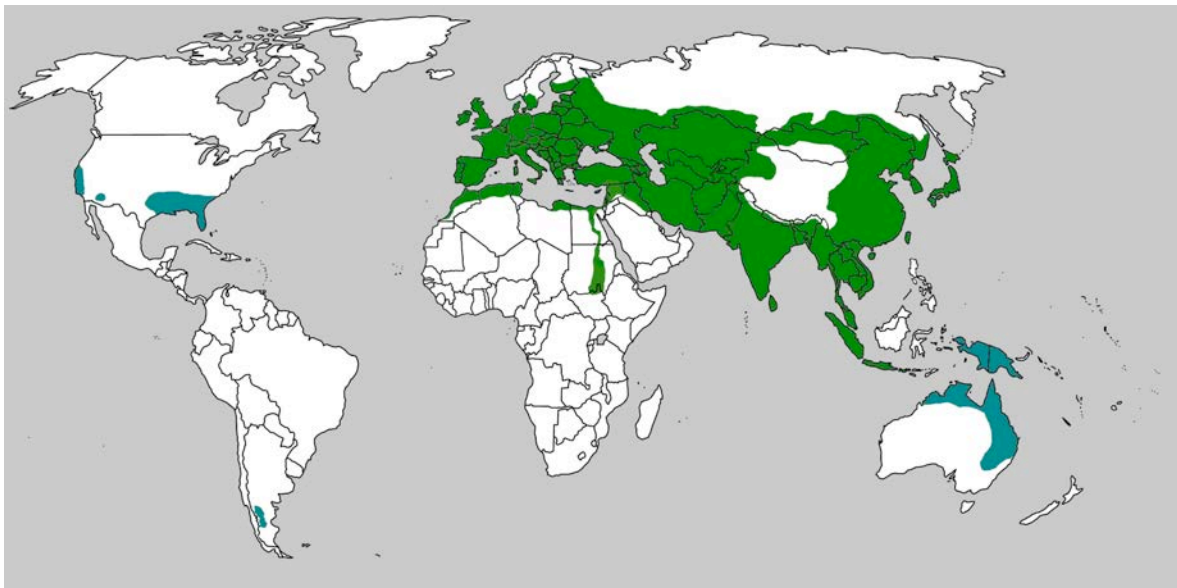


Figure 2. The distribution of wild boar, both its native range (green) and where it has been introduced (blue). Picture from Wikimedia Commons (2007).

The wild boar is an extremely adaptable species and is capable of living in a variety of habitats. Wild boars exist in both natural and cultural landscapes. They even exist in urban areas where they have learned to take advantage of the food resources found there. Wild boars also show a great plasticity in spatiotemporal behaviour. In the presence of human activities wild boars are mostly active during night to avoid human interference, but in the absence of human activities they are more active throughout the day.

The wild boar is omnivorous which means that they eat both plants and animals, although its diet mainly consists of plant material. The wild boar is also opportunistic in its food habits, which means that the choice of food depends on availability. Therefore wild boars can take great advantage of agricultural crops for example. When food resources are abundant survival rate is high. Moreover a high food supply can lead to an earlier reproduction the next year.

Thus most years, supplemental feeding and agricultural crops can lead to rapid increases of wild boar populations.

The future for wild boars in Sweden

In conclusion, there are both positive and negative aspects of the return of the wild boar. Wild boars have both ecological and economical impact and there are many aspects to take into consideration in wild boar management. The wild boar has quite recently established in Sweden and by many people it's still regarded as a pest because of its tendency to feed on agricultural crops. Others regard it as a resource, mainly for hunting. Moreover wild boar fulfil an important role in Swedish ecosystems, for instance by increasing plant species diversity and by dispersing seeds.

Even if wild boars have existed in Sweden for more than 30 years it's still a subject that requires improved knowledge. Many of the ecological effects of wild boar are not yet fully investigated and further studies are needed. The wild boar has caused much debate and is not very popular, but we probably have to learn to live with wild boars and adapt. What we have to keep in mind is that the wild boar once was a native species in Sweden, and that the species probably has an important role and function in the Swedish ecosystems.

Further reading

Björvall A. 2010. Däggdjur i Sverige: alla våra vilda arter. Bonnier fakta, Livonia.
Dück L. 2013. Ekologiska och ekonomiska konsekvenser av vildsvinens (*Sus scrofa*) återetablering i Sverige. Independent Project in Biology, Uppsala University.
Markström S. 2002. Vildsvin. Jägareförlaget, Kristianstad.