

# Sustainable orienteering events



Orienteering in harmony with nature



# Orienteering is already one of the most sustainable sports. Why?

**Firstly**, our sports grounds are forests and cities – we don't need to build halls or stadiums, we can make orienteering with what nature gives us or has already been built before.

**Secondly**, the center of the race is built only for the purpose of holding the event for the necessary number of days – once the event is over, the organizers clean everything up again – the meadow can again serve as pasture, the square as a space for citizens and tourists.

**Thirdly**, orienteering are not demanding on energy resources – our own muscles are our drive, and our "sports field" does not need to be heated or air-conditioned.

**Fourth**, we reuse almost all material (tents, tables, control, etc.) or borrow (fences, toilets), or we use ready-made infrastructure. We don't make things that would only be used once.

**Fifth**, it is precisely our dependence on natural or urban environments that motivates us to take care of nature and the landscape, to which we want to return in the future.

But orienteering can be even more gentle – to nature and the landscape, to materials and resources, and to the wallet of the organizers. This guide will help organizers find the way to sustainable solutions in seven areas: administration, transport, material, refreshments, waste, nature and landscape care and participant education. Each area is supported by examples of good practice that we can meet at orientation events.



# Climate change

Current **climate change** is caused by human activity. The burning of coal, oil, natural gas and some other activities change the composition of the atmosphere, add greenhouse gases to it, and a number of negative consequences are associated with it:

- more frequent weather extremes (long-term drought, heat waves, floods, lack of snow and others),
- the average annual temperature in the Czech Republic has increased by 2.0 °C over the past 60 years,
- roughly 25% of mammals, 33% of reptiles and 66% of amphibians are more or less threatened with extinction, [1]
- every year, 13 million hectares of forests disappear on the planet, which corresponds to the area of the Czech Republic and Slovakia combined. [2]

**Sustainability** is not only responsible management of resources, care for the climate and the environment, which are mentioned here most often. Sustainability is also financially responsible and efficient organization of events or developing the potential of organizers.



# Administration

---

Being sustainable does not necessarily mean spending more money to achieve the same goal. Often the opposite is true. As far as administration is concerned, "Think before print" is sufficient as an example. Digitization is the way to minimize printing and the resulting paper waste, be it information about the race or the display of race results.

---

- **Limit printing** (e.g. instructions and other information to be published in ORIS or on the race website, proof of payment can be downloaded from ORIS or sent by e-mail upon request).
- Prefer **black and white printing** on paper from certified sources (eg FSC) or recycled paper.
- Also use one-sided printed papers (e.g. for children to draw in the race kindergarten, offer to the organizers to write at home, ...).
- **Print the results and startlists** of the races to a limited extent, possibly "continuously", i.e. not by category:
  - publish online and share via QR code ([QR code generator](#)),
  - if the organizer has suitable equipment, project the results on television.

**Beware of greenwashing, this is a marketing activity where organizations mislead consumers about their environmental performance.**



---

Up to 3 kg of wood and 85 liters of water are needed to produce 1 kg of paper (approx. 200 sheets) [3]

---

# Transport

---

Limiting the consumption of fossil fuels is one of the basic pillars of reducing the ecological footprint of events and races. Event participants should minimize personal car transport and prefer the most environmentally friendly means of transport (walking, cycling), if this is not possible, choose public transport (train, bus). The last variant is the option of personal car transport, where it is desirable to motivate passengers to drive with full cars, or to offer carpooling.

---

- **Motivate mass, pedestrian and bicycle transport:**
  - choose an event center with good access to public transport,
  - mention in the instructions the nearest train and bus stops, timetables, etc.,
  - the possibility of providing a coupon or a discount on a drink/food when presenting the ticket to the event venue (e.g. a 0,5 EUR discount voucher issued at the presentation).
- **Motivate to drive full cars, or carpool** (if possible):
  - free parking when occupied by at least 4 people in a 5-seater car,
  - parking fee depending on the number of people in the car, 1 person = 10 EUR, 4-5 people 2 EUR,
  - create a shared carpool table for organizers.
- Prefer **suppliers from the nearby area** (stalls with food and other assortment, material rental).
- Act within **online meetings**, whether with organizers, suppliers or municipalities (if possible).



---

Greenhouse gas emissions from transport per kilometer and per person:

- walking 0 g CO<sub>2</sub>, cycling 0 g CO<sub>2</sub>, train (156 persons) 14 g CO<sub>2</sub>, bus (12.7 persons) 108 g CO<sub>2</sub>, car (1.5 persons) 104 g CO<sub>2</sub>, plane (88 persons) 285 g CO<sub>2</sub>,
- numbers can vary significantly according to different sources and methodologies. [4]

Over 50% of CO<sub>2</sub> emissions are saved when the car is occupied by 4 people compared to if they were driving in two cars with two people each [5]

---

# Material

---

What is needed for the races? Does it have to be bought? This is the first thing to think about when organizing events. A number of orienteering clubs own material that they only use a few times a year. Tents, chairs, barrels, control flags and much more are needed for races. However, instead of buying new things, most can be easily borrowed from nearby departments. Savings will be felt by the event budget and the environment.

---

- **Use reusable material:**
  - produce banners, navigation signs, organizer clothing and other equipment without the date of the race or with the possibility of modification (e.g. in the form of a removable sticker) so that it can be used multiple times,
  - reusable textile or plastic streamers, detachable electrical tape and more.
- Use the loan of material from orienteering federation, other organizers or suppliers (e.g. lanterns, stands, SportIdent boxes, tents, water barrels, lavars, etc.).
- **Offer your material for loan** to other organizers (SportIdent boxes and chips, stands, lanterns, tents, chairs, tables, tunnels, power plants, ...):
  - many sections already offer their material or maps for loan.
- **Use the existing facilities** at the event location (e.g. electricity, toilets, parking, covered facilities in the hall / gymnasium, refreshments).
- Avoid unnecessary **packaging of prizes** for the winners (do not pack flowers, use paper or cloth bags instead of plastic ones, donate only useful things...).
- Prefer material with a low carbon footprint (e.g. FSC-certified wooden stakes, recycled toilet paper).

Maps printed on pretex contain approx. 30% plastic and belong to mixed waste.



# Catering

---

Excellently managed refreshments and catering is one of the basic keys to the satisfaction of event participants. At the same time, it offers many possibilities for greater sustainability. Snacking can be taken to a more sustainable level by limiting single-use packaging, using multi-use utensils and allowing food and drink to be served in their own containers. Another variant is the inclusion of dishes that are less demanding on raw materials and energy. Whether it is plant-based versions of dishes at the expense of meat (including vegetarian or vegan) or ingredients from local producers. Supporting organic or fair trade products, avoiding palm oil and unnecessary sugars is appropriate.

---

- Arrange a menu that supports sustainable eating, also offer **vegetarian and vegan dishes**:
  - prepare a simpler menu for better control over ingredients and avoiding waste,
  - consider ordering food in advance so that it is not left over and wasted.
- To the greatest extent possible, use **regional and certified products** (organic food, Fairtrade, regional food, ...).
- Limit the sale of food and drinks in disposable packaging and include dishes without the need for utensils in the menu:
  - **NO**: chips, PET bottles, cans, packaged milk and sugar, biscuits...
  - **YES**: meals served in pastries with a napkin, in tortillas, homemade buns, beer/limo in your own glasses, milk in a box, sugar in a sugar bowl....

**Organic foods** are products of ecological agriculture produced from the highest possible quality raw materials, without unnatural dyes or agrochemicals. Animal husbandry in organic farming ensures better conditions throughout the animal's life cycle.

**Fairtrade** is the certification of goods that meet certain social, economic and ecological standards. Among the basic principles are: purchase price corresponding to the costs of sustainable production, prohibition of forced and child labor, controlled use of pesticides or a more gentle approach to the use of natural resources.



# Catering

---

- Allow food and drinks to be served **in your own dishes** (beer in your own pint/cup, soup in your own box) with your own cutlery, motivate participants to do so:
  - the possibility of a discount when dispensing into your own dishes, e.g. 0,5 EUR per meal,
  - in other cases, use plastic cups/dishes and make sure they are sorted into plastic, paper cups with a water-based surface treatment are suitable for hot drinks (coffee, tea), wooden cutlery is recommended by the Czech Ministry of Agriculture,
  - under suitable conditions, it is possible to use the reusable tableware system (see box - next page).
- Choose destination snacks without the need to use disposable cups and bottles, ideally have self-service barrels or cisterns with drinking water:
  - a finish line near the center of the race so that competitors can use refreshments from their own containers,
  - a destination near the start, where competitors can keep their own refreshments,
  - in other cases, use plastic cups and ensure consistent sorting into plastic, place a collection container nearby,
  - when to use destination snacks with cups: the destination is far from the center, high temperatures, a physically demanding race,
  - for refreshments on the track, there is not yet a universally implemented system that would do without disposable cups.
- Do not use combined materials (coffee cups, tubes, gels), most of them cannot be further recycled and belong to mixed waste.



# Catering

---

At large sporting and cultural events, you may encounter a **system of returnable cups**. Thanks to this, the amount of waste at the given event will be reduced, on the other hand, it is necessary to consider a number of other aspects – the lifespan of the cups, the ecological footprint of transport, the necessity and feasibility of washing them.

**Using paper cups instead of plastic ones is risky** (paper cups belong to mixed waste, apart from those with a water-based surface treatment).

**The use of bioplastics and compostable materials (cups, dishes) is not recommended**, as these materials can only be decomposed if the waste ends up in an industrial composting plant or a biogas station. At the same time, there is a risk of being mistaken for plastic or paper during waste sorting.



---

A vegan dieter has up to 60% less carbon footprint than a meat-eater [8]  
2.2 kcal of energy is needed to produce 1 kcal of wheat protein, 25 kcal is used for 1 kcal of beef protein [9]  
15 thousand liters of water are needed to produce 1 kg of beef [10]

---

# Waste management

---

Sport events, whether for a few dozen participants or a thousand, produce a large amount of waste. Our goal is therefore to reduce the total amount of waste and to sort the remaining waste as much as possible. And follow the basic principle of waste prevention – The best waste is the one that is not created at all – consumption reduction / reuse / repair or recycling / and only then disposal. In order for the sorting of waste to be effective, it is important to inform the participants in advance of the possibility of sorting and to properly mark the collection points on site.

---

- **Prevent the generation of waste.**
- Ensure the **sorting of waste** in the arena (**mixed waste**, **plastics**, **paper**, **bio-waste**, also e.g. glass, metals, tetrapaks or gastro-waste):
  - it is necessary to have the possibility to sort all types of waste at all collection points, ideally into sorting containers or bins instead of only color-coded bags,
  - containers – sorting containers / dustbins / bag racks / bag stakes,
  - container marking – containers and bags in the same color as normal sorting containers and dustbins (**black = mixed**, **yellow = plastic**, etc.), clearly and visibly mark what belongs in which container (This is a key part of waste sorting! Clarify where the cups belong from coffee to snack plates, etc.)
  - ensure enough waste places in the arena (at the catering, club tents, at the finish line, ...),
  - regularly check that containers are full, change bags in time.
- **Stacking cups** from the target snack or catering on a pole or in a plastic tube saves a large volume of waste.



# Waste management

---

- Ensure **waste collection and sorting** by the waste company (we should not put waste in municipal or private bins/containers!):
  - communicate with the municipality regarding the possibility of waste collection (waste company, collection yard, ...),
  - arrange a large-volume container of approx. 8 m<sup>3</sup> for waste collection for a two-day event with 1000 participants (according to the agreement with the waste company, distinguish types of waste by the color of the bag, have more containers for different types of waste, etc.).
- **Save drinking water**, use commercial water for washing! Offer to wash or disinfect a natural drugstore.
- For more information, see the previous section (Administration, Material, Refreshments, ...).



---

24.8% of the weight of the volume of waste thrown into mixed municipal waste is bio-waste [11]

Each resident of the Czech Republic produces 500 kg of waste per year [12], of which around 70 kg is sorted [13]

---

# Care of nature and Landscape

---

We run in diverse forests and we want to continue running in them, return to beautiful places and ensure that the forest does not lose its charm and is not destroyed by orienteering athletes. There are many options for taking care of nature and the urban environment. With the right approach, we can "rise" in the eyes of municipalities, hunters, foresters or nature conservationists and their organizations.

---

- Choose the locations of the plants so that **some places are not overloaded with events every year**, the vegetation has room for undisturbed growth and the fauna has free space to move.
- Prefer forest plants in the autumn months (spring pregnancy, early growing season).
- Set courses so that forest animals still have the opportunity to find their refuge. At the same time, do not overload some parts of the competition area.
- Set courses in such a way that they lead away from exposed places where there is a risk of erosion or disruption of the soil cover (e.g. rock passages, steep slopes, freshly planted clearings).
- Consider the need for a sound system and playing music, or reduce the volume of the sound system in the arena so that the noise is not heard in the wider area.
- Clean up after races not only in the race arena, but also on the tracks in the forest
- Make an agreement with the owner / manager of the forest / nature conservation on longer-term mutual cooperation – cleaning up garbage, forest brigades, collections or projects to support the forest.
- Respect the conditions of the nature protection authorities for organizing the event (e.g. maximum number of participants, do not run on freshly planted meadows and in prohibited areas)
- Limit night events to a minimum, nature should have the forest to itself at night.

**Caring for the landscape is not necessarily just about planting trees, so that the forest ecosystem works well, a number of forms of help are needed (return of native animals, water retention in the landscape, reduction of invasive species, ...)**



# Education of event participants

---

In order for the participants to learn about all the sustainable / ecological steps and for the implementation to work according to plan, information and education on the part of the organizer is important. This is the only way to ensure that everything goes smoothly during the event. Event participants should learn why the given steps are important and organizers should motivate them to follow them. After the event, it is a good idea to evaluate what went well and thank the participants for following the organizer's recommendations.

---

- Inform event participants and organizers about sustainable steps:
    - a short message on the web, a post on social networks,
    - paragraph in the bulletin:
      - **We are making our sport even greener**  
At our plants, we sort 5 types of waste (bio-waste, plastics, paper, glass and mixed waste). You can also put cutlery and plates from snacks in the bio-waste (they will be decomposed in the composting plant where the waste goes). In addition to the traditional assortment, more gentle vegetarian and vegan dishes will be available in the refreshments. You can bring your own pint, food box or cutlery with you, you will get a discount of 0,5 EUR on food or drink. Sustainable orienteering!
  - The speaker in the arena will thank those who sort the waste or who came with a full car.
  - Beware of greenwashing, this is a marketing activity where organizations mislead consumers about their environmental performance, more here:
    - examples of greenwashing: disposable tableware made of bioplastic or paper presented as sustainable, eco-gifts packed in plastic gift bags.
-

# Orienteering in harmony with nature

## Resources

- [1] <https://faktaoklimatu.cz/>
- [2] <https://www.osn.cz/sdg-15-chranit-obnovovat-a-podporovat-udrzitelne-vyuzivani-suchozemskych-ekosystemu-udrzitelne-hospodarit-s-lesy-potirat-rozsirovani-pousti-zastavit-a-nasledne-zvratit-degradacipudy-a-zastavit-u/>
- [3] <https://www.originalnitonery.cz/blog/3-zajimavosti-ktere-nevite-o-papiru>
- [4] <https://www.eea.europa.eu/media/infographics/co2-emissions-from-passenger-transport/view>
- [5] <https://www.eea.europa.eu/media/infographics/co2-emissions-from-passenger-transport/view>
- [6] <https://eagri.cz/public/web/mze/potraviny/znacky-kvality-potravin/biopotraviny/>
- [7] <https://fairtrade.cz/fairtrade/co-je-fairtrade/>
- [8] [https://www.researchgate.net/publication/263353807\\_Dietary\\_greenhouse\\_gas\\_emissions\\_of\\_meat-eaters\\_fish-eaters\\_vegetarians\\_and\\_vegans\\_in\\_the\\_UK](https://www.researchgate.net/publication/263353807_Dietary_greenhouse_gas_emissions_of_meat-eaters_fish-eaters_vegetarians_and_vegans_in_the_UK)
- [9] <https://www.solidgreen.co.za/food-choices-environment/>
- [10] [https://cz.boell.org/sites/default/files/atlas\\_masa.pdf](https://cz.boell.org/sites/default/files/atlas_masa.pdf)
- [11] <https://www.samosebou.cz/2021/07/30/bioodpad-pod-lupou/>
- [12] <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/ddn-20220214-1>
- [13] <https://www.samosebou.cz/2022/05/19/trideni-recyklace-a-jine-vyuziti-odpadu-v-cr-za-rok-2021/>

## Text a graphics

Matěj Burda with the contribution of a number of experienced orienteers and graduates of environmental studies



## Photo

Petr Kadeřávek, Jiří Čech, OK Chrastava, Ivana Mrázková, Sportcentrum Jičín, OK Lokomotiva Pardubice, Jakub Trsek, samosebou.cz, WOC 2021, Vojtěch Illner

Czech  
Orienteering  
Federation  
2023

