

European bison, conservation, habitat, translocation of animals

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Abstract: In paper we present experiences with **threefold system** for European bison transport: a relaxing plant feeding, training to cross a corridor and loading the entire herd together. We completed a 1,800-kilometer transport in a total time of 24.5 hours without bumps, incidents, or high stress.

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In 2025, a breakthrough in European bison transport was achieved with a 1,800-kilometer journey between France and Portugal, from the Biologique des Monts d'Azur reserve to the Val do Feitoso project in Portugal. The transport was carried out safely and with unaccustomed calm for the animals.



The innovation is based on three essential aspects:

1. The European bison are given extra feed in the days before transportation, mixed with an additive of *Valeriana officinalis* and *Passiflora incarnata*, both plants with calming and relaxing effects.
2. Training the group of European bison to be transported in the days before transportation so that they walk together through a corridor when leaving the feeding area and stay together.
3. The entire group is loaded onto the truck together, and not individually, without chemical sedation or anesthesia. This is only possible thanks to a very special innovation in the transport vehicle.

Each of the points are described below and it is explained why all 3 points are absolutely essential for the success of the transport.

Relaxing natural plants as an addition to the supplementary feed, given a few days before transportation. The European bison were given an additive to their daily feed ration. The additive is a mixture of a product containing *Valeriana officinalis* and *Passiflora incarnata*. The dosage used is 10 grams of additive per kilogram of supplementary feed. Each European bison eats about 3 to 5 kg of concentrated feed per day before transportation, in addition to hay and dry grass at their own discretion. This means that they receive a ration of the supplement Relaxing Plants of 30 to 50 grams per day. On the second day of administration of this additive, the stress level and interest in their environment or in the reactions of other animals decreased noticeably in the European bison group, they became calmer and had a higher arousal threshold.

In this case, the preparation was administered for 5 days before transportation. During this period, the European bison showed significantly more relaxed behavior, with slower movements, greater relaxation, and no violent interactions with each other, even on the day of capture for transport on the truck.

The relaxing plant mixture has several advantages over chemical sedatives or tranquilizers.

1. By administering it orally with the feed, the animals ingest the mixture without realizing they are ingesting a sedative, avoiding the stress associated with darting or injecting drugs.
2. The sedative effect is maintained in the body through continuous administration with food and exceeds the duration of action of relaxing drugs, even slow-release ones.
3. As it is a potent mixture, the dose can be increased without affecting absorption.

4. The risk of overdose is practically nil as it is a complex of relaxing plants.
5. It is a much more favorable formula for the relaxation and calming of groups of animals, not only for the preparation of transports, as in the present case, but also for any other type of treatment of groups of animals.

The **training of the group of European bison** to be transported is carried out in conjunction with the provision of palatable feed, such as concentrated feed or pellets, combined with an additive.

For this purpose, the animals were housed in an enclosure of approximately 10,000 square meters (one hectare) within the 700-hectare project area. Within this enclosure, a more permanent enclosure of approximately 300 square meters was constructed with an entrance gate and an exit passage to the larger enclosure. The exit is at a point where a truck can reach it.

The training consists of providing the most palatable food in this enclosure every day, waiting for the animals to go in to eat, locking them in this 300 square meter enclosure, and, once they have eaten, opening the gate to the passageway and letting them return through the passageway to the larger one-hectare area. In the larger enclosure, they must be given hay and water. This dynamic helps the animal to understand that it is never trapped, but goes out through the corridor and returns to its previous normal state.

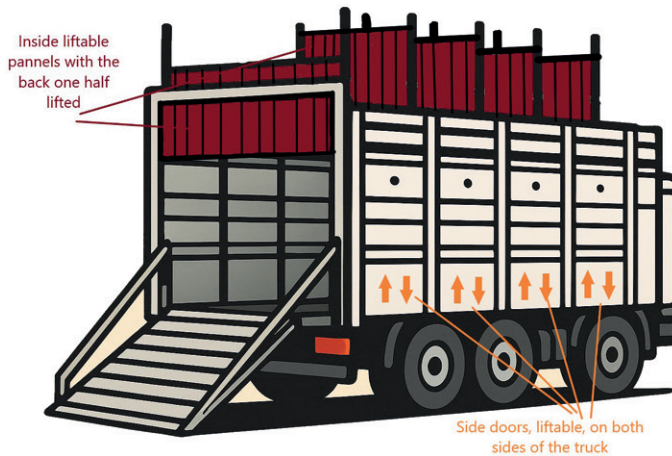
The design of this small enclosure, the exit corridor, and the way the European bison are herded out through the corridor can be adapted to the specifics of the project, but must be simple and safe for both the operators and the animals.

This training system is also very effective for sociable animals such as European bison, who feel safe when they move together, especially, when staff force the European bison to leave an enclosure through a corridor. The corridor must be straight and visible at the end, with a gate at the beginning and end to prevent the herd from turning back when they enter the corridor, and a gate at the end to prevent the animals from entering the corridor in the wrong direction. It is important that the animals only ever use the corridor in one direction.



In addition, the herd relaxes when it can return from a smaller space to a larger, familiar space. With training, the herd quickly understands the dynamics and calmly repeats them, even when people they don't normally see and a truck come to load the food on transportation day. This calmness is also due to the combination of repeated training, the intake of the calming plant supplement and the appetite for tasty feed or pellets.

Thirdly, innovation in loading is very important. We have succeeded in finding a special truck for the transportation of 10 to 12 European bison or similar animals. This truck consists of a rear loading ramp, 20 side doors (10 on each side), and 9 inner partitions that can be raised from the roof of the truck and raised and lowered like a guillotine. When folded up, they create a single, open space along the entire length of the truck, allowing us to load the entire herd onto the rear ramp simultaneously and together by simply placing the rear ramp at the end of our corridor.



To prevent the animals from jumping out over the sides of the loading ramp, we covered the entire ramp with an opaque plastic sheet.

Since the truck has the ability to raise the dividers, we will load all the European bison onto the truck by placing the truck at the end of the aisle, closing the rear door of the truck and placing all the animals inside the truck, and then the dividers will be slowly lowered from the roof like a guillotine, to put each European bison in its place

The difference between loading the herd at the same time and later separating the individual animals in the truck or trapping them individually, either via transport crates, doors, ramps, corridors, or even worse, anesthetizing each animal individually, loading them onto the truck with a shovel or tractor, and waking them up in their box, is very important for the relaxation of the animals and the risk of the procedure.

The European bison know at all times how they got into this confinement; they know they are all together, they know which others are on the truck, and the experience was completely relaxing, both during loading onto the truck, transportation and release.

In this case, with this particular truck, it is important that there are 10 side doors on each side, which can also be opened from the roof like a guillotine. These doors allow both feeding and watering of the animals during the journey and access to each animal's box, from the head or tail, if veterinary assistance is required.

This truck even has windows in the roof through which the animals can be fed and through which their microchips, in the neck or their electronic ear tags can be read with a reading pen. Access to the animals is possible from above, from the front, and from behind.

At the end of the loading process, each European bison is placed in an airtight, breathable and accessible space measuring 80 cm x 245 cm, where the animal can stand and lie down, but cannot turn around.

The loading process in France, at the Biologique des Monts d'Azur reserve, took 10 minutes from the moment we started until each European bison was in its box. Loading the entire herd at the same time is much faster than loading the individual animals. When the animals are loaded individually, the first one to get on the truck usually has to wait hours for the truck to leave.

The animals relax once the truck starts moving, so this process is overall relaxing because of the things done and because the ones avoided.

With this **threefold system** — training to cross a corridor in anticipation of the big fence being at the end, a relaxing plant feeding and loading the entire herd together — we completed a 1,800-kilometer transport in a total time of 24.5 hours, with three feeding and water stops, without bumps, incidents, or high stress (no sweating, expression of stress, or weight loss). Upon arrival, we were able to release the animals into the acclimatization enclosure completely relaxed.

The truck also allows for a very gentle release, as we can lift all the inside walls before lowering the rear ramp and opening the last door, so they are all together first. Then we open the rear ramp and slowly, and carefully, close the panels from the cabin towards the exit ramp, so that there is no more space inside the truck and the herd is forced to slowly exit the exit ramp.

Żubry, ochrona, translokacja zwierząt

Streszczenie: W artykule przedstawiamy doświadczenia z trójstopniowym systemem transportu żubrów: karmienie relaksującymi roślinami, nauka przechodzenia przez korytarz i załadunek całego stada razem. Transport na dystansie 1800 kilometrów zrealizowaliśmy w łącznym czasie 24,5 godziny bez kolizji, incydentów i dużego stresu.
