


## Construction of stone and deadwood piles

<b>Goal</b>	Provision of habitat and winter quarters for a variety of different beneficial animals and wildlife
<b>Target group</b>	All farms of any production type can apply this measure.
<b>Description of the measure</b>	<p><u>Site, material and construction of stone piles</u></p> <p>Stone piles can be established all-year, but ideally between October and April out critical areas, and between October and January in the critical areas (into Natura 2000 sites). Volumes of at least 2–3 m<sup>3</sup>, ideally 5 m<sup>3</sup> are recommended. Suitable are sunny, wind-protected and undisturbed sites at a margin of a land-use area. 80 % of the stones should have a grain size of 20–40 cm, the rest may be finer or coarser. It is important to use rocks which origin from that area. The piles should have a height of 1 m in the centre. It's not advisable to make more than 1 stone pile per ha, the distances between one pile to another should be more than 1 km.</p> <p>First, a ditch of about 80–100 cm depth may be digged which should be filled with a 10 cm deep layer of sand and gravel. Than the ditch must be filled with stones. By piling up the stones watch out to create suitable, flat hollows. If possible, let the margin of the pile frazzle to create a wide transition zone between vegetation and stones. Ideally, here a perennial herb zone establishes which is interrupted by a few stones. The excavation can be deposited on the northern facing slope of the stone pile and may be filled up with soil in order to allow self-establishment of herbs.</p> <p>Or the easy version: Piling suitable stones on an already vegetated area. Size and shape of the pile may vary, depending on space. Frazzle margins as described above.</p> <p><u>Site, material and construction of wood piles</u></p> <p>Deadwood piles can be established all-year, but ideally between November and March. Suitable are sunny, wind-protected and undisturbed sites at a margin of a land-use area. Piles ideally measure a diameter of 1,5–2 m and a height of 1,5 m. To avoid waterlogging, a 20cm gravel layer beneath is advisable. In the center, a straw bale or wood shavings, covered with plastic, may be placed. Than twigs, branches, stumps and roots may be piled. In this way, tree cuttings may be disposed useful by creating a biotope.</p> <p><u>Maintenance</u></p> <p>Stone and deadwood piles require minor care. What matters is the establishment of an extensive herb or grass margin. Ideally, this area measures at least 50 cm, stays fallow and gets only cut in case of scrub encroachment. It is very important that no pesticides are applied in a distance of 3 m.</p> <p>Shrubs growing on the side which is shaded by the pile are ok as long they do not shadow the pile. Thus, shrubs and trees in the surrounding which shade the pile need to be pruned. Plants such as ivy and clematis may overgrow the pile partly but not completely as it does not provide habitat for sun-dependent species anymore otherwise. Herbal vegetation islands, which establish over the years, may remain as well.</p>

Suitable sites	<ul style="list-style-type: none"> <li>▪ Sunny sites close to linear structure such as margins, hedges and other shrubby structures.</li> <li>▪ Advisable to pile up the stones in places with high surface stoniness or in places where the mother rock emerges. Do not deposit the stones in areas with natural vegetation.</li> </ul>
How a good implementation looks like	<ul style="list-style-type: none"> <li>▪ Surfaces of about 15 m<sup>2</sup> and 1 m of height</li> <li>▪ Piles are maintained and not overgrown with vegetation</li> </ul>
<b>Effects on biodiversity</b> (ecosystems, species, soil biodiversity)	<div data-bbox="395 1037 504 1335">  </div> <p>Stone piles are dry and warm habitats and therefore important biotopes for native species.</p> <p>They provide valuable hiding, sunbath places and winter quarters for many different <b>heat-dependent animals</b>, such as lizards or blindworms. Bigger holes close to the ground are also used by mammals. Furthermore, piles pose habitats for <b>thermophile plant species</b>. As stones store heat from the sun and expose it at night, stone piles provide resting but also hunting habitats for nocturnal insects and reptiles.</p> <p>Deadwood piles provide <b>nesting, development, hibernation and hiding</b> place for various species:</p> <ul style="list-style-type: none"> <li>▪ Beetles and larvae feed on deadwood</li> <li>▪ Beneficials settle in deadwood</li> <li>▪ Earwig, ichneumonid, ladybug ground beetle and spiders find habitat in deadwood piles</li> <li>▪ Toad, frog, newt, lizard and other amphibian and reptiles, shrews, hedgehog and weasel use deadwood piles as winterquarters. Stone piles are an important habitat for rabbits, carnivorous predators and birds of prey.</li> <li>▪ Partridges and warbler use stone/deadwood piles as nesting site</li> </ul> <p>Migrating birds use piles as resting site during passage in autumn and spring</p>
<b>Other positive effects/benefit for the farmer</b>	<p>The described biotope promotes many different beneficials. Starting with wild bees, which find nesting habitats and constitute important pollinators, up to small predators such as marten, fitch and weasel, which may help controlling the mice population. Amphibians and reptiles such as sand lizard, common toad and blindworm feed on pests. Overall, this measure can therefore help reducing the use of pesticides.</p>
<b>Indicator/key data</b>	<ul style="list-style-type: none"> <li>▪ Number stone/deadwood pile</li> <li>▪ Volume of stone/deadwood piles</li> </ul>

<b>Risk and further recommendations</b>	Please check wood before piling on pests such as elm bark beetle or bark beetle to avoid spreading on surround forests.
<b>Timeframe</b> (When to start a measure and anticipated time for implementation)	When to start: Construction ideally in autumn-winter time, from October to April, but in critical areas restricted from October to January
<b>Additional special resources/equipment/skills needed</b>	Wood as well as stones ideally originates from the surrounding, e.g. collected on agricultural plots. Especially for soils with a high stoniness surface, this measure is more efficient, supposing an improvement. In some Spanish Regions it's part of agri-environmental schemes or measures under II pillar of CAP
<b>References</b>	<ul style="list-style-type: none"> <li>▪ <a href="http://www.landwirtschaft-artenvielfalt.de">www.landwirtschaft-artenvielfalt.de</a></li> <li>▪ Promotion of biodiversity in fruit plantations – NABU; REWE and Lake Constance Foundation, 2015</li> <li>▪ Stiftung Rheinische Kulturlandschaft, DBU: Abschlussbericht Maßnahmen- und Artensteckbriefe zur Förderung der Vielfalt typischer Arten und Lebensräume der Agrarlandschaften, 2018</li> <li>▪ Catálogo de buenas prácticas para la gestión del hábitat en Red Natura 2000: bosque y matorral mediterráneos, <a href="http://ec.europa.eu/environment/life/publications/otherpub/index.htm">ec.europa.eu/environment/life/publications/otherpub/index.htm</a></li> </ul>

## Further information: [Knowledge Pool](#)

This Action Fact Sheet belongs to the training package for advisors of standard organisations and companies and was developed within the project LIFE Food & Biodiversity (Biodiversity in Standards and Labels of for the Food Industry). The main objective of the project is to improve the biodiversity performance of standards and sourcing requirements in the food industry by helping standard organisations to integrate efficient biodiversity criteria into their schemes and motivating food processing companies and retailers to include comprehensive biodiversity criteria into their sourcing guidelines.

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