



LIFE Population level management and
DINALP conservation of brown bears in northern
BEAR Dinaric Mountains and the Alps



LIFE13 NAT/SI/000550

PROPER USE AND OPERATION OF THE BEAR-PROOF GARBAGE CANS AND COMPOST BINS IN RAKITNA – TECHNICAL REPORT

Action C.1: Conflict mitigation in the hot-spot areas – organic waste

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1. Introduction

Rakitna (see map 1) is situated at the area, surrounded with forest. Besides conflict that occur between humans and bears, because of numerous tourists and therefore raising awareness, implementation of such measure in this »hot-spot« is of great importance. Before bear-proof garbage housings for large (~ 1000 litre) containers at Lake Rakiško surroundings and compost bins at the southern part of the settlement were set up. Before the measure implementation, bears often approached to the human settlements because of the open compost bins and therefore available anthropogenic food.



Map 1: Location of the settlement Rakitna in Slovenia (in green).

2. Description of implemented measures on the »hot-spot«

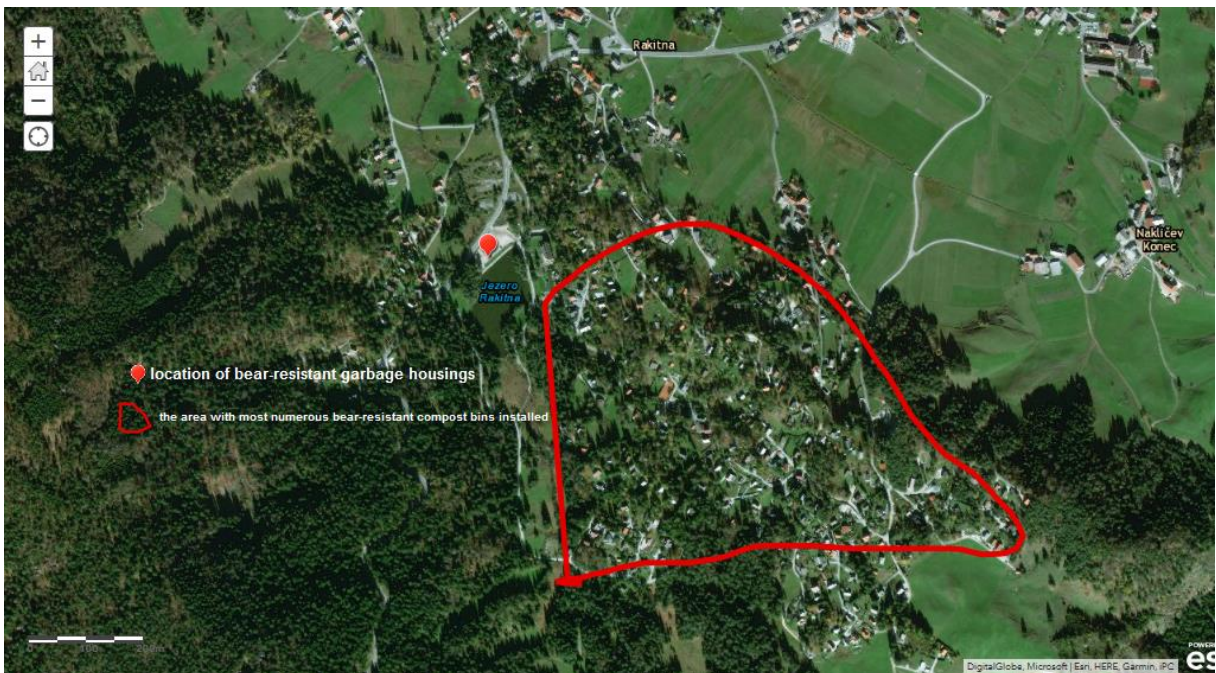
In addition to the fact that the lake surroundings are exposed to visits to bears, it is also a popular tourist destination and therefore of particular importance. For this reason, we found this location (see map 2) very suitable to raise awareness (figure 1) among local people and also tourists. We set up twelve bear-proof enclosures for garbage cans (figure 2) to prevent bears coming to that site. For keeping bears away from human settlements, we equipped sixteen households and one holiday cottage with bear-proof compost bins (see map 2).



Figure 1: Information board for raising awareness about the importance of bear-proof garbage cans with recommendations for proper usage.



Figure 2: “Bear-proof” garbage housings for large (~ 1000 litre) containers at Lake Rakiško surroundings.



Map 2: Locations of implemented measures in Rakitna.

3. State of implemented measures on different locations

3.1 Bear-proof garbage housings at Lake Rakiško surroundings

Local people accepted implemented measures very well. Besides easy to use, the aesthetic design of enclosures surely contributes to better acceptance among local people and also tourists. After the control visits of proper use and operation of “bear-proof” garbage housings for large (~ 1000 litre)

containers we found that after the winter they are in a very good condition, even if they were exposed to severe weather conditions.

We found minor irregularities:

- a) **inconsistent use:** on only one occasion, we found that one of the garbage containers was overfilled, but the cover of the casing could still be closed. At the same time, two of the enclosures were not closed (figures 3 and 4), which would allow the bear to access the contents of the garbage containers. The solution is additional raising awareness of the local inhabitants, which we will try to achieve through an organized lecture/workshop, and also through individual contacts with people.



Figure 3: Overfilled garbage container.



Figure 4: Opened door of the garbage housing.

3.2 Bear-proof compost bins

In general, users are extremely satisfied with their "bear-proof compost bins (figure 5), due to the significantly fewer bear visits expected, and in addition, as well as their aesthetics. They are made from natural materials (massive oak wood) that beautifully enrich the garden of each house in the countryside. Even the compost bins were exposed to severe condition during the winter, the oak wood remained undamaged.



All of the users have their compost bin installed properly. During our first control visit in autumn 2017, we noticed that only one user, who was rearranging the garden at that time, did not anchored the compost bin. After he was informed about the importance of properly installed compost bin additionally, he immediately corrected the irregularity.

Figure 5: Installed “bear-proof” compost bin.

Besides anchoring, some of the users fixed their compost bins to the base concrete slab to protect them additionally (figure 6). This points to great understanding of the implemented measure purpose and additional inventiveness of the compost bin owners.



Figure 6: Additional fixed “bear-proof” compost bin to the base concrete slab.

During the control visits, we found minor irregularities:

- a) **technical irregularities:** with two users, the cover lid become rusted (figure 7).

One of the users (figure 8) coated it with a rust remover and will then fix it back to the compost after cleaning. For other users, the pin does not rust, mainly because of constant use of prevention (anti-rust coating agents).

The observed irregularities do not affect the overall proper operation of the compost bins and their protection against the access of bears to the contents.



Figure 7: Rusted cover lid.



Figure 8: Removed cover lid and coated with a rust-remover and installed back after the remediation.

After the implementation of the measure, the inhabitants do not perceive the presence of a bear in the near vicinity of houses. For that reason, all of the recipients are highly satisfied (figure 9) with their compost bin, since they are serving their purpose very well.

At the beginning of the winter, only one recipient observed bear's traces and scats around the compost bin. Nevertheless, the compost bin has remained untouched, since its contents were not available for the bear. This is an additional confirmation of the effectiveness of the implemented measure.



Figure 9: One of the very satisfied “bear-proof” compost bin owners.

4. Overall measures condition and implications for further usage

4.1 Bear-proof garbage housings at Lake Rakiško surroundings

Some minor inconsistencies in use were observed during the control visits of the “bear-proof” garbage housings for large (~ 1000 litre) containers. For the purpose of additional raising awareness among the locals about the importance of the correct and consistent use of garbage housings, we will organize a lecture/workshop on this subject and also maintain our well-established personal approach.

4.2 Bear-proof compost bins

Bear-proof compost bins have been serving their purpose very well. Apart from some cover lid rusting, major problems do not occur. The lid rust does not appear in compost bins of the users, who consistently take care of their compost bins and coat lids with protective agents. In addition to anchoring, some recipients also fortified their compost bins by fixing them on the base concrete slab. Given the good condition of the compost bins and only some of the problems that occur with individual users, no special intervention is needed. We will inform the manufacturer with the recommendations of the users for further production: the lid should be made from stainless materials in the future and the possibility of opening an additional, third lath, for easier compost bin emptying. Since we did not find any irregularities in compost bins' use, it can be assumed that our individual consultations with the users have been very successful.