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ENVIRONMENTAL BOARD

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Lahemaa Rahvuspark

NATURA 2000

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AMERICAN MINK

WATERSIDE

Here live water animals or animals looking for food or shelter on the banks. In summer twilights and nights, **bats** fly above the water. The **pond bat** and **Daubenton's bat** hover lower and more smoothly, while **Brandt's bat** flies higher. The **water shrew, muskrat, Mink**, and **otter** cannot live without food obtained from water, but the **water vole**, Western polecat, raccoon dog and brown rat also find food here. The place of the European mink has been occupied by its relative from America, the **American mink**, almost on the whole of mainland Estonia. It has also been of use in driving out another alien – **the muskrat** – who was still numerously represented in the 1980s. The raccoon dog that arrived here in the 1950s has, regrettably, completely blended into our local fauna. The low-numbered **otter** feeds mainly on fish, but does not reject muskrat and water birds as well. It leaves behind greenish irregular excrements on bank stones and mud, in which you can notice fish bones. Right next to the excrement, you will find its wide paw prints, where you may notice webs between the toes. Flood meadows and willow thickets are the favourite place of **moose** in summer. Here there are lush bank and water plants that it likes. You can also meet **roe deer** nibbling grass and ploughing **wild boars**, which are in turn followed by large carnivores. In the last 15-20 years, the **European beaver** that arrived in Lahemaa in the late 1980s has become the most common inhabitant of bank areas. In most of the water bodies you can find dams and lodges created by these diligent master builders, dropped or half-chewn trees, and collapsed lodges. One of the most characteristic habitats of beavers and the beaver-study trail is located on the Altja River in Oandu.

Old parks and groves

are a nice habitat for **bats**. When the night arrives, you can meet the noctule in Palmse Park – a skilful flyer and insect-catcher whose wingspan is nearly 40 cm, but who does not hibernate here. The red squirrel is also attracted by hollow trees suitable for nest building, hazelnuts, and spruce and pinecones. The list of species living here is rather long: the European hedgehog, shrews, mice, and European hare; right at their heels the **weasel, stoat, Western polecat, fox**, and **raccoon dog**; on rarer occasions, **moose** and **wild boar**, and sometimes even the **bear**. If the village dogs are leashed and the flow of tourists has diminished, you can see **roe deer** along quite a few park edges.

Open landscapes and human settlements

Fields, meadows and pastures are inhabited by the **hedgehog, common mole, common vole and European** hare, but also the water vole, yellow-necked mouse and house mouse, brown rat, stoat, weasel, and Western polecat. Rodents, sometimes also bats and small carnivores, often find a home in buildings. Even the pine marten occasionally sneaks into henhouses to kill hens. In addition to them, the **long-eared bat** and **northern bat** live in attics, firewood stacks and wall cracks during summer, and some of them could also hibernate in cellars. Nevertheless, none of the game animals is so closely connected to humans and dependant on them as domestic and cage animals – **cat, dog, rabbit**, etc.

Sea.

The **ringed seal** is probably the only mammal permanently inhabiting the bay waters of Lahemaa National Park.

RESEARCH WORK

Large mammals are monitored year in year out, small mammals periodically, according to possibilities. The most comprehensive research of the composition, number, and distribution of species was conducted in the years 1975–1979, after which the Estonian Forest Institute prepared the development plan for Lahemaa National Park. Back then, as well as afterwards, zoologists from the University of Tartu and other institutions have worked in Lahemaa. The Estonian Environmental Board records the data regarding game animals and organises the regulation of problematic species. The more efficient the protection of our fauna is, the more species will find suitable habitats for themselves in Lahemaa, and the richer and more lasting the fauna here and in the whole of Estonia will be.

BEAVER

The moose is perhaps the most studied game species in Lahemaa. The number and composition of the moose community has gone through significant changes. In 1995, the ratio of female moose to bulls in a herd was 1.6:1, and calves formed 18%; in the autumn of 2008, the numbers were respectively 1:1 and 25%; the number of calves has rarely been comparable with the average of Estonia. One would presume great losses of offspring of hoofed animals caused by large carnivores, but it must be taken into account that here the capacity of habitats (current capacity) is smaller than in economic forests, and the supplementary feeding typical of hunting districts is also almost absent here.

Since the 1980s, over 20 components have been found in the late autumn stomach contents of moose, and one half more across the whole of Estonia. Since Lahemaa is mainly covered with coniferous forests, the pre-winter food of moose largely consists of pine, heather, cowberry and bilberry; in recent years, the proportion of willows has also increased. Due to the resin found in these wintry coniferous snacks, they are not as healthy as, for example, eating willows, aspens or alder buckthorn. Because of the poorer food range, the moose of Lahemaa tended to peel spruces en masse in the 1970s and 1980s. In the 1980s, peeling spread all over Estonia, reaching catastrophic levels for forestry in certain places and leading to a notable reduction in the number of elk in the 1990s.

In connection with possible damages and environmental impacts, the authorities of Lahemaa National Park are still forced to limit the number of moose, wild boar, fox, raccoon dog, European beaver, European mink, and some other species. The basis for regulating the number of game animals in the National Park is the procedure approved by the Minister of the Environment. The contemporary balanced regulation of the number of moose in Estonia started in Lahemaa in the late 1980s.

SYSTEMATIC LIST OF LAHEMAA MAMMALS

A. STATUS: I, II, III – species under the first, second, or third category of nature conservation in Estonia, (0 – unspecified);
J – game,
JR – game with population control in LNP,
Jf – occasional population control of the game in LNP;

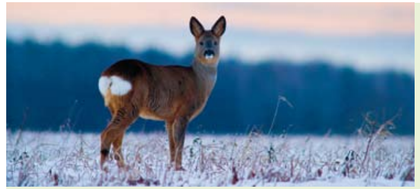
B. OCCURRENCE, NUMBER: 1 – rare;
2 – common or frequent;
? – occurrence probable, but more detailed data required;
3 – random visitor;
1969. – last seen in the indicated year;
170 – number in 2009;

C. HABITATS: M – forest;
P – park;
S – swamp, bog;
V – bank of a water body;
A – open landscape;
I – human settlement;
L – bay, sea

D. LIFESTYLE: Õh – flying in the air;
Pu – on trees;
Ur – in burrows, tree hollows, cellars;
Ve – in water;
Ma – on land;
Tun – hibernate, bats hibernating in caves or cellars;
Rä – migration

NO	ESTONIAN	LATIN	ENGLISH	A	B	C	D
I	**PUTUKTOIDUSED**	**INSECTIVORA**	***INSECTIVORES***				
1	**Siil**	*Erinaceus europaeus*	***European Hedgehog***		1	P, I, (M)	Ma; Tun
2	**Mets-karihiir**	*Sorex araneus*	***Common Shrew***		2	M, P, (A)	Ma
3	**Väike-karihiir**	*Sorex minutus*	***Pygmy Shrew***		1	M, P, (A)	Ma
4	**Vesimutt**	*Neomys fodiens*	***Water Shrew***		1	V, (M)	Ve, Ur,(Ma)
5	**Mutt**	*Talpa europaea*	***Common/Northern Mole***		2	P, A, (M)	Ur, (Ma)
II	**KÄSITIVALISED**	**CHIROPTERA**	***BATS***				
6	**Veelendlane**	*Myotis daubentonii*	***Daubenton's Bat***	II	2	P, V	Õh; Tun, Rä
7	**Nattereri lendlane**	*Myotis natteri*	***Natterer's Bat***	II	?	P	Õh; Tun (Rä)
8	**Tiigilendlane**	*Myotis dasycneme*	***Pond Bat***	II	?	V, (P)	Õh; Tun Rä
9	**Brandti lendlane**	*Myotis brandti*	***Brandt's Bat***	II	2	P	Õh; Tun (Rä)
10	**Pruun-suurkõrv**	*Plecotus auritus*	***Brown Long-Eared Bat***	II	2	P, I	Õh; Tun
11	**Pargi-nahkhiir**	*Pipistrellus nathusii*	***Nathusius Pipistrelle***	II	?	P	Õh; Rä
12	**Suurvidevlane**	*Nyctalus noctula*	***Noctule***	II	1	P	Õh; Rä
13	**Põhja-nahkhiir**	*Eptesicus nilssonii*	***Northern Bat***	II	2	P(), (S)	Õh; Tun
III	**JÄNESELISED**	**LAGOMORPHA**	***LAGOMORPHS***				
14	**Hallijänes**	*Lepus europaeus*	***European Hare***	J	1	P, A	Ma
15	**Valgejänes**	*Lepus timidus*	***White/Mountain Hare***	J	1	M, (P, S)	Ma
IV	**NÄRILISED**	**RODENTIA**	***RODENTS***				
16	**Lendorav**	*Pteromys volans*	***Flying Squirrel***	I	1969.	M	Pu, Ur, Õh, (Ma)
17	**Orav**	*Sciurus vulgaris*	***Red Squirrel***		1	M, P	Pu, Ma
18	**Kobras**	*Castor fiber*	***European Beaver***	JR	150	V	Ur, Ve, Ma
19	**Kaetriibik**	*Sicista betulina*	***Northern Birch Mouse***	III	1	M	Ma, Pu; Tun
20	**Leetlik**	*Glethrionomys glareolus*	***Bank Vole***		2	M, P, (S,V)()	Ma, Ur, Pu)
21	**Ondatra**	*Ondatra zibethicus*	***Muskrat***	Jr	?	V, (A)	Ma, Ur, Ve
22	**Mägri**	*Arvicola terrestris*	***Water Vole***		?	V, (A)	Ma, Ur, Ve
23	**Põld-uruhiir**	*Microtus arvalis*	***Common Vole***		2	P, A, I, (M)	Ma, Ur
24	**Niidu-uruhiir**	*Microtus agrestis*	***Short-tailed Vole***		2	M, P, A, I	Ma, Ur
25	**Kaelushiir**	*Apodemus flavicollis*	***Yellow-necked Mouse***		2	M, P, A, I	Ma, Ur, Pu
26	**Koduhiir**	*Mus musculus*	***House Mouse***		2	I, (A)	Ma, Ur, (Ur)
27	**Põshiir**	*Micromys minutus*	***Harvest Mouse***		1	S, V, A, I, (M)	Ma
28	**Rändrott**	*Rattus norvegicus*	***Brown/Common Rat***		1	I, (V, A)	Ma, (Ur)
V	**KISKJALISED**	**FISSIPEDIA**	***CARNIVORES***				
29	**Kährikkoer**	*Nyctereutes procyonoides*	***Raccoon Dog***	JR	2	M, V	Ma, Ur; Tun
30	**Hunt**	*Canis lupus*	***Wolf***	J	?	M, S, V	Ma
31	**Rebane**	*Vulpes vulpes*	***Fox***	JR	2	M, P, A, (S)	Ma, Ur
32	**Karu**	*Ursus arctos*	***Brown Bear***	J	1	M, S, (P)	Ma, (Pu); Tun
33	**Metsnugis**	*Martes martes*	***Pine Marten***	Jr	1	M, (P)	Ma, Pu (Ur)
34	**Ahm**	*Gulo gulo*	***Wolverine***	III	3	M, S	Ma, Pu
35	**Nirk**	*Mustela nivalis*	***Weasel***		1	M, P, V, A, I	Ma, (Ur), Pu
36	**Kärp**	*Mustela erminea*	***Stoat***		1	M, P, V, A, I	Ma, (Ur), Pu
37	**Naaritis**	*Mustela lutreola*	***European Mink***	I	?	V	Ma, Ur, Ve
38	**Tuhkur**	*Mustela putorius*	***Western Polecat***	J	1	P, I, (V, A)	Ma, Ur, (Pu, Ve)
39	**Mink**	*Mustela vison*	***American Mink***	JR	1	V	Ma, Ur, Ve
40	**Mäger**	*Meles meles*	***Eurasian Badger***	J	1	M	Ma, Ur; Tun
41	**Saarmas**	*Lutra lutra*	***Otter***	III	1	V	Ur, Ve, (Ma);(Rä)
42	**Ilves**	*Lynx lynx*	***Lynx***	J	1	M, (V, S)	Ma (Pu)
VI	**LOIVALISED**	**PINNIPEDIA**	***PINNIPEDS***				
43	**Viigerhüljes**	*Phoca hispida*	***Ringed/Common Seal***	II	1	L	Ve, (Ma)
44	**Hallhüljes**	*Halichoerus grypus*	***Grey Seal***	II	?	L	Ve, (Ma)
VII	**VAALALISED**	**CETACEA**	***WHALES***				
45	**Pringel**	*Phocoena phocoena*	***Harbour/Common Porpoise***	III	?	L	Ve
46	**Valgevaal**	*Delphinapterus leucas*	***Beluga/White Whale***		1985	L	Ve
VIII	**SÕRALISED**	**ARTIODACTYLA**	***ARTIODACTYLES***				
47	**Metssiga**	*Sus scrofa*	***Wild Boar***	JR	250	M, S, V, P, A	Ma
48	**Punahirv**	*Cervus elaphus*	***Red Deer***	J	?	M, S, P, A	Ma
49	**Metskits**	*Capreolus capreolus*	***Roe Deer***	Jr	600	M, (S), P, A	Ma
50	**Põder**	*Alces alces*	***Elk/Moose***	JR	170	M, S, V, P (A)	Ma

ANIMALS OF LAHEMAA



ROE DEER

Lahemaa is an area with the some of the most varied natural conditions in Northern Estonia. The great majority of mammals observed in Estonia, nearly 50 species, live here. The borders of the national park founded in 1971 have been changed many times. After the reductions that have taken place since 1997, the total area of Lahemaa National Park as at 2009 is 72 500 ha, forests cover 70% of the land area, swamps 9%, and open areas 21%.

FORMATION, CHANGES

The present-day fauna of the territory of Estonia developed over a period of 10–12 000 years, after the recession of the continental ice and sea. This rather short interval in the history of nature has included the transition from reindeer-tundras to broad-leaved forests with wild boar and aurochs, and Litorina-swamps with moose, European beaver, and otter. Species with various adaptations have remained in Lahemaa from these times, starting with the European hedgehog, common mole and bats, and ending with large carnivores and moose. Reindeer, however,

BADGER

probably disappeared about 6000–7000 years ago, and aurochs and tarpan about 3000 years ago. The flying squirrel, which can still be found mainly in North-Eastern Estonia, has not been seen in Lahemaa since the 1960s. In the 1990s, the American mink drove the European mink out of one of its last refuges. Relatively new but recurring inhabitants are the wild boar and European beaver. Of foreign species, the muskrat and raccoon dog reached our territories after World War II. As random visitors, a white whale was observed in 1985, and a wolverine in 1987 and probably also in 1995. It is also possible that a red deer has come here from Lääne-Viru County.

MEETING THE MAMMALS

The whole of Lahemaa National Park is a good school for the novice nature fan, but one should start with the Oandu study trails. Animals can primarily be found in habitats typical to them, which are also indicated in the list of mammals in the booklet. Traces of activity by hoofed animals and larger carnivores are easier to notice and recognise. If you have found a trail, burrow or tracks, just be patient and you might see the animals themselves as well. Herewith, do not forget that you have to move very quietly.

Small mammals can be sighted in holes or ditches and sometimes also loping across the roads. Their tracks are infrequently encountered – on sand or mud, and on snow during winter.

FOX

HABITATS AND INHABITANTS

Forests cover over half of the land here. In Lahemaa National Park, you will meet mammals mainly on land, but also in burrows dug into the ground and in the canopies. Small mammals like the **common shrew, yellow-necked mouse, red squirrel and Northern birch mouse**, and larger ones like the **Mountain hare, pine marten, badger, fox, wolf, raccoon dog, wild boar, roe deer and moose** mainly live in the forest, but also in other habitats. In Estonia, there are about twenty species whose main habitat is forest. Most of them are on the move all year round. In winter, the **brown bear, badger, and raccoon dog** undertake a hibernation of a couple of months, which may be disturbed by thaws. The **Northern birch mouse**, however, remains in a deep sleep from September to spring. A typical forest inhabitant is the **Mountain hare** – a small animal with a cleft upper lip, wide paws, and almost completely white fur in winter. The white hare nibbles its own excrement to support the digestion process, leaving behind round hard droppings in the forest. Several carnivorous species, from pine marten to wolf, love to feast on the white forest hares.

EUROPEAN HARE

PINE MARTEN

The slender **pine marten** with brown fur and a yellowish-orange "bib" on its throat moves mainly on the ground, but also in tree canopies when hunting squirrels or escaping an enemy. It leaves paired tracks about the size of a fingertip in the snow. The largest weasel is the **badger**, with a light-coloured muzzle and dark eye stripes, who can sometimes weigh up to 30 kg. When looking for food at night, this burrow inhabitant who is externally calm but very sturdy when protecting itself against an enemy, leaves tracks on its trails distinguishable by the marks of its long claws. At the mouth of its burrow, the badger heaps sand walls the height of ploughed furrows. It digs its burrows in old beach ridges and moraine formations.

Fox tracks can more often be seen in winter along forest fringes, and on meadows and fields, where Reynard the Fox feasts on mice or tries to sneak up on a hare. Its tracks are usually smaller and more oval than a dog's tracks.

BROWN BEAR

The **brown bear** is perhaps the most common of the large carnivores of Lahemaa. It moves in large forested areas as well as around settlements from March to November, sometimes also in winter. The over 12 cm wide paw prints of old bears are easily recognisable. The paw print of a bear cub under one year old is 5–6 cm, the print of a bear over one year old is 8–9 cm, the paw print of a young sexually mature bear is over 10 cm, and the print of more respectable bear gentlemen may be 17 cm wide or more. In addition to wild animals, a bear will sometimes also attacks domestic animals and ravage beehives. In the forest, bears leave behind split stumps and destroyed anthills. Even an adult moose can become a bear's prey, not to mention a calf. When the weather is warm, the smell of the carrion spreads far, attracting other carnivores as well. Since male bears have a habit of killing the cubs of another bear, bear cubs climb into the treetops to hide.

If you encounter the bruin unexpectedly, try to stay calm to avoid an attack. Do not start to run or look into its eyes, but let it go its way. Back down the path you came from quietly, humming, showing that you have no bad intentions.

Wolves were spotted more frequently here in the 1950s, but have rarely been seen in Lahemaa in recent years. Its paw print may be over 10 cm long. In snow, a wolf pack follows the same trail. Only the turn of the trail or the beginning of the hunt could betray the real size of the pack.

ILVES

The **Lynx**, our only wildcat, does not only live in a solitary forest and windbreak, but prefers places where there are prey animals – roe deer, hares, etc. It is very skilled in creeping up on its prey, and uses its claws only for catching its victim, climbing up a tree, or for self-defence. If possible, the lynx kills more than it is able to eat at one time, and does not eat frozen food.

Carnivores are far from being great friends with each other. The wolf and lynx keep the number of foxes and raccoon dogs "under control", furthermore, the bear also hunts raccoon dogs and the lynx occasionally kills pine martens.

Wolf and lynx do not usually attack humans. However, a female elk or wild boar protecting their offspring or an annoyed bull during the rut could attack.

If you notice a wild animal behaving strangely, it may be suffering from rabies. Be careful, try to avoid contact with such an animal and notify the authorities of the National Park of the incident.

WILD BOARS

THE APPROXIMATE NUMBERS OF SOME MAMMALS:

Game	1976	1980	1985	1990	1995	2000*	2005*	2009*	2010*
Moose	900	650	370	350	150	170	270	180	195
Roe deer	1600	310	340	340	400	100	350	590	610
Wild boar	400	500	250	250	260	115	230	250	210
Bear	5–10	5–10	over 10	over 10	over 10	1–5	1–5	5–10	10–15
Wolf	1–5	5–10	1–5	1–5	5–10	1–5	lk	lk	lk
Lynx	1–5	5–10	5–10	5–10	5–10	5–10	1–5	5–10	10
Beaver	–	–	–	1–5	5–10	25–30	100	150	150

*reduced land frontier (1997); lk – passer through

In the wintry quietude, hoofed animals, pine marten, red squirrel, and fox enliven the forests of Lahemaa. The Marten's paired tracks, the size of a fingertip in the snow, form a long chain that sometimes leads to a slain mouse. In winter, the **roe deer** has a greyish hide and white rump patch, in summer it is reddish brown. Animals gathering into a herd for winter tread permanent trails in a cowberry and bilberry pine forest, to the edge of a forest glade, or a sprout field. Here, a wolf, lynx, or stray dog could prey on and kill roe deer. In winter, the **wild boar** enjoys itself in damper spruce-dominant forest stands, where the snow is not so thick.

MOOSES

From spring, sows also go to "plough" fields and meadows, and sometimes even the lawn of summerhouse yards. The activity of the wild boar sounder is marked by ploughing and sleeping beds and trails connecting them. It is easy to notice farrowing dens of spruce branches, moss and dead grass piled up by females. Adult males usually keep a distance from others. When suddenly disturbed, you will hear the growl of a sullen beast and its tail that always lashes so joyfully will jump up quickly.

The **moose** has adapted well to the severe conditions of the Nordic countries and has been a constant inhabitant here after the Ice Age. Characteristic to its appearance are its high legs that are of lighter colour below, its long muzzle, and greyish to dark brown fur. Bulls grow new antlers each summer that are shed off by the winter. Males have a larger hairy dewlap under their throats than do calves or females. In the forest, you can discover signs of the activity of moose – coniferous and broadleaved trees that have been polished or peeled with antlers during feeding, trees with clipped offshoots, or just split trees. The moose eats coniferous trees from autumn to spring and broad-leaved trees year-round. In summer, it also eats herbaceous plants.

RACCOON DOG

Mires

Treeless bogs offer little food and shelter. However, young pine, birch, and willows still grow in the border areas and ridges here. **Moose** spending their winter here leave behind deep resting beds and many piles of droppings in the snow. By studying the droppings, it is possible to discover in spring where the moose stayed during winter. The **wild boar**, too, seeks shelter in the ridges between swamps when spring and farrowing time starts to arrive, leaving behind dens lined with branches and dead grass. The **wolf** and **bear**, and sometimes also the **lynx**, move along the ridges when hunting for prey. The **fox** and **raccoon dog** dig burrows in the sandy hillsides. Wild boar and moose trails running along higher ditch banks are better visible here than in the forest. Right next to these, on the muddy ditch bank, you may come across wolf or bear tracks. A raccoon dog searches for berries, mice, and bird nests in the mires.

OTTER