DECK Project

Deliverable 2.2

Guidelines for the environmental management of kayaking and canoeing events

DECK

Developing Environmental Circular Knowledge

Co-funded by the European Union

Authors:

Sant'Anna School of Advanced Studies: Tiberio Daddi, Anna Elisabetta Merlini, Rachele Stranieri

DECK Working Group:

National Canoe and Kayak Federation of Italy (FICK)

Sant'Anna School of Advanced Studies (SSSA)

School of Sport - Sport e Salute (SdS)

Hellenic Canoe-Kayak Federation (HCKF)

Canoe Federation of Slovenia (KZS)

Croatian Canoe Federation (HKS)

International Canoe Federation (ICF)

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Contact: sportsustainabilitygroup@santannapisa.it

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This document summarises the activities conducted to identify environmental good practices to improve the sustainability of canoeing and kayaking events and organisations.

Only a few examples of good practices are described in this deliverable, while the full list of 52 good practices is available in the Environmental Good Practices Database for Canoeing and Kayaking Events, which you can access follow this url: https://www.deckproject.eu/results.html

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1. DECK Project and guidelines aims

The DECK project (Developing Environmental Circular Knowledge) is co-funded by the European Union through Erasmus + Sport programme. The project, launched in 2023, lead by Italian Canoe and Kayak Federation as project coordinator, is in collaboration with the following partners: Institute of Management of S. Anna School of Advanced Studies (Italy) as scientific and technical partner, International Canoe Federation (ICF), School of Sport - Sport e Salute (Italy) as dissemination partner, the National Canoe and Kayak Federations of Greece, Slovenia and Croatia.

The main objective of DECK is to increase the awareness and to promote the adoption of environmental management and circular economy practices by sport key actors in order to improve sustainability during canoe and kayak competitions.

DECK aims to foster the transition of the canoe and kayak sport towards circular economy through the leading role of involved national canoe and kayak federations (NFs) supporting the adoption of innovative environmental governance tools among participating NFs and the integration of leading-edge environmental practices in canoe and kayak competitions' operations. DECK aims also to reduce the environmental footprint of events and make them more sustainable promoting the adoption of environmental practices by participating canoeing and kayaking organisations.

The project objective responds to the need to foster sports world proactivity on environmental issues and the circular economy, by facilitating the adoption of adequate tools, procedures and good practices for environmental management among sport organisations.

This report (Deliverable 2.2) was prepared as part of Work Package 2 of the DECK project and represents the outcome of Task 2.4, which involves the development of guidelines for environmental management and practices during a canoe and kayaking events, considering the entire life cycle of an event.

A tool to address the environmental sustainability of canoe and kayak competitions

The Guidelines for the environmental management of canoe and kayak events are intended to support sports organisations in their decision-making processes regarding the opportunities for environmental improvement of an event, taking into account the entire life cycle of the competition to be managed. **The objective is to make a canoe and kayak event environmentally sustainable** and, for this reason, these guidelines represent a useful tool to assist those involved in the organisation of an event in the choice of solutions to be applied.

The approach characterising these guidelines is the declination of the environmental sustainability of an event from both a governance and operational perspective, taking into consideration the entire life cycle.

Therefore, the structure of the document is in line with this dichotomy and provides recommendations and good practices by dividing them into two main sections: the environmental governance practices section and the environmental operational practices section.

Section 3 of these Guidelines deals with good practices in the field of governance and management.

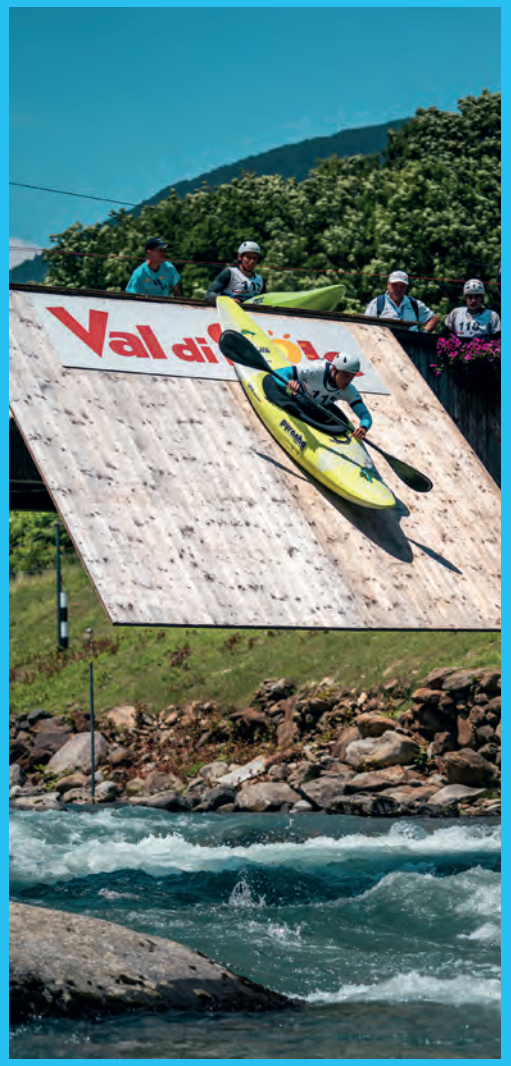
Section 4 of these Guidelines deals with good operational practices that can be implemented during events.

For each governance and operational practice, not only the relevant environmental aspects are identified, but also the phases of the event that they directly affect.

This document is directly linked to the Environmental Good Practice Database for canoe and kayak events, created within task 2.3. The database, complements the Guidelines and contains 52 examples of good practices, is shared from https://www.deckproject.eu/results

Each section opens with the presentation of an environmental good practices matrix that shares the list of good practices organised on the basis of a final rating value that summarises the average of the evaluations concerning the relevance of the practice for the world of water sports and canoe and kayak specifically, economic feasibility and technical replicability.

Some practices are shared directly in the document and described in specific ‘boxes’ but the list with full details is available in the database, where practices can also be selected and filtered according to different information and criteria.

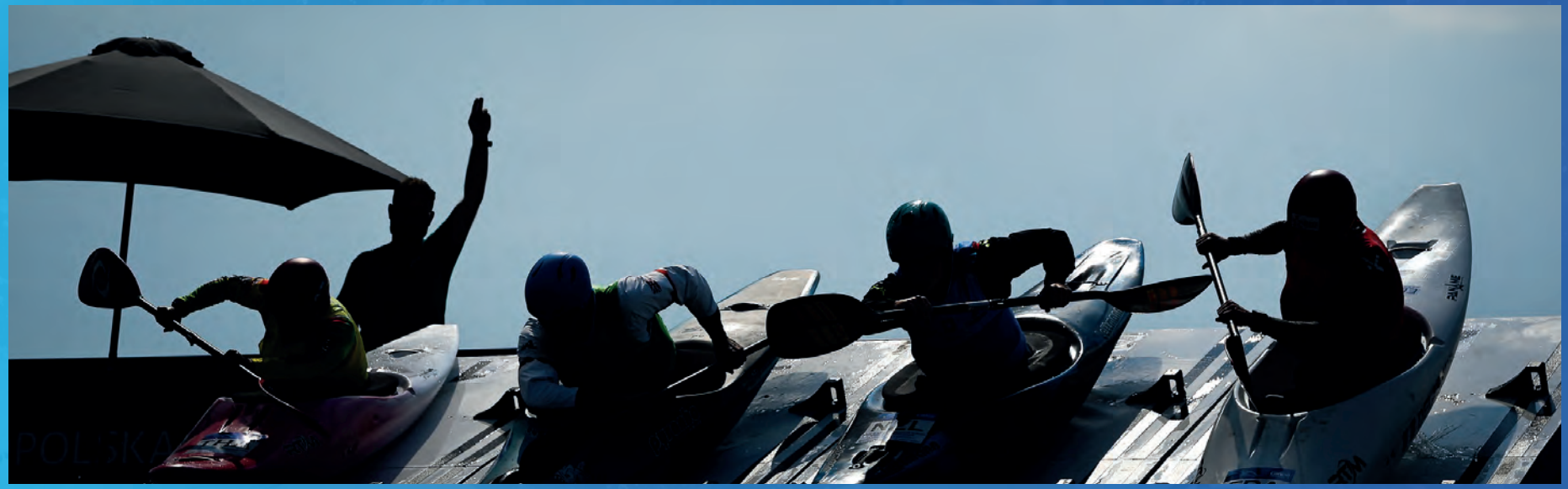


2. Methodology

The development of the guidelines (Task 2.4) is based on the results of Task 2.3, which aimed to identify, collect and evaluate good practices for environmental management in the canoe and kayak sport in order to create a good practices database.

To compile the good practices guidelines, the project partners adopted a three-step approach:

1. Identification of environmental good practices for sport.
2. Collection of environmental good practices for sport and creation of the database.
3. Assessment and classification of environmental good practices for canoe and kayak events.



2.1 Identification of environmental good practices for sport

The first phase, concerning the identification of good practices, was carried out through the following activities:

1. **Desk research;**
2. **Collection of practices derived from the environmental on-site visits that enabled the identification of operational practices implemented during canoe and kayak events;**
3. **Collection of practices derived from the environmental governance interviews implemented by national canoe and kayak federations.**

Desk research was conducted in the first phase. A list of sources related to the environmental management of sports events was prepared and a comprehensive literature review was conducted.

In particular, sources produced by national and international federations (with a focus on water sports such as sailing, surfing, windsurfing and kayaking), general reports from international sports institutions such as the National Olympic Committees and outputs from EU-funded projects on the environmental management of the sports were consulted. Reporting and dissemination initiatives of other sports organisations and events (e.g. legacy reports, sustainability reports, integrated and non-financial reporting initiatives, web pages, etc.) were also considered.

More than **200 documents** and web pages were collected and initially evaluated by the technical partner. The documents and web pages analysed are related both to sport in general and to the world of water sports.

A preliminary list of several good practices for sport or, in other words, potential practices has been identified.

Finally, the good practices that emerged from the environmental on-site visits conducted during canoeing and kayaking events and the **interviews on environmental** governance (Task 2.1 and Task 2.2) were integrated. The results of this first screening phase are shared below.

Table 1: Sources for environmental good practices

ACTIVITY	SOURCES	
DESK ANALISYS	DOCUMENTS	>200
Environmental on-site operational assessments	N° of Canoe and Kayak events	• 3 Italian Federation events • 3 Croatian Federation events • 3 Slovenian Federation events • 3 Greek Federation events
Environmental governance interviews	N° of department interviewed	• 4 departments for the Italian Federation • 4 departments for the Croatian Federation • 5 departments for the Slovenian Federation • 5 departments for the Greek Federation

2.2 Collection of environmental good practices for sport and creation of Environmental Good Practice Database for Canoe and Kayak Events

From the first screening phase, **103 potential good practices** were collected in an initial database. Potential practices were further screened, assessing whether they related to: environmentally friendly equipment, materials and tools for kayaking and canoeing; environmental governance of canoe and kayak organisations; environmental sustainability of canoe and kayak events; environmental sustainability and biodiversity protection of infrastructure and race courses.

Of these 103, 52 good environmental practices were selected, of which 27 related to environmental governance and management and 25 to be applied operationally in day-to-day event management. This final group of 52 good practices was organised into the Environmental Good Practice Database for Canoe and Kayak Events. For each good practice are shared the following information:

- Name of the Good Practice
- Macro category *(Operational-Governance)*
- Phase of the event that the good practice concerns
- Enviromental Dimensions
- Description of the practice, problem addressed, references and case studies
- Suggestions to implement the good practice
- Environmental Benefits
- Assessment according to 3 criteria
- Sources: Documents and links from which the refe-rences were extracted.

Some practices can be linked to different environmental aspects and issues and minimise different environmental impacts *(e.g. governance practices).*

Environmental Dimensions:

Mobility

Waste Management

Resource Efficenty (Energy and Water)

Biodiversity

Materials and Equipment

Food and Beverage

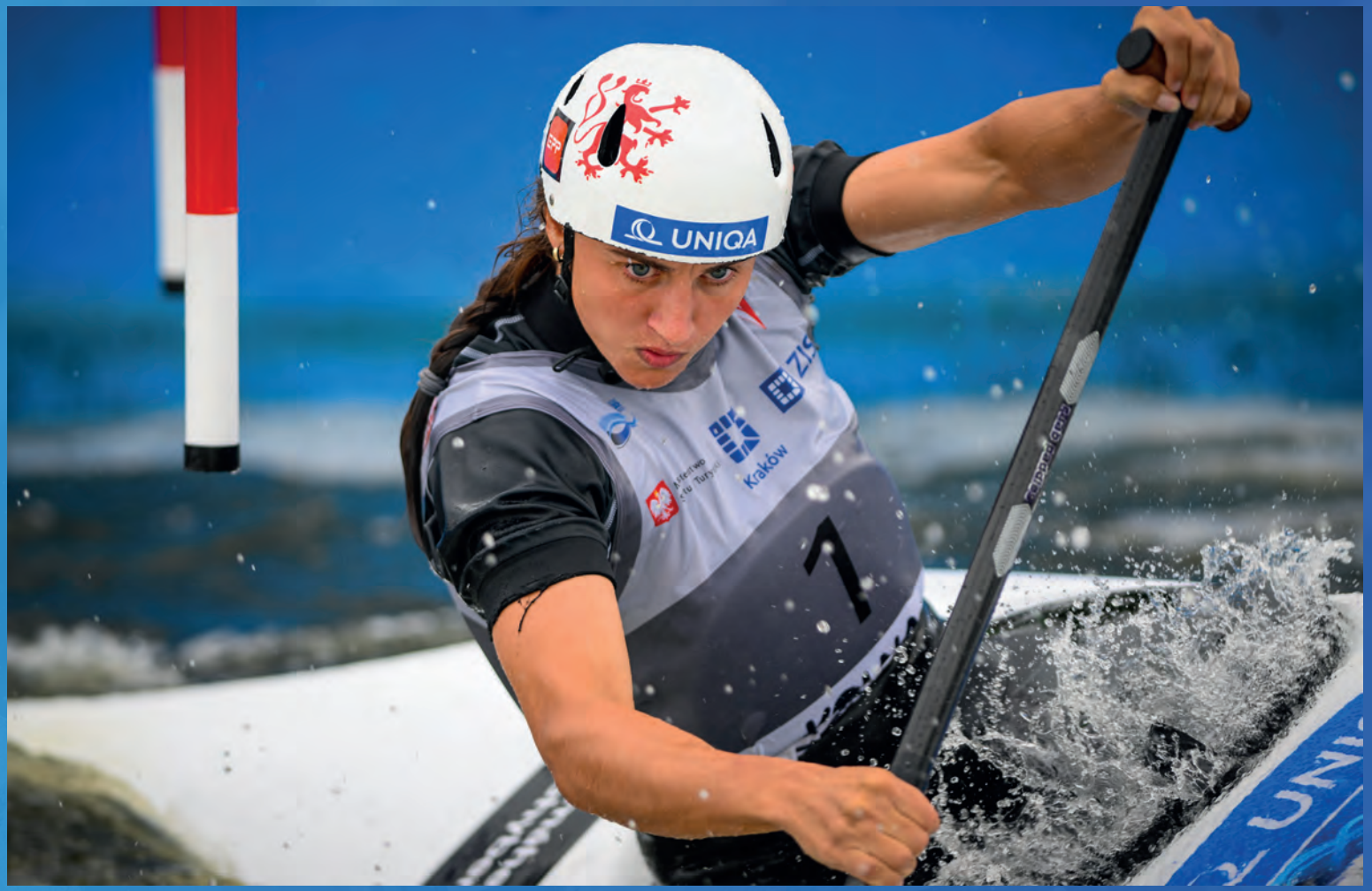
Phases of the event that the good practices concerns:

1. Conception: This phase defines the scope, location and timing of the event. A call for tenders may also be included.

2. Organisation: In this phase, the main policies and processes required to run the event are defined.

3. Staging: In this phase, the sports activities take place and all supporting services, such as mobility, catering, waste management, are managed

4. Closure: In this phase there is post-event removal of all infrastructure, services and temporary equipment. The site is cleared and, if necessary, cleaned.



The main classification of good practices is between operational practices and governance practices, this was to ensure that sports organisations could act on the different environmental dimensions by covering the entire life cycle of the event.

2.3 Assessment and classification of environmental good practices for canoe and kayak events

In the final phase, an evaluation system was developed to carry out a qualitative-quantitative assessment of the practices detected, according to the following criteria:

1. **Environmental Relevance (ER)** which describes the potential of the practice to reduce direct and indirect environmental impacts and improve the environmental sustainability of canoe and kayak events and organisations.
2. **Economic feasibility (EF)** which describes the feasibility of implementing the practice from the point of view of economic resources.
3. **Technical replicability (TR)** which describes the level of ability to successfully reproduce or implement a given practice in the context of canoe and kayak events.

In order to assess the weight of each practice with respect to each of the three evaluation criteria, a rating scale was set up to assign a value from a minimum of 1 (very low) to a maximum of 5 (very high).

Three sports experts selected from the **DECK partners' staff** were commissioned to conduct the evaluation. The selected experts provided a value for each practice for each criterion.

Based on the average of the values of the 3 criteria, a Final Rating was identified for each practice.

The Final Rating makes it possible to identify the top practices in each macro category (governance - operational).

A scale of score was defined for the Final Rating, which results from the application of the evaluation criteria.

FINAL RATING

From 1.0 to 1.5 is a very low score

From 1.5 to 2.5 is a low score

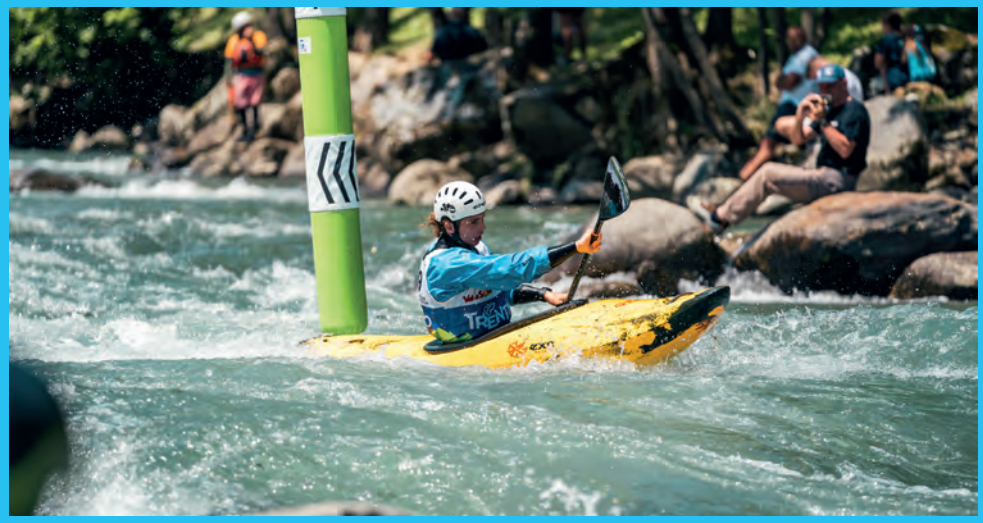
From 2.5 to 3.5 is a medium score

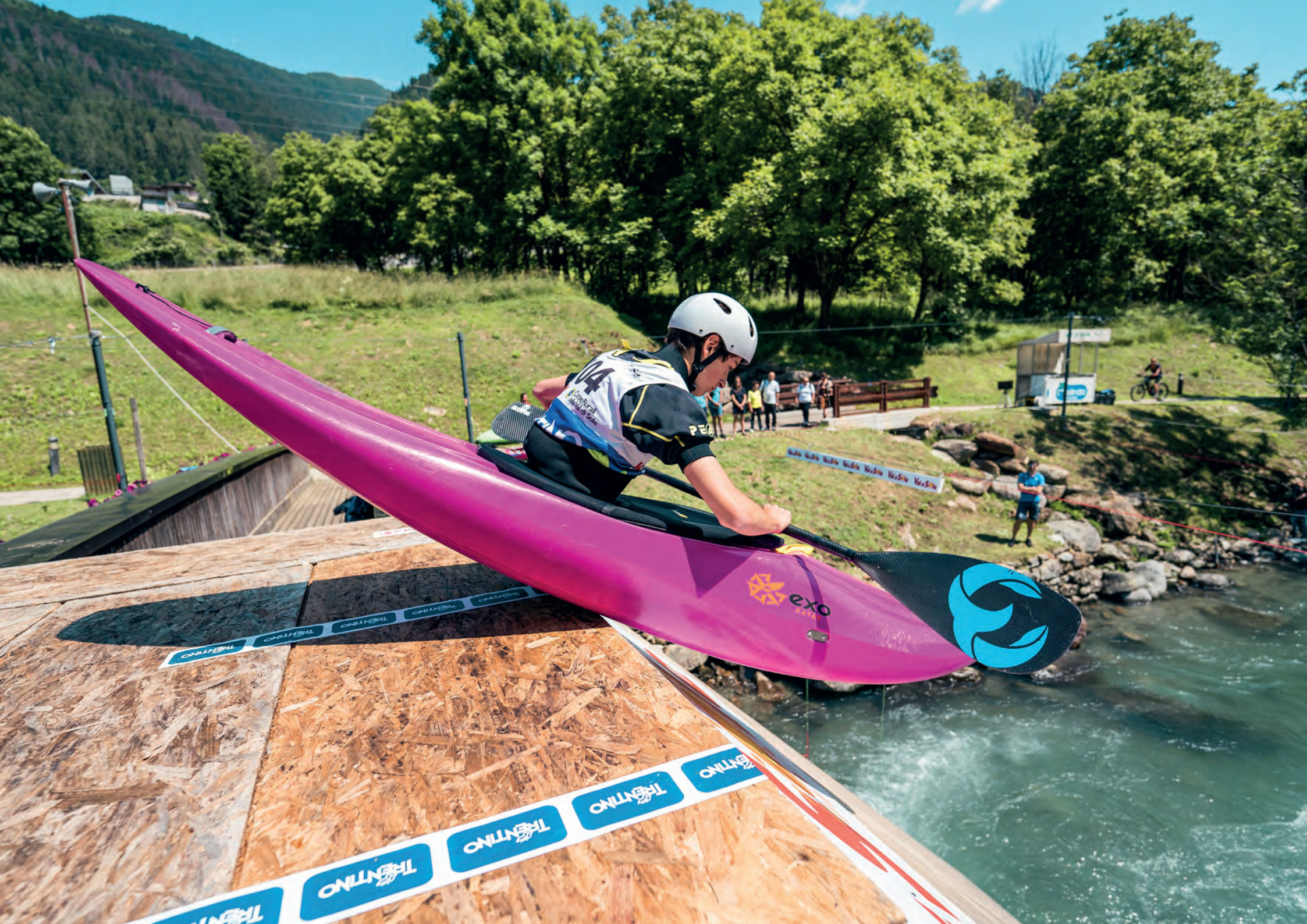
From 3.5 to 4.5 is a high score

From 4.5 to 5.0 is a very high score

Each of the following sections opens with a matrix. The matrix is a tool that shows the practices classified on the basis of the results of the assessments conducted.

The matrix is a practical tool to guide the organisation in its choice of practice considering the event phases involved and the scores obtained. Detailed information for each practice is available in the Environmental Good Practice Database for canoe and kayak events.

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3. Environmental Governance Practices

The governance of sports organisations can play a significant role in promoting environmental sustainability. Canoe and kayak organisations represent the actors of the cultural change by being able to transform the canoe and kayak sports approach to environmental issues, exploiting the close relationship that exists between the environment and the sport.

Effective governance within an organisation includes the clear delineation of roles and responsibilities, the adoption of management procedures and standards, the involvement of internal and external stakeholders, and ensuring that adequate resources are available to support organisational activities and achieve goals effectively. By managing these aspects, an organisation can establish sound governance practices that promote transparency, accountability and sustainability.

This document suggests new mechanisms and tools for self-regulation and management that can help canoe and kayak organisations in the overall management of events in a more environmentally sustainable way. In particular, the adoption of environmental governance solutions makes it possible to work on multiple scales to address local and large-scale environmental problems by involving different categories of stakeholders.

The transformation must affect organisational, strategic and operational dimensions. These dimensions are well explained by the so-called Deming cycle, also known as the 'Plan - Do - Check - Act' (PDCA) management method, which is the basis for most certifiable management systems (e.g. the ISO 20121 management standard for sustainable events).

The practices related to the environmental governance of canoe and kayak events shared in this section are interpreted as a means of applying the four steps of the PDCA management method mentioned above. Indeed, the environmental governance practices collected in this Guideline address four key objectives:

1. Definition of environmental roles and responsibilities in the organisational structure
2. Definition of new self-regulation and management tools and measurement and control mechanisms
3. Awareness-raising and stakeholders engagement
4. Implementation of communication, reporting and legacy activities;

The matrix below shows the list of identified good practices by number assigned, name, related environmental benefits and score obtained in the assessment conducted by the identified technical experts. The practices are organised according to the Final Rating obtained, from highest to lowest. These Guidelines presents 27 practices that are directly related to governance and management aspects.

As assessed by the expert team, the mapped environmental governance practices scored above 3.2. Specifically, 74% of practices scored high on the Final Rating (between 3.5 and 4.5), 19% of practices scored medium on the Final Rating (between 2.5 and 3.5) and only 7% of practices scored very high on the Final Rating (between 4.5 and 5.0). The top practice that scored very high (4.6) are: How to stop the spread of invasive species (N° 48); Engage athletes in environmental sustainability actions (N° 17).

Table 2: Matrix of Environmental Governance Practices

ENVIRONMENTAL GOVERNANCE PRACTICES						ENVIRONMENTAL BENEFITS	EVALUATION CRITERIA			FINAL RATING VALUE
	Name of Environmental Governance Practice	1	2	3	4		ER	EF	TR	
48	How to stop the spread of invasive species					Raising awareness of the spread on invasive species	5	4.3	4.3	4.6
17	Engage athletes in environmental sustainability actions					Reduction of different environmental impacts due to the athletes' actions	4	4.7	5	4.6
37	Environmental Sustainability Strategy					Alignment organisation's activities with environmental sustainability goals	5	3.3	4.7	4.3
39	Sustainable Procurement					Reducing the environmental impact of supply chains	5	4	4	4.3
29	Athletes' Decalogue					Raising awareness on different environmental issues	4	4.3	4.7	4.3
43	Innovation throughout good examples					Raising awareness on different environmental issues	4.3	4.3	4.3	4.3
18	Engage supporters in environmental sustainability actions					Reduction of different environmental impacts due to the supporters' actions	3.7	4.7	4.7	4.3
34	Environmental rewarding criteria in the tender process					Reduction of different environmental impacts	4.3	4	4.5	4.3
8	Communication methods for different stakeholder groups					Reduction of different environmental impacts	5	4.3	4.3	4.2
47	Hot Weather and Heat Safety Guidelines					Reduction of impacts related to heat waves	4.7	4	4	4.2
38	Toolkit for environmental education through water sports					Raising awareness on different environmental issues	5	3.7	3.7	4.1
33	Environmental awareness activities: Plant a tree					Offsetting CO2 emissions. Restoration of biodiversity	4.7	3.3	4.3	4.1
30	Training programme for athletes and coaches to repair boats and paddles themselves					Extending the average life of canoes, kayaks and paddles. Reducing waste	4.3	3.7	4	4
26	Awareness-raising activities for supporters					Raising awareness on different environmental issues	4	3	5	4
41	Rewarding sustainable initiatives					Reduction of different environmental impacts	4	3.7	3.7	3.8
52	Sustainability Manager/Committee					Alignment organisation's activities with environmental sustainability goals	4.3	3.3	3.7	3.8
5	Partnerships in sports events to benefit biodiversity					Increased awareness and Protection of biodiversity	4.3	4.7	2.3	3.8
25	Waste management guidelines					Reduction of unsorted waste reduction	3.3	4	3.7	3.7
50	Protect sensitive area practices					Protection and conservation of local biodiversity	4.7	2.7	3.7	3.7
51	Action Plan					Reduction of different environmental impacts of the event	5	3.3	2.3	3.6
12	Participants offsetting contribution					Offsetting CO2 emissions	5	3	2.7	3.6
36	Environmental Manager of the Event					Reduction of different environmental impacts	4	3.3	3.7	3.7
40	Community Legacy					Raising awareness on different environmental issues	3.7	3.7	3	3.4
28	Join international policies and initiatives on sustainability in the world of sport					Alignment organisation's activities with environmental sustainability goals	3.3	3	4	3.4
9	LCA (Life Cycle Assessment) and Environmental Impacts					Identifying the main environmental hotspots and reduce impacts	4.3	3.3	2.7	3.4
27	Legacy Report					Raising awareness on different environmental issues	3.7	2.7	4	3.4
35	Environmental Management System					Reduction of different environmental impacts	3.7	3	3	3.2

3.1 Definition of environmental roles and responsibilities in the organisational structure

Embedding environmental responsibilities within sports organisations is a fundamental step. In fact, the main questions that top management faces when embarking on a path of environmental sustainability are:

- what exactly are our sports organisation's environmental responsibilities?
- what are the resources and measures with which our sport organisation undertakes these responsibilities?

These questions are answered by the organisation through the guidance of managers and operational figures who, starting from a knowledge of the company's reality, select the various solutions aimed at reducing the environmental footprint of the organisation and of events.

For this reason, in order to lay the foundations of a path to sustainability, it is essential to proceed with a clear definition of environmental roles and responsibilities within the organisation with the aim of empowering the main sports players, simplifying decision-making processes and promoting and facilitating effective environmental governance.
The assignment of environmental responsibilities may take place at different levels.

Environmental responsibilities may be assigned to a specific organisational unit or function, so that decision-making on environmental issues is concentrated in a single decision-making centre. Environmental responsibilities may be assigned to an environmental manager within each organisational unit or function, so that the decision-making process is decentralised.

The role of the environmental managers is central and their main responsibilities include identifying priority environmental issues to be addressed by the organisation, monitoring risks, maintaining relationships with local or general stakeholders and implementing and monitoring environmental actions.

During events, responsibilities may be assigned to an identified manager or committee. In addition, volunteers may be identified within event participants (staff members, athletes' parents, etc.) who assist the sustainability manager of the event in, for example, controlling and monitoring the environmental initiatives implemented during the sport competition.

Table 3: Example of Governance practice identified in the sub-categories of environmental roles and responsibilities

N° 52	SUSTAINABILITY MANAGER/COMMITTEE
Operational/Governance	Governance
Event phase(s)	All
Environmental dimension	All

Environmental roles and responsibilities should be clearly identified both within and outside organisations.

Reference:

- Environment and Sustainability Advisory Panel (ESAP): In February 2021 British Canoeing established the Environment and Sustainability Advisory Panel (ESAP). The purpose of the group is to support the development, monitoring and promotion of British Canoeing's policy relating to Sustainability. The ESAP reports to the board and has the following functions: (1) Influence how we embed sustainability within our strategic plan 'Stronger Together 2022-25' (2) Support the creation of the Sustainability Strategy for British Canoeing including a clear set of objectives outlining our actions to reduce our impact on the environment (3) Review, monitor and feedback on the effectiveness and efficiency of British Canoeing's Sustainability work, on behalf of the wider membership (4) Assist in embedding sustainability in our work across membership, RDTs, Discipline Committees and other British Canoeing committees (5) Assist in raising the profile of British Canoeing's work on sustainability with key stakeholders and the paddling community.

Environmental Benefits Alignment organisation's activities with environmental sustainability goals

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
4.3	3.3	3.7	3.8

Sources Links British Canoeing's Environmental Sustainability Strategy

3.2 Definition of new self-regulation and management tools and measurement and control mechanisms

Once roles and responsibilities have been defined, in order to make canoe and kayak events environmentally sustainable, a sports organisation needs to modify existing governance mechanisms, including measurement and control mechanisms, and introduce new self-regulation and management tools.

The main objective of this section is to stimulate reflection on the mechanisms and tools to be modified/implemented and new solutions to be adopted. In fact, this section maps environmental governance practices that have an impact on decision-making, planning, verification and monitoring.

Environmental sustainability, although implemented at a local level during an event, requires the organisation to align with international sustainability policies, which allow for the identification of global problems caused by environmental degradation on which to base change. This is why suggested practice includes adherence to policies and initiatives such as the UN's 'Sports for Climate Action', an initiative that helps and guides sports to achieve their climate goals, and the UN's '2030 Agenda for Sustainable Development'.

Environmental considerations must then be brought into the mission, vision and values of the sports organisation, so that its actions are oriented towards respect for environmental principles. To this end, we recommend both the definition of a Sustainability Strategy for the organisation to act in a long-term and planned manner, and the definition of an event-specific Environmental Action Plan.
It also notes the importance of adopting voluntary self-regulation tools including environmental management systems and certification schemes (e.g.: ISO 20121, standard defining the management system for the realisation of sustainable events), which allow sports organisations to codify mechanisms and tools that support the overall management of sports events in a more environmentally responsible and transparent manner.

It is also suggested to measure the environmental impacts of an event (Life Cycle Assessment methodology is suggested) and to establish control mechanisms through indicators (e.g. Environmental Action Plan provides for a monitoring system of implemented actions).

Finally, among the key practices suggested that fall into this category are procedures to manage specific environmental aspects such as waste or the protection of biodiversity.

Table 4: Example of governance practice identified in the subcategories of new self-regulation and management tools and measurement and control mechanisms.

N° 9	LCA (LIFE CYCLE ASSESSMENT) AND ENVIRONMENTAL IMPACTS
Operational/Governance	Governance
Event phase(s)	All
Environmental dimension	All

The environmental footprint is based on a life cycle approach (LCA - Life Cycle Assessment). The LCA assesses and quantifies the environmental impact of a product or service during its entire life cycle. Specifically, the Life Cycle Assessment of a sports event allows us to understand the most impactful processes, the so-called 'hotspots', associated with professional sports competitions in order to identify opportunities to reduce the overall environmental impact through improvement actions. The study covers all event aspects, from accomodations, mobility of athletes, staff and supporters, to waste and water management, adopting a life-cycle approach.
References:
- As part of the Erasmus + DECK project, 4 LCAs were carried out on 4 canoeing and kayaking events. The results will be shared publicly to foster the dissemination of knowledge of the main environmental impacts of a canoe and kayak event. Specifically: (I) The Italian Canoe and Kayak Federation conducted the LCA study on the Finals National Youth Canoe Meeting, Regions and Paracanoe of 8/10 September 2023 in Caldonazzo; (II) The Greek Canoe and Kayak Federation on the 33rd Hellenic Canoe-Kayak Sprint National Championships Seniors/Juniors of 21/23 July 2023; (III) The Croatian Canoe and Kayak Federation on the National Championships in Sprint for cadets, juniors and seniors on 15/17 September 2023 in Zagreb; (IV) The Slovenian Canoe and Kayak Federation on the Recreational Amateur Event on 30 August 2023.

- As part of the ERASMUS+ Sport GAMES project (Green Approaches in Management for Enhancing Sport), World Athletics applied the LCA methodology to calculate the environmental footprint (EF) of the 2023 World Mountain and Trail Running Championships (WMTRC), the world's most important athletic event for off-road runners, held in Innsbruck Stubai in June 2023. This represents the first Environmental Footprint calculation of a multiday sporting event.

- As part of the ERASMUS+ FREE KICKS project (Football Relies on EMAS and ECOLABEL to Keep Innovating on Circularity as a Key for Sustainability) the professional football clubs FC Porto (Portugal), Malmö FF (Sweden) and Racing Club (Argentina) measured the EF of one of their football matches of the season 2022/2023 through the LCA methodology.

Environmental Benefits	Sharing of results to foster the dissemination of knowledge and awareness of the main environmental impacts of a canoe and kayak event in the world of water sports and sport in general. Identifying the main environmental hotspots will allow actions to be taken to reduce environmental impacts.

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
4.3	3.3	2.7	3.4

DECK Project (Developing Environmental and Circular Knowledge) - 4 LCAs in 4 canoe and kayak events
GAMES Project (Green Approaches in Management for Enhancing Sport)

Sources Links

Guidelines on decarbonisation practices for Athletics, Biathlon and Floorball

ERASMUS+ Sport FREE KICKS

3.3 Awareness-raising and stakeholders' engagement

The world of canoeing and kayaking, and of sport in general, can play an important educational role, and sporting competitions provide an excellent opportunity to convey messages and raise awareness of environmental issues among key players and, in particular, the younger generations.

Indeed, sports events, thanks to their social resonance, can be moments to raise awareness on environmental topics. The different stakeholders, both internal (staff, athletes, coaches, suppliers, etc.) and external (fans, local communities, local authorities and NGOs, etc.) can be involved in awareness-raising and education activities on different environmental aspects, from the reduction of energy consumption to better waste management and the protection of biodiversity.

In fact, adopting a sustainable approach is not always easy and to be successful it is necessary to join forces with the various stakeholders of the sporting event, whether it is the involvement of fans and athletes in concrete sustainability actions to achieve a stronger resonance or the establishment of partnerships with local NGOs to promote positive relationships and collaborate on joint projects related to the sporting event, making a positive contribution to the local community. For example, in the sport of canoeing and kayaking, athletes interact with the environment and can, through their choices and actions, send a message and an example of how to behave while protecting the biodiversity of a site and the environment in general.

The event organisers may therefore ask themselves the following questions:

- Which stakeholder groups do we want to involve in embracing the environmentally sustainable vision of the event?
- What awareness-raising and engagement practices do we want to implement with each stakeholder group?

It becomes central to dialogue with different stakeholders to raise their awareness and shape awareness-raising activities by making them key actors of change and create a legacy that will last long after the event.

Table 5: Example of governance practice identified in the subcategories of awareness-raising and stakeholders engagement

N° 33	ENVIRONMENTAL AWARENESS ACTIVITIES: PLANT A TREE
Operational/Governance	Governance
Event phase(s)	Organisation Staging Closure
Environmental dimension	Biodiversity

The world of canoeing and sport in general can play an important educational role towards the new generations. Sporting competitions provide an opportunity to convey messages and raise awareness of environmental issues among the younger generation.

References:

The Italian National Federation of Canoe and Kayak (FICK) hosted the "Paddle School Race" event, the final event of the "Adopt a School" project, during the Youth Canoe competition in Caldonazzo. In this context, in collaboration with Treedom, FICK donated a tree to each school and club participating in the project "Adopt a School". Sports clubs and schools in the 'Adopt A School' project will each be able to plant a tree in countries such as Ecuador, Cameroon, Haiti, Kenya and Tanzania, in the large 'virtual' forest of 50 trees, maintained by the Italian Canoe Kayak Federation, which will absorb a good 7.70 t* of CO2.

Environmental Benefits	Awareness-raising on environmental issues and CO2 offsetting

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
4.7	3.3	4.3	4.1
Sources	Project DECK Environmental Audit Youth National Final (Discipline Canoe Sprint) Caldonazzo 9-11 September 2023		

3.4 Communication, Reporting, Legacy

Accountability and transparency have become essential for all organisations to highlight the importance of managing environmental sustainability and environmental protection in general.

Even in the organisation of sporting events, proper reporting and communication is essential to establish a transparent relationship with internal stakeholders (organisations' employees, coaches, athletes) and external stakeholders (suppliers, public and private authorities, supporters or local communities).

Communication is key at every stage of stakeholder engagement. It is therefore crucial to identify and develop appropriate channels and tools that ensure maximum involvement of all target groups.

This activity makes it possible to strengthen and extend the impact of the sustainable sports event and create a positive long-term legacy.

The sustainability report and the legacy report are the tools for reporting on the processes of measuring and disclosing on the environmental, social and governance aspects of the organisation.

Specifically, the Legacy report of a sport event shares the outcomes and results of sustainability actions implemented during a sports event, allowing organisers to communicate what they have learnt and what they can improve in their future events. This type of communication is the appropriate tool to inspire future events and to develop a culture of environmental sustainability in the sports world.

Communication activity is closely linked to the issues of availability, traceability and control of environmental data. In fact, environmental information is often only descriptive and does not capture the main impacts, which is why this class of practices is linked to the previous one in which the implementation of effective quantitative environmental impact assessment methods was suggested, such as the assessment of the environmental footprint according to the LCA methodology.

In summary, communicating one's commitments and actions in favour of sustainable development makes it possible to.

Table 6: Example of governance practice identified in the subcategories of communication, reporting, legacy

N° 27	LEGACY REPORT
Operational/Governance	Governance
Event phase(s)	Closure
Environmental dimension	All

The Legacy Report is a tool through which to recount one's journey, the impacts of the event measured and future commitments. This work can be repeated in subsequent years, to verify the implementation of improvements and work towards continuous improvement.

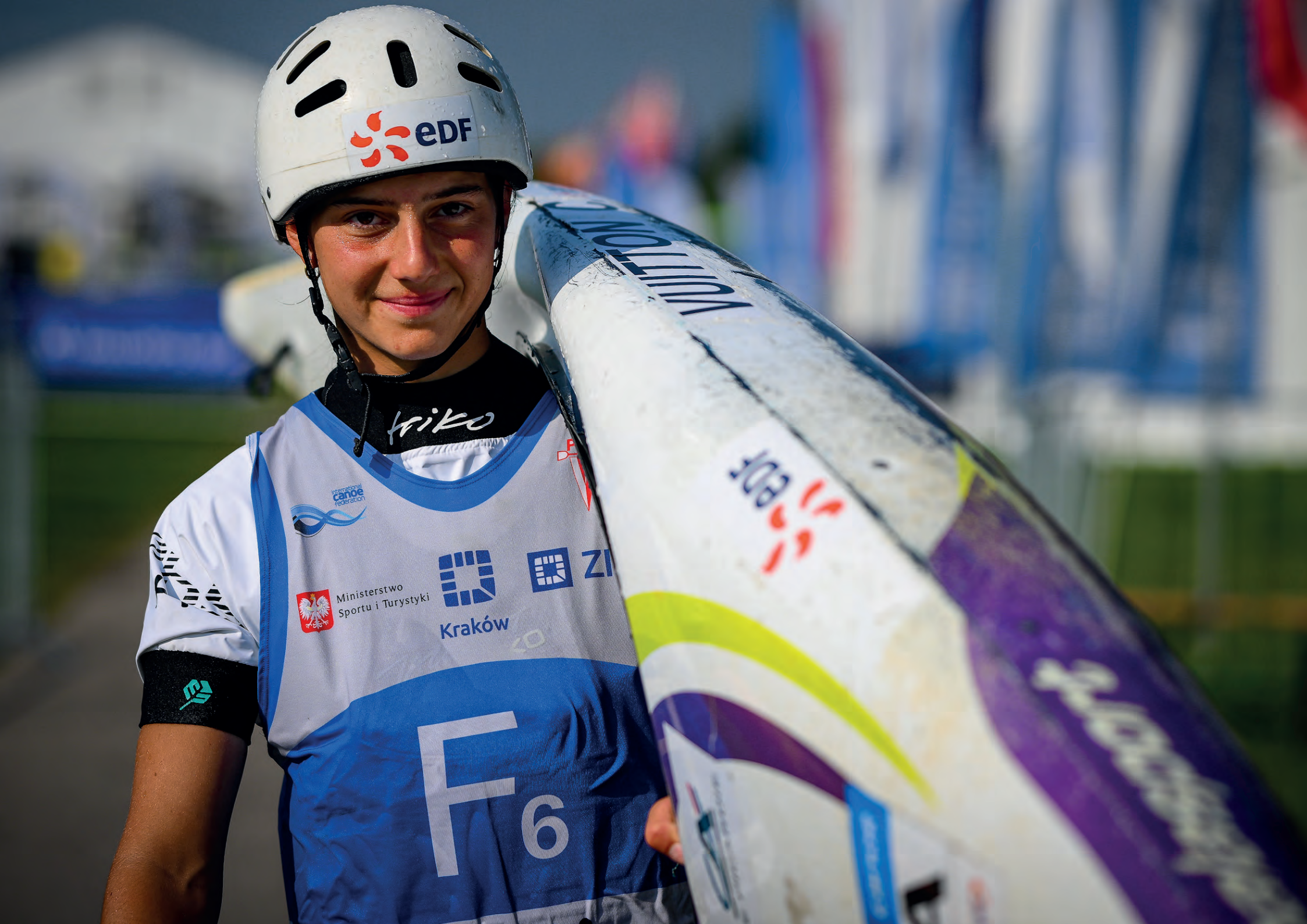
Reference:

Legacy Report of the Giro d'Italia and Milan Marathon (2023) in which they describe the systemic methodology adopted and the areas of measurement impact, for each of which they indicate: KEY NUMBERS (The key numbers relating to the various impact areas); REGENERATIVE ACTION (Aspects of maximum positive impact during the event); STORIES FROM THE ECOSYSTEM (Perspectives, stories, tales and testimonies of the ECOSYSTEM actors who were involved in the analysis); CHALLENGES (Key challenges highlighted by the analysis, which very often represent the challenges of the sector and define the event's maximum potential); CONCRETE COMMITMENTS for the next edition of the event.
There are sections of the report dedicated to: regeneration, circularity, natural capital.

Environmental Benefits	Raising awareness on different environmental issues

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
3.7	2.7	4	3.4

Sources Links	Legacy Report 2023- Giro d'Italia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4. Environmental Operational Practices

Canoe and kayak are part of water sports that take place outdoors and interact with nature and the surrounding environment. Canoe and kayak disciplines can be practised in rivers, lakes or the sea, in natural or artificial settings, and are deeply linked to the availability and quality of water. Another important aspect to consider in canoe and kayak events are weather conditions and extreme weather events in relation to climate change.

Considering that sporting events can cause significant damage to the natural environment, directly and indirectly consuming substantial resources, generating waste, impacting on the conservation of biodiversity at the competition venue and greenhouse gas emissions, operational practices were selected within the DECK project to address the issues of greatest environmental impact in canoe and kayak events.
In this section, a general description of each environmental dimension considered for selecting and ranking the good practices is provided, and a practical example is given for each dimension. Indeed, despite the growing attention to environmental issues by the organisers of major sporting events, the actual level of environmental performance achieved by such events has often fallen well short of expectations.

Effective management of operational aspects, related to practical issues that arise during the event phase, such as waste, mobility, catering management, biodiversity conservation, etc., is essential. Starting from the mapping of current operational practices adopted in the world of sport and, specifically, water sports, the most relevant operational practices for the canoeing and kayaking sport are identified and suggested.
The operational good practices are organised into **6 environmental dimensions**:

1. **Mobility** - focuses on organising, managing and promoting sustainable mobility during sporting events
2. **Resource efficiency** (Energy and Water) - focuses on innovating and reducing the consumption of energy and water resources
3. **Materials and Equipment** - focuses on the selection and use of eco-sustainable materials and products
4. **Waste** - focuses on organising, managing and implementing proper waste management with a view to reduction, recovery and reuse
5. **Food and Beverage** - focuses on selecting and reducing the environmental impact of catering
6. **Biodiversity** - focuses on preserving the biodiversity of the event site.

The table below shows the list of identified good practices by number assigned, name, related environmental benefits and score obtained in the assessment conducted by the identified technical experts.

The practices are organised according to the Final Rating obtained, from highest to lowest.

This Guideline presents 25 practices that are directly related to operational environmental practices.

As assessed by the expert team, the mapped environmental operational practices scored above 2.9.

Specifically, 68% of the practices scored high in the final rating (between 3.5 and 4.5), 32% of the practices scored medium in the final rating (between 2.5 and 3.5).

Table 7: Matrix of Environmental Operational Practices

ENVIRONMENTAL OPERATIONAL PRACTICES		EVENT PHASE				ENVIRONMENTAL BENEFITS	EVALUATION CRITERIA			FINAL RATING VALUE
	Name of Environmental Operational Practice	1	2	3	4		ER	EF	TR	
32	Rental of sports equipment (canoe. kayak. paddle) on the competition site					Reduction of CO2 emissions	4.7	3.7	4.3	4.2
31	Barrels filled with water and ice to keep water bottles cool					Reduction of energy consumption	3.7	4.7	4	4.1
45	Medals made from recycled material					Reduction of the environmental impact of the different stages of the medal life cycle	4.7	3.7	4	4.1
44	Donation of sportswear					Reduction sportswear waste	5	3.3	3.7	4
7	Vegetarian and vegan menù options					A full meal of beef has an impact of 4.54 kg Co2e per 500 g meal versus 0.96 kg Co2e per 500 g vegetable meal	4.7	3.3	4	4
2	Initiatives to promote sustainable mobility during sports events, in cooperation with local public authorities					Carbon emissions per person and per km of a petrol car are 122 grams VS 69 grams of a diesel public bus VS 60 grams of a train.	4	3.3	4.3	3.9
14	Water refill station					Reducing the use of single-use plastics	4.7	3.3	3.7	3.9
21	Optimize water use					Reduction of water consumption	5	3.3	3	3.8
3	Replace printed material with digital communications					Reducing paper and ink consumption	4.3	3.3	3.7	3.8
6	Avoid and/or minimise harm to biodiversity by effective management of competitors and spectators					Protect the biodiversity of the sports event area	4.3	3	3.7	3.7
1	Limit food-related waste production					Reducing the waste associated with leftover food leads to environmental benefits in terms of CO2e reduction.	3	4.3	3.3	3.6
10	Energy management and solutions for decreasing the energy consumption					Reduction of energy consumption	4	2.7	4	3.6
15	Use of recycled or environmentally friendly materials for information and merchandise					Improvement of circular economy and reduction of waste production	4.3	3	3.3	3.6
16	Reduce single-use plastic					Reduction of single-use plastics	4	3	3.7	3.6
19	Optimize waste collection operations					Improving separate waste collection and reducing the amount of waste sent to landfill	4.3	3.3	3	3.6
22	Proximity of accomodation to pubblic transports/event area					Reduction of CO2 emissions	3.7	4	3	3.6
24	Implementation of additional public transport					Reduction of CO2 emissions	4	3.3	3.3	3.6
23	Food and beverage environmentally friendly crockery and clutery					Reduction of waste production	3.3	3.3	3.7	3.4
20	Environmentally Friendly Gadgets					Reduction of waste production	3.3	3	3.7	3.3
49	Recyclable banners					2.015 kg CO2e per beach flag if disposed as general waste (incineration) Vs. 1.672 kg CO2e per beach flag if recycled	3	2.7	4	3.2
4	Reusing sports equipment for biodiversity					Reduction of waste production through the recovery of sports equipment	3.7	3.7	2.3	3.2
42	No Hotels					Reduction of CO2 emissions	2.7	3.7	3	3.1
46	Electric support boats					Reduction of CO2 emissions	4.7	2	2.3	3
11	Use of local cycling infrastructure and implementation of bycicle friendly facilities					Reduction of CO2 emissions	3.7	2.7	2.7	3
13	Eco-friendly staff and players uniforms					Reduction of waste production	3.7	2.7	2.3	2.9

4.1 Mobility

Transport is the main source responsible for the environmental footprint of a sporting event, as the event includes both the movement of individuals (athletes, staff and fans) and the movement of sports equipment (in this case canoes and kayaks), materials and resources related to the activities and sporting event. Sports events can also cause disruption and local traffic congestion, further impacting CO2eq emissions and air quality.

There are numerous activities that influence transport and travel, such as the choice of the competition venue, preferring where possible, areas easily accessible by public transport or bicycle, but also the choice of accommodation located close to the event area, which, during multi-day sporting events, reduces the impact related to the movement of athletes and staff to and from the competition.

The organisers of sports events can intervene in various ways by working with local authorities and transport companies to implement public transport offerings or by offering sustainable solutions tailored to the event. At the same time, organisers should encourage participants to use electric or hybrid cars, bicycles and public transport. Another practice may be to provide parking for electric bicycles and scooters or ensure the availability of chargers for electric/hybrid vehicles at the venue.

In canoeing and kayaking, travel is also limited by the movement of bulky sports equipment such as boats, forcing participants to choose vehicles such as cars or buses to transport their equipment. Based on these considerations, several solutions have been proposed, such as the rental of equipment at the competition site.

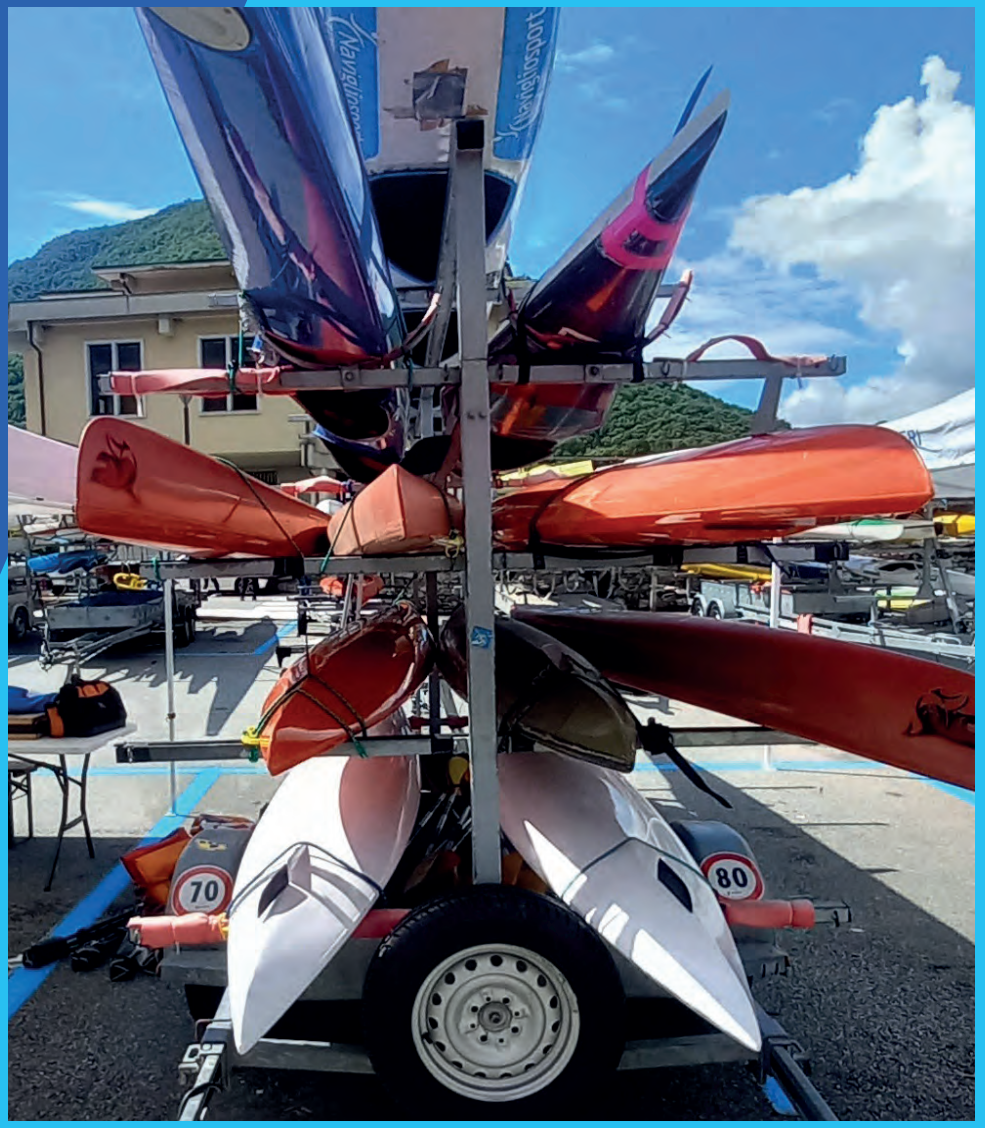

Table 8: Example of operational practice identified in the environmental dimension of mobility

N° 32	RENTAL OF SPORTS EQUIPMENT (CANOE, KAYAK, PADDLE) ON THE COMPETITION SITE
Operational/Governance	Organisation
Event phase(s)	Organisation Staging
Environmental dimension	Mobility Material and Equipment

The mobility of canoe and kayak teams and athletes to reach the competition venue is constrained by the transport of bulky sports equipment such as canoes and kayaks. In most cases, the choice is limited to the use of one's own car with an attached trolley to transport the boats, or minibuses with an attached trolley, or the hire of special vans to transport the boats. This situation has a not inconsiderable environmental impact, just think of the CO2 emitted for these journeys.

Reference:

The Italian National Canoe and Kayak Federation (FICK) allows sports equipment to be rented at the competition venue, enabling athletes and teams to use means of mobility other than their own car, such as trains, buses and subways, and to implement circular economy practices, with important reductions in the CO2 emissions emitted and to lengthen the life of products, not wasting resources and reducing environmental impact.

Environmental Benefits	Reduction in the CO2 emissions

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
4.7	3.7	4.3	4.2

Sources	Project DECK (Developing Environmental and Circular Knowledge) Environmental Governance Interview - FICK

4.2 Resources efficiency (Energy and Water)

The management of energy or water resources consumed throughout the life cycle of a sporting event can have a major impact on its environmental footprint.

In the fight against climate change, action must be taken by phasing out fossil fuels and prioritising renewable energy and innovation towards electrification. Climate change represents the greatest environmental challenge of our time.

During a canoe and kayak event, impacts related to energy consumption can occur in various forms, such as fuel, electricity, heating or cooling, and can be self-produced or purchased from external sources, as well as coming from renewable or non-renewable sources. The consumption of non-renewable fuels is usually the main contributor to direct greenhouse gas emissions. Regarding the consumption of water resources during a canoe and kayak event, it is mainly related to hygienic use by athletes, staff or support personnel, cleaning the boats after the race or handling food and drinks.

During multi-day events, indirect water consumption is also related to the accommodation of athletes, staff and supporters. Water recycling and reuse, process redesign and collective actions can be helpful in reducing water withdrawal, consumption, discharge and associated impacts.

Furthermore, the amount of water withdrawn and consumed by an organisation and the quality of its discharges can impact the functioning of the local ecosystem in many ways.

Since water is a shared resource and water-related impacts are localised, organisations need to promote specific actions in terms of water management, such as aiming to benefit and respecting the needs and priorities of all water users in an area, considering water consumption in the locality, and providing participants with solutions for filling their water bottles.

If there are no energy and water saving measures in the venue, the organisers can, in cooperation with the venue managers, propose and introduce some measures that can influence resource consumption in terms of innovation and efficiency.

Each implemented practice can be publicised and communicated to raise awareness. In order to save resources, it is important to involve participants in events.

By applying the ‘learning-by-doing’ approach, organisers can not only ensure immediate savings, but also promote long-term behavioural changes.

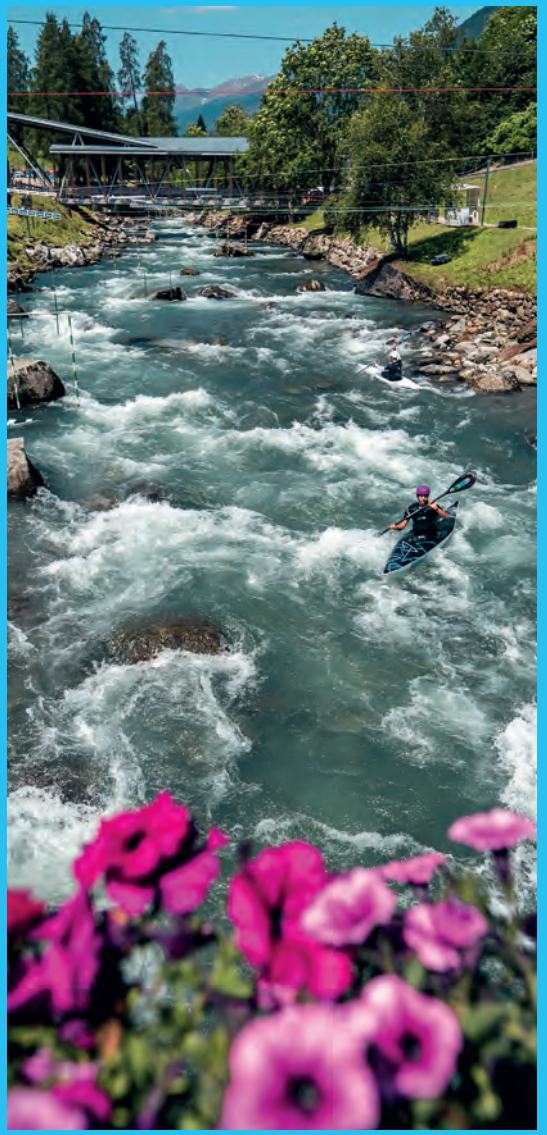

Table 9: Example of operational practice identified in the environmental dimension of resource efficiency

N° 10	ENERGY MANAGEMENT AND SOLUTIONS FOR DECREASING THE ENERGY CONSUMPTION
Operational/Governance	Operational
Event phase(s)	Organisation Staging
Environmental dimensi	Resources efficiency (Energy and Water)

Many of the technologies used in sports facilities have a significant energy impact.
Sports organizations can implement measures to reduce this impact:

Examples:

- Timers on TV screens, computer monitors and vending machines at the power points to turn them off outside of operating hours.

- LED scoreboards and timers for heating of buildings.

- Energy efficient fryers in catering services.

- Use of solar energy for small devices (e.g : small signage screens).

- Correct use of the air conditioning systems (Attention should be given to the regulation of the internal temperature to guarantee a state of comfort according to the season and the external temperature).

- Priority to natural lighting.

- Use of Photovoltaic panels.

Environmental Benefits	Reduction of energy consumption

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
4	2.7	4	3.6

Sources Links	Italian Criteri Minimi Ambientali (CAM) per eventi
	Sport as a force for good Forest Green Rovers Climate Case Study

4.3 Materials and Equipment

The environmental impact of a sports event also comes from the materials and equipment used during the competition.

The type and quantity of materials used by the organisation can indicate its dependence on natural resources and the impact it has on their availability.

If sports equipment, sports clothing and/or temporary infrastructure are not made of sustainable and durable materials that can therefore be reused several times, they can have a significant environmental impact.

Therefore, when choosing material and equipment, the event organiser must consider the entire life cycle of these products from the extraction of the raw materials used to the end of life.

By adopting a recycling, reuse and material recovery approach, the organisation can reduce its environmental pressure.

In the sport of canoeing and kayaking, specific equipment such as canoes, paddles, helmets, safety equipment and uniforms can be recycled and reused several times before ending their life cycle.

The choice of using materials (sportwear, board, etc.) without dates and event references, therefore not event-specific, is one of the recommended and easy-to-implement practice. In addition, targeting the digitisation of paper materials, where possible, to produce maps, tickets and information is an innovative and easily applicable practice.

Events that involve the use of promotional and merchandising materials and gadgets may prefer products made from renewable materials rather than non-renewable ones. Even the clothing of athletes and staff can meet technical and environmental performance criteria by choosing garments made from recycled or sustainable materials.

Table 10: Example of operational practice identified in the environmental dimension of materials and equipment

N° 45	MEDALS MADE FROM RECYCLED MATERIAL
Operational/Governance	Operational
Event phase(s)	Organisation Staging
Environmental dimensi	Materials and Equipment

By focusing on what you give to event participants and encouraging them to recycle it, you can significantly reduce carbon emissions. The choice of material type for medals can reduce the environmental impact of the event, as can the handling of the products themselves. Consider that the environmental impact of a zinc medal is about 13 times greater than one made of recycled plastic. However, the handling of medals at different stages of the life cycle is also relevant.

References:

- For the 2024 London Marathon, medals will be made of recycled zinc alloy. The process, called zinc die-casting, is a more energy-efficient production process than other metal die-casting processes, such as aluminium. Medals are ordered in bulk to reduce transport movements (they are shipped by sea). Participants can hand in their medal at most of our events. The leftover medals are recycled in the UK and the ribbons are also recycled.

- The Danish Surfing and Rafting Federation distributed plastic medals collected on the west coast of Denmark to all 150 participants. The ribbon was made from old fishing nets, also collected on Danish beaches.

Environmental Benefits	Reduction of the environmental impact related to the management of medals at different stages of the life cycle		
Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
4.7	3.7	4	4.1
	Environmental Impact - London Marathon		
Sources Links	Event Guide for Green & Sustainable event		

4.4 Waste

Sporting events, due to the large flow of people, can generate significant amounts of waste, mainly related to the handling of food and drink consumed during the days of the event. This impact generates concerns and challenges for the environment and local communities, as well as projecting a negative image to the public. The main role of organisers should be the implementation of the 4Rs principle 'Reduce, Reuse, Recycle and Recover' in waste management at all stages of the organisation of an event.

Organisers can intervene at the organisation stage to reduce the amount of waste upstream, by giving up or reducing products that generate waste and pollution, such as disposable or individually packaged items or the number of printed and promotional items, or by selecting goods and products that can be recycled or reused or can serve as a resource for future events. In addition, during the planning of a sports event, organisers can work to improve waste management by working with local authorities such as the municipality or waste management company to implement waste separation during the competition.

During the course of the event, the organisers must intervene by ensuring the principle of waste separation.

It is also important to inform and communicate on how to separate waste correctly to the participants. In fact, large-scale events, generating large quantities of waste, are the perfect opportunity to encourage the dissemination of waste reduction and recycling practices.

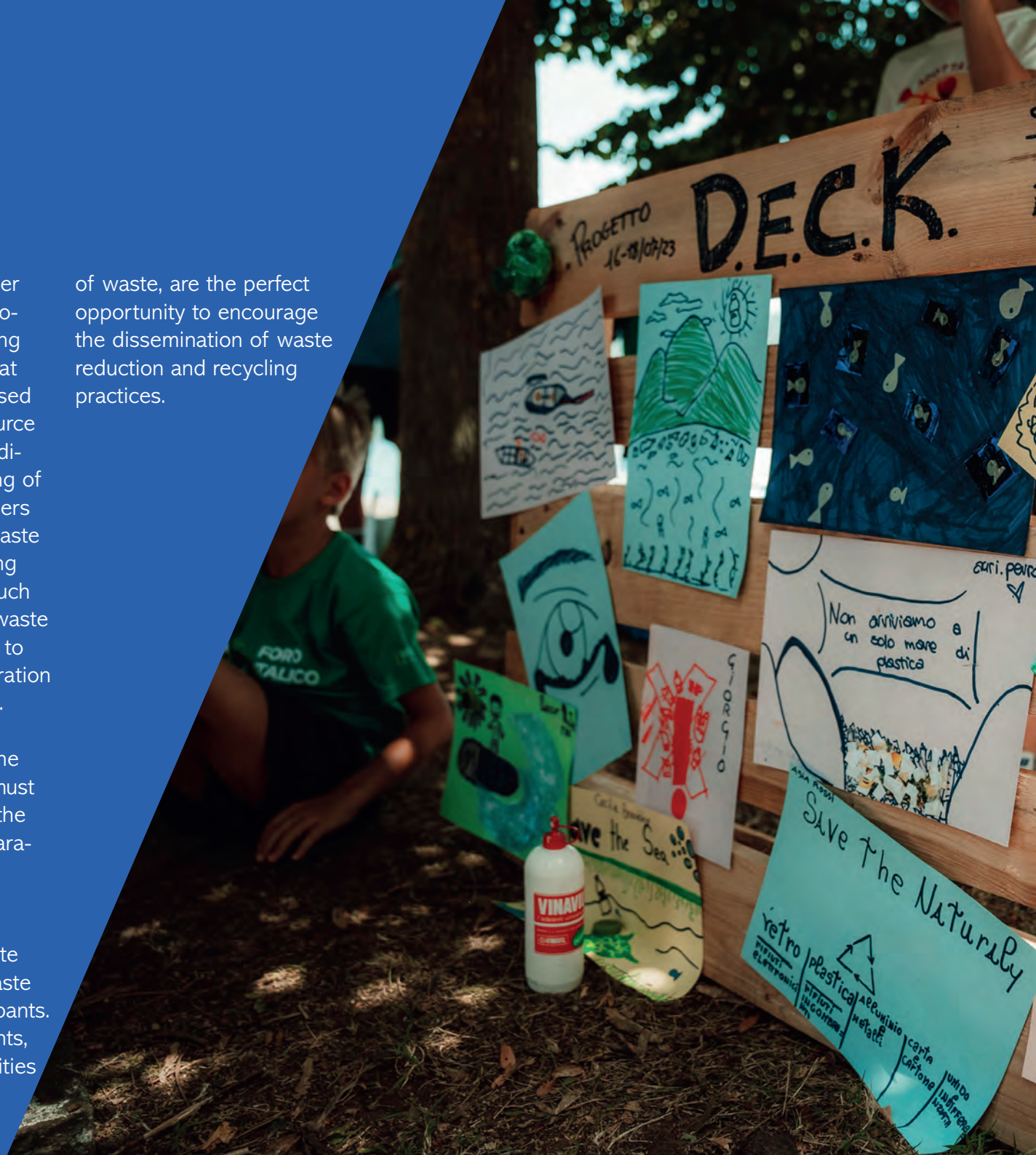

Table 11: Example of operational practice identified in the environmental dimension of waste

N° 19	OPTIMIZE WASTE COLLECTION OPERATIONS
Operational/Governance	Operational
Event phase(s)	Organisation Staging Closure
Environmental dimensi	Waste

Especially where there is no differentiated collection and spectators leave their rubbish in the stands, it is unlikely that the rubbish subsequently collected by the cleaning crews is separated to be sent to landfill.

Optimizing separate collection operations makes it possible to appropriately allocate waste to landfills and optimize times.

Reference:

Denver Baseball Stadium: Coors field uses a crew of twelve pickers to walk the rows of the stadium collecting plastic bottles and large trash items using a two bag technique. Pickers walk the rows placing plastic bottles into clear plastic bags while putting the larger non-recyclable items such as trays, cups, paper/plastic litter material into a black plastic bag. As the bags are filled, pickers tie off the bags and leave them for collection crew to handle. As the pickers finish the initial "pick" and bags are removed, a secondary crew follows pickers with leaf blowers pushing litter down rows to aisles where it is bagged for disposal.

Environmental Benefits	Improving separate waste collection and reducing the amount of waste sent to landfill

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
4.3	3.3	3	3.6
Sources Links	"LIFE TACKLE: Database of Good Practices"		

4.5 Food and Beverage

Most sporting events involve the consumption of drinks and/or food, the surplus of which is a waste to be disposed of, but also a waste that can be avoided with some simple precautions.

Given the environmental impact of this activity, this dimension is discussed separately from waste. Specifically with regard to food, we point out that packaging is responsible for only a small part of the 'environmental footprint' of the entire product and that the greatest impact on the environment is its content, the food, which requires enormous energy and water expenditure throughout its life cycle, from cultivation to preparation, transport and end-of-life.

Canoe and kayak events take place in areas that are not integrated into city centres and therefore the provision of meals at the competition site is often organised in advance.

Careful planning of the catering service by the event organisers, in cooperation with the catering company, can drastically reduce the impact related to food waste and waste represented by single-use plastic. For example, the number and type of meals to be served for athletes and staff can be requested in advance, minimising food waste by cooking or ordering the quantity needed. At the service stage, it is crucial to avoid the use of disposable items, reduce packaging and ensure proper collection and recycling or disposal. In some cases, vegan and/or vegetarian menu options (with a reduced environmental footprint) may not only be present, but their consumption may be encouraged or even presented as the only option.

Organisers can also check, possibly with the catering service, if and how surplus food can be donated or composted.

As far as beverages are concerned, strategies to reduce single-use plastic should be priveleged and water refilling services provided in several competition areas.

Table 13: Example of operational practice identified in the environmental dimension of food and beverage

N° 1	LIMIT FOOD-RELATED WASTE PRODUCTION
Operational/Governance	Operational
Event phase(s)	Organisation, Staging, Closure
Environmental dimensin	Food and Beverage, Waste

Food waste is a major contributor to the environmental impact of event catering. It is therefore important to consider the recycling and distribution of surplus food.
Food donation is one of the practices implemented to combat food waste and generate social benefits. Sports organisations are increasingly sensitive to this issue and are adopting food donation practices to prevent surplus food from their events from going to waste and to support people in need. According to LIFE TACKLE project estimates, a professional football team with a capacity of 60,000 seats in the stadium and 1,500 seats in the VIP area consumes 9,644 kg of sandwiches and 18,090 kg of food during a match. Of the sandwiches prepared, about 2,313 kg (about 20 per cent) are left over and, if not donated, are thrown away as waste, despite being perfectly good and unused. Food donation therefore becomes very important in this kind of context. There are several organisations that specialise in this area, such as Too Good To Go.
In addition to donation, another practice to reduce food waste can be to prepare only the quantity of food and drinks ordered in advance to avoid food waste as much as possible.

References:
- Starting with the 2010-2011 season, the National Hockey League (NHL) started a league-wide initiative to collaborate with “”Rock and Wrap It Up!”” to donate unused convenience food. All 30 NHL teams have pledged to wrap up all concession food on game nights and redistribute it to local shelters and other places that help those in need. During the first full season, through this initiative, NHL clubs provided 163,000 meals to people in need and diverted 105 tonnes of food from North American landfills and incinerators. Since 2010, the league-wide food recovery programme has diverted more than 300 tonnes of waste from landfills and incinerators and provided more than 400,000 meals to local shelters. For example, since October 2010, the Edmonton Oilers have provided more than 20,600 pounds of food to the Edmonton Foodbank programme, generating nearly 16,000 meals for various agency programmes.

- During the Internationale Sprint Race held at Milano Idroscalo in April 2023, the number of meals and the type of menu (choice between regular and vegetarian) was shared before the event with the catering company to reduce the waste associated with any uneaten meals. In addition, leftover food was donated to local voluntary associations such as Caritas.

Environmental Benefits	An average meal of 100g of meat produces 2.40 kg of CO2e. If 5,000 meals are wasted, the unnecessary emissions are 12 tonnes of CO2e. Reducing the waste associated with leftover food leads to environmental benefits in terms of CO2e reduction.

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
3	4.3	3.3	3.6

Sources Link	LIFE TACKLE: Database of Good Practices DECK Project, Environmental Audit - International Sprint Race in Milan Idroscalo 15 Aprile 2023 Event Guide for Green & Sustainable Events

4.6 Biodiversity

Biodiversity conservation is fundamental to sustainable development, as highlighted in the United Nations Sustainable Development Goals (SDGs). Biodiversity encompasses the variability of organisms living in terrestrial, marine and aquatic ecosystems and the ecological complexes they form.

A sporting event has the potential to affect the direct causes of biodiversity loss, such as land and sea use change, exploitation of natural resources, climate change, pollution and the introduction of invasive alien species. Activities related to a sporting event can damage the natural environment and local biodiversity. The sport of canoeing and kayaking, but outdoor water sports in general, depend on the watercourses in which they take place (lakes, rivers, seas) but at the same time pose a threat to the conservation of the biodiversity of these places, just think of the risk of the spread of invasive species (plants and animals) that can have disastrous effects on the watercourses concerned. Moreover, the presence of athletes, supporters and staff can disturb and destroy the local fauna.

By considering the cycle of the sports event, organisers can manage the potential impacts on biodiversity, acting with a view to preventing damage. At the organisation stage, it is important to define the scope, location and timing of the event. In particular, measures can be defined to manage the presence of athletes and spectators that protect conservation and sensitive areas.

During the course of the event, these measures will be implemented, such as delimiting areas, posters to educate on how to avoid the spread of invasive plants, etc. Post-event activities may include activities to restore the local environment, leaving a positive legacy for the local area and communities.

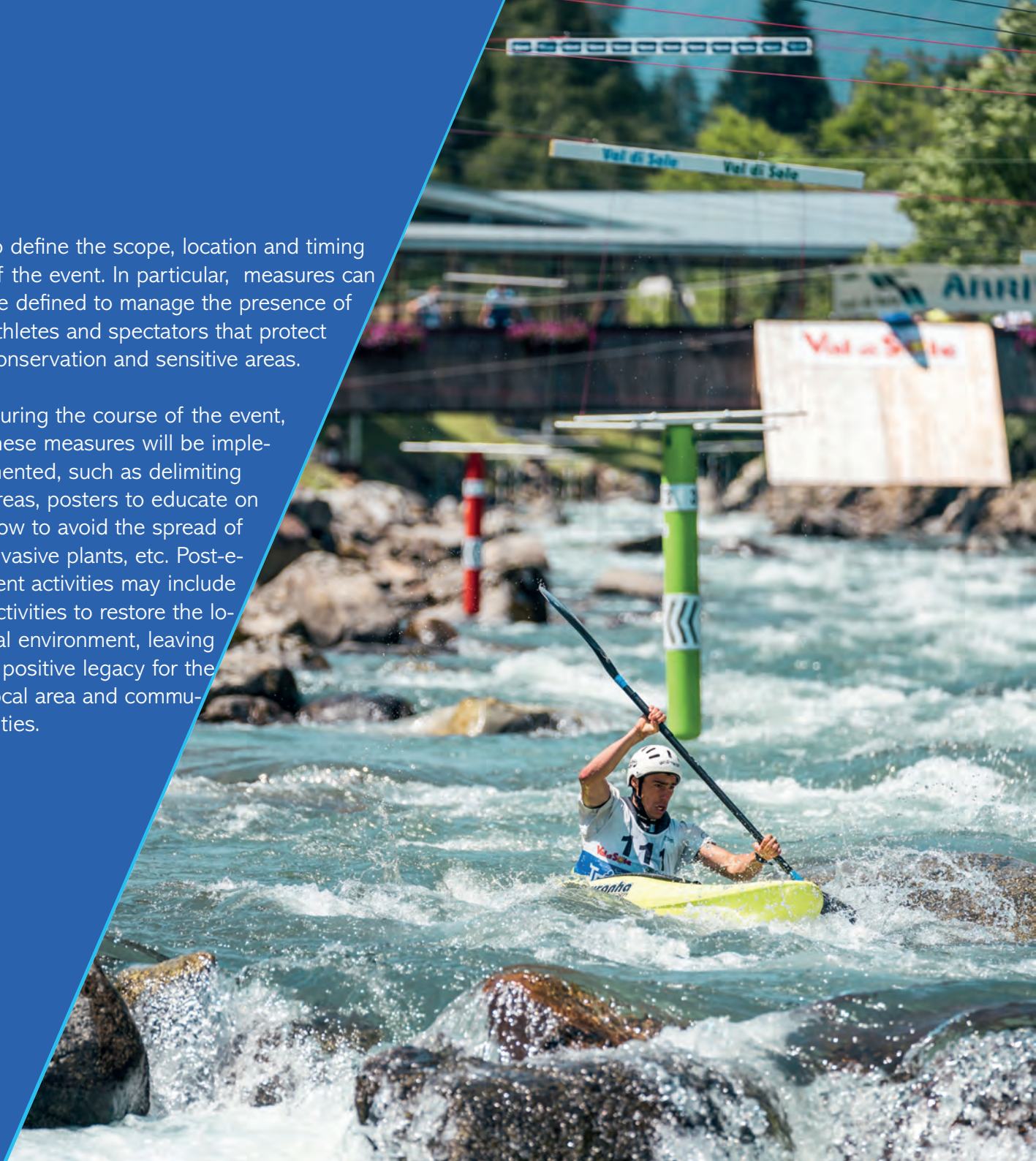

Table 14: Example of operational practice identified in the environmental dimension of biodiversity

N° 6	AVOID AND/OR MINIMISE HARM TO BIODIVERSITY BY EFFECTIVE MANAGEMENT OF COMPETITORS AND SPECTATORS
Operational/Governance	Operational
Event phase(s)	All
Environmental dimensin	Biodiversity

Ineffective management of competitors and spectators can cause damage to the biodiversity of the place where the event takes place.

Reference:
To avoid this scenario, IUNC advises to take in place some actions.

- Control movement of visitors across natural spaces by using clear signposting of venues and guides, and by providing adequate route maps and path networks, with guidance to using public transport (routes etc.).

- Create and monitor a buffer zone between priority conservation or sensitive areas and event venues to limit access to – and impacts on – these areas.

- For aquatic sports venues, declare certain sensitive areas off-limits (e.g. banks of watercourses) and stipulate activity routes to reduce streambank erosion.

- Control access to, and stipulate permissible activities and behaviour of visitors and spectators in, sensitive biodiversity areas.

- Fully brief event stewards.

Environmental Benefits	Protect the biodiversity of the sports event area

Environmental Relevance	Economic feasibility	Technical Replicability	FINAL RATING
4.3	3	3.7	3.7

Sources Links Mitigating biodiversity impacts of sports events - IUNC

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