Recreational Boating Masterplan
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A. FOREWORD
A. FOREWORD

Rowing on the tranquil River Spree at sunrise, spending a weekend in a houseboat on the River Havel, exploring the Lahn Valley in a canoe or sailing into the sunset on Lake Müritz: That's the epitome of freedom, harmony with nature and pure joie-de-vivre. People have been drawn to water for centuries. Water sports have never lost any of their fascination. On the contrary: Waterborne activities are truly booming thanks to the COVID-19 pandemic and a new awareness of sustainable travel.

With some 7,300 kilometres of inland waterways – about the distance between Berlin and Beijing as the crow flies – the extensive tributaries and countless lakes, Germany has a particularly attractive network of waterways. In fact, the Müritz, Havel and Spree region is the largest interconnected water sports destination in Europe.

Even as the number of recreational boats and the demands of recreational boating rise continuously, the infrastructure is also aging. The aim is to make our waterways attractive, safe and future-proof, as well as to develop modern concepts for the individual waterways. Water-based tourism is to be facilitated as reliably and smoothly as possible everywhere – while also remaining in harmony with nature.

Building on the Inland Waterway Transport Masterplan, which is specifically about measures to promote commercial shipping, this Masterplan is focused on recreational boating. However, it is clear that commercial shipping and recreational boating can only work hand-in-glove.

For the future of our tourist waterways, this Masterplan identifies five action areas: infrastructure, boating, digitalization, environment, as well as communication and cooperation. They contain goals and highly specific measures for the Federal Government, the federal states and, in particular, the Federal Waterways and Shipping Administration.

Examples include the following: The existing infrastructure is being repaired and adapted to user needs, for example with grabrails or boat transfer facilities at locks. We are digitalizing lock management and promoting the use of sustainable propulsion systems and fuels. We are identifying specific synergies between recreational boating, water management and nature conservation, protecting diverse wildlife habitats and boosting participation and transparency in measures on federal waterways. The process of close coordination with the Federal Government, federal states, local authorities, associations and companies on this Masterplan has already begun as part of the consultation process. Many thanks to everyone who participated!

We are convinced that sustainability is possible on and along federal waterways – and can be achieved by dovetailing ecology and leisure traffic. The entire waterway system will benefit from this. Let’s join forces to do everything we can to ensure that future generations can also live beside, with and on the water.

Your Federal Ministry for Digital and Transport
B. MOTIVE AND OBJECTIVE
B. MOTIVE AND OBJECTIVE

I. BACKGROUND

The federal waterways (Glossary) and their infrastructure are essential to recreational boating (Glossary) in Germany. They include around 7,300 km of inland waterways (Glossary) as well as attractive maritime areas. Including the aforementioned federal waterways, Germany has an extensive waterway network with the largest interconnected water sports area in Europe, which spans the federal states of Mecklenburg-Western Pomerania, Brandenburg and Berlin. It has established itself internationally as an important destination for water-based tourism.  

Recreational boating is also very popular on the domestic market. It is estimated that around 2 million German citizens are members of water sports clubs. In 2019, nearly one-fifth of Germans spent time near, in and on the water during domestic holidays. A survey by the German Tourism Association shows that, in general, spending time in nature is a priority for 56% of Germans.

1 For more information in German, visit the website of the Federal Waterways and Shipping Administration at: https://www.gdws.wsv.bund.de.


4 Deutscher Tourismusverband (German Tourism Association, 2020): Zahlen. Daten. Fakten. Das Tourismusjahr 2019 im Rückblick (Facts, figures and data. The 2019 tourism year in review)
Germans when *staycationing*. With their pristine water landscapes, the federal waterways are attractive destinations for recreation and leisure sports.

The recreational boating sector includes a wide range of use types, each with their own different potential. For example, there are over 500,000 motor and sailboat owners in Germany. Charter boat tourism (→ Glossary) is one major water-based tourism segment that has seen significant growth in the past decade, particularly in Brandenburg and Mecklenburg-Western Pomerania. This sector was also growing until the pandemic-related curtailment of passenger cabin shipping (→ Glossary). The use of non-motorized watercraft, such as canoes, rowing boats or SUPs, is also widespread. Canoe touring is currently considered the most important segment in Germany from a tourism perspective, with an estimated total of 1.4 million canoeists nationwide.

The fact that it is an environmentally sustainable form of tourism, which is becoming an increasingly important aspect, also helps explain the popularity of human-powered water sports. In 2019, for example, environmental considerations played a key role for more than half of Germans, both when planning their holiday and during their holiday. Furthermore, the Federal Government considers driving development of climate- and environmentally-friendly tourism essential and has declared it an important issue. Human-powered water sports in particular, as well as all human-powered activities along, on and in bodies of water in general, such as swimming or cycling, offer particular potential for this development.

The Federal Ministry for Digital and Transport is also championing an environmentally friendly and climate-sensitive development of the federal

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1 ibid
2 Federal Ministry for Economic Affairs and Energy (eds.) (2016): Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland (Commercial potential of water-based tourism in Germany)
3 Wassertourismus Initiative Nordbrandenburg (Water-based Tourism Initiative of North Brandenburg, 2020): Gesamtkonzept zur wirtschaftlichen Bedeutung und zu den Perspektiven des Wassertourismus in der Region der Wassertourismus Initiative Nordbrandenburg (WIN-Region) unter besonderer Berücksichtigung des Finowkanals (Overall concept regarding the economic significance and perspectives for water-based tourism in the Wassertourismus Initiative Nordbrandenburg region (WIN region), focusing in particular on the Finow Canal) See also the website of the Ministry of Economics, Infrastructure, Tourism and Labour of Mecklenburg-Western Pomerania: Wassertourismus in MV (Water-based Tourism in Mecklenburg-Western Pomerania)
4 Deutscher Tourismusverband (German Tourism Association, 2020): Zahlen. Daten. Fakten. Das Tourismusjahr 2019 im Rückblick (Facts, figures and data. The 2019 tourism year in review)
5 Federal Ministry for Economic Affairs and Energy (eds.) (2016): Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland (Commercial potential of water-based tourism in Germany)
7 Federal Ministry for Economic Affairs and Energy (eds.) (2016): Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland (Commercial potential of water-based tourism in Germany)
waterways. In the federal ‘Germany’s Blue Belt’ programme, the Federal Government, on the joint initiative of the then Federal Ministry of Transport and Digital Infrastructure and Federal Ministry for the Environment, adopted a programme that, among other things, makes an important contribution to protecting the diverse habitats of often endangered species of flora and fauna and to dealing with the consequences of climate change. At the same time, the federal programme’s measures are creating attractive water landscapes for leisure visitors. This brings us full circle, making it clear that closely dovetailing ecological and leisure traffic (→ Glossary) objectives has positive effects for all waterways-related interests.

At the same time, recreational boating on federal waterways is an important economic factor. According to a study commissioned by the then Federal Ministry for Economic Affairs and Energy, water-based tourism (→ Glossary) generates a gross turnover of over €4.2 billion annually.13 In Brandenburg and Berlin alone, water-based tourism produces an annual turnover of €200 million in the form of commercial water-based tourism, passenger shipping and ports.14 In addition, there are other revenue streams, mainly from the daily rental of boats and expenditure by holidaymakers travelling in their own boats.15 The water sports industry reported significant growth in 2020, not least due to the pandemic-related increase in domestic tourism.16 Due to climate policy considerations as well as the impact of the COVID-19 pandemic, the growth in domestic tourism is expected to increase further. Water sports and water-based tourism are also important drivers of economic development in rural areas, as they offer a wide range of employment opportunities there, for example.17

Due to the age of the infrastructure and many years of investment shortfalls, structural maintenance and replacement of the federal waterways infrastructure as a whole are urgently needed. Facilities on federal waterways with minor or no significance for freight transportation are also largely obsolete.

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13 Federal Ministry for Economic Affairs and Energy (eds.) (2016): Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland (Commercial potential of water-based tourism in Germany)
14 Chamber of Industry and Commerce Potsdam (responsible) (2015): Wirtschaftliche Effekte im Wassertourismus in Berlin und Brandenburg (Economic effects in water-based tourism in Berlin and Brandenburg)
and in need of repair. However, these very waterways are important infra-
structure elements needed for water-based tourism.

The volume of freight transported on federal waterways is currently declining
in certain regions and river basins.\textsuperscript{18}

Taking into account the development potential for future freight movements,
measures are also to be taken there to align the infrastructure with the needs
of modern recreational boating.

Given the state of the waterway infrastructure of federal waterways with
minor or no freight transport significance, the coalition agreement for the
19th parliamentary term includes the following passage: “For the minor
federal waterways, which are used exclusively for tourism or sport, we want
to establish new priorities, in accordance with their navigability, and support
these priorities. We will seek to join forces with the federal states and regions
to develop new strategies for the individual waterways.”\textsuperscript{19} This is also linked to
the plan to sustainably strengthen tourism development and further improve
the framework for tourism in Germany.\textsuperscript{20} In a Bundestag resolution of 8
November 2019, the key points of the National Tourism Strategy were adopted
and the Federal Government was called upon to improve the federal water-
ways specifically for water-based tourism as part of the ongoing process.\textsuperscript{21}

In the coalition agreement for the 18th parliamentary term, the governing
parties had already agreed to present a water-based tourism concept, which
was published in July 2016. It focused in particular on changes to the internal
organization and distribution of responsibilities.

Expectations and needs in the recreational boating sector have risen, while
environmental protection, nature conservation and the challenges presented
by climate change have also become more and more relevant. Automation
and digitalization are becoming increasingly important. As a result of all of
this, the existing water-based tourism concept was upgraded to a Recreational
Boating Masterplan.

II. \textbf{AIMS}

- The Federal Ministry for Digital and Transport aims to improve mobility
  on and along federal waterways for leisure traffic in a user-centric manner.
  This focuses on the reliability of the waterway infrastructure for users. A
greater emphasis is to be placed on the economic significance of water-
based tourism and leisure traffic, as well as their recreational function.

- The Ministry aims to provide a modern, demand-driven infrastructure for
  recreational boating on federal waterways that meets future needs. This
  includes adjustments for recreational traffic.

\textsuperscript{18} See, for example, statistics from the Federal Statistical Office on the volumes of the
goods carried in 2018: https://www.destatis.de/EN/Themes/Economic-Sectors-
Enterprises/Transport/Goods-Transport/_node.html.

\textsuperscript{19} Coalition Agreement between the CDU, CSU and SPD. 19th Parliamentary Term.

\textsuperscript{20} Coalition Agreement between the CDU, CSU and SPD. 19th Parliamentary Term.

\textsuperscript{21} cf. German Bundestag (2019): Application of the CDU/CSU and SPD parliamentary
parties. Mit nationaler Tourismusstrategie den Standort Deutschland weiter stärken.
(Strengthening Germany as a Tourism Destination with a National Tourism Strategy).
The Ministry will provide service-focused support for the recreational boating sector, such as making lock operations more user-friendly for recreational boaters or improving information provision.

The Ministry’s goal is to drive and develop digitalization in the recreational boating sector. The digital equipment at the facilities is to be enhanced, and the services provided digitally are to be bolstered.

The Ministry is aligning its promotion and support for recreational boating with its vision of sustainability. Ensuring that nature, environmental protection and climate action as well as recreational boating can exist in harmony is a priority for the Ministry.

As part of its implementation of the Recreational Boating Masterplan, the Federal Ministry for Digital and Transport is targeting extensive participation of the affected federal and state authorities and the general public, as well as improved communication with interest groups, in order to identify, in particular, existing interfaces and synergies between federal and state objectives, as well as to take third-party interests into account. This also includes the complementary discussion of strategic issues with other government departments.

III. CHALLENGES

Where resources are scarce, infrastructure investments must focus on measures to maintain and replace system-critical facilities.

Resources must be allocated specifically in order to implement infrastructure projects that go beyond the measures to maintain and replace system-critical facilities on federal waterways predominantly used for recreational purposes. In addition, the prioritization of investments in federal waterways must be updated and revised.

In order to take into account the economic significance of water-based tourism, a methodology module for assessing the recreational and leisure benefits of considered projects for recreational boating has been developed to complement the Federal Transport Infrastructure Plan methodology. As a result, this effect will be taken into account in the transport infrastructure planning for federal waterways in future after its introduction.

Stable network coverage along the federal waterways is required to tap the potential of digitalization and use digital services. There are still coverage ‘white spots’, especially outside urban areas.
C. STUDY SCOPE AND APPROACH
C. STUDY SCOPE AND APPROACH

I. SUBJECT

This Masterplan focuses on user-centric promotion and support for recreational boating on federal waterways, and in particular on demand-driven improvement of the infrastructure provided for this purpose. Recreational boating includes tourism and sporting activities in watercraft and comprises the following segments: sailing, motor boating, human-powered water sports and passenger shipping (→ Glossary), as well as other water sports with watercraft. This is only one – albeit a major – part of water-based tourism, which is defined as "all activities (...) in which spending time in or on water is the main motivation for day or overnight trips".22 The Inland Waterway Transport Masterplan already covered the promotion and support of passenger shipping.23

![Water-based tourism activities](image)

Modelled on the definition and illustration of water tourism in 'Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland', 2016

All federal waterways are used for recreational boating. However, leisure traffic is particularly conspicuous and economically important on federal waterways without significant freight traffic. At the same time, many of the facilities on these waterways are outdated. As a rule, these facilities are now used exclusively for leisure traffic. The infrastructure provided in the core network (see Major waterways → Glossary), i.e. on federal waterways with a high volume of freight traffic, generally permits recreational use there.

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22 Hamburg Messe und Congress GmbH, German Tourism Association (eds.) (2003): Grundlagenuntersuchung Wassertourismus in Deutschland, Ist-Zustand und Entwicklungsmöglichkeiten (Fundamental Study on Water-based Tourism in Germany: Status Quo and Development Opportunities) (authored by: BTE, dwif)

Overall, many facilities are in need of renovation. Due to the numerous facilities in need of renovation on inland waterways, the federal inland waterways (⇒ Glossary) are receiving more attention than the near-coastal maritime areas. The Masterplan spans all federal waterways, but focuses on the many and varied uses of the federal waterways outside the core network, with their special recreational and ecological potential.

II. APPROACH

Sustainable as well as user-centric promotion and support for recreational boating is a cross-cutting activity for the Federal Government. It requires broad participation by authorities and the general public. The Federal Ministry for Digital and Transport sees itself in a leading role alongside the Federal Waterways and Shipping Administration. For this reason, an internal participation process was started at the then Federal Ministry of Transport and Digital Infrastructure in autumn 2019 in order to prepare the Recreational Boating Masterplan. This process was intended in particular to compile local experience and expertise as well as to achieve broad coordination at various administrative levels in the executive agencies. The regional conference, held in Oranienburg in March 2020, marked the beginning of stakeholder and public consultation. Using digital and analogue formats, needs for improvement and suggested measures in the recreational boating sector were documented nationwide during the preparation of the Masterplan.

After publication of the Masterplan, consultation will continue as part of its implementation. In particular, further technical discussion with the relevant government departments, such as the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection and the Federal Ministry for Economic Affairs and Climate Action, is very important due to the legal responsibilities for certain tasks. The goal is to achieve coordinated approaches, action and support for measures on federal waterways. Information (in German only) on the consultation process can be found on the project website www.masterplan-freizeitschifffahrt.bund.de.

<table>
<thead>
<tr>
<th>Event</th>
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<td>August 2019</td>
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<td>Nationwide online survey</td>
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<td>Online information event</td>
<td>December 2020</td>
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<td>Masterplan published</td>
<td>June 2021</td>
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<td>Regional conference in Oranienburg</td>
<td>March 2020</td>
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<td>Project website launched</td>
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<td>Start of the federal-level workshops</td>
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<tr>
<td>Start of the regional workshops</td>
<td>Autumn 2021</td>
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2020 – 2021

Overview of the participation process
III. RESPONSIBILITIES

As the division of competences in the public authorities for recreational boating and water-based tourism varies, the individual responsibilities are listed below:

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration are responsible for maintaining the federal waterways and operating federally owned navigation facilities, upgrading and building new federal waterways as transport routes, and ensuring navigability on federal waterways. The Federal Ministry for Digital and Transport, which is responsible for the federal waterways, is the top-level authority.

- The Federal Ministry for Economic Affairs and Climate Action plays a coordinating role in the tourism sector. It has lead responsibility for tourism policy in the Federal Government.

- The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection has lead responsibility for policy issues relating to environmental protection, nature conservation and climate change mitigation as well as climate adaptation. It is also responsible for water management policy issues (e.g. water protection, flood defences).

- The federal states are responsible for implementing nature conservation and water legislation.

- Besides the Federal Ministry for Economic Affairs and Climate Action, which oversees the nationwide framework for tourism as an economic factor, the federal states are responsible for local tourism and also for the management of state waterways.

In addition, associations, clubs and organizations perform important tasks and functions in the recreational boating and water-based tourism sectors, especially with regard to the provision of information and landside infrastructure.
D. ACTION AREAS AND MEASURES
D. ACTION AREAS AND MEASURES

After a brief introduction on the action areas of infrastructure, navigation, digitalization, the environment as well as communication and cooperation, the subsequent Chapters I-V present the measures envisaged for these individual action areas. They include measures planned for the short and medium term as well as some that have already been started.

Infrastructure

 Reliable and user-centric infrastructure is a key prerequisite for use of the federal waterways for transport purposes. This applies for both freight transport and leisure traffic. In line with the Federal Government’s goal of promoting recreational boating – especially on minor waterways – the existing infrastructure is to be gradually repaired and adapted to meet demand. This will require reprioritization of investments among the federal waterways, as well as appropriate resources. Reliable, transparent information about infrastructure measures on federal waterways is necessary to enable all stakeholders to plan reliably in good time. In the long term, digital design methods (BIM) and the standardization of structures or components can help speed up planning, construction and operation in this area, too. Even smaller measures can be enough to make user-centric upgrades to the existing infrastructure, such as installing grabrails or boat transfer facilities at locks. The federal, state and local governments, as well as associations and companies, can better coordinate their respective projects on and along federal waterways with a coordinated approach. This helps ensure more efficient and sustainable planning, coordination and implementation of projects.

→ Chapter D-I describes measures for the provision of demand- and user-centric infrastructure for recreational boating.

Boating

 Recreational boating can offer an easily and universally accessible and environmentally friendly alternative to other types of holiday or leisure activity. This is true in particular for human-powered recreational boating. Motorized recreational boating, too, can provide an alternative of this kind. However, this requires additional investment in technical innovations and in the conversion and modernization of motorized recreational boating. In addition, information, such as location-specific rules on traffic and pilot behaviour, recommendations on the water, information on locks or on connections to landside services, should be made more accessible and user-friendly for holidaymakers and recreational skippers. The Ministry also intends to continue working on simplifying standards and reducing red tape. Overall, the aim is to make recreational boating itself and recreational boating operations more attractive,
taking potential capacity limits of federal waterways and the general ecological conditions into account.

→ Chapter D-II describes measures to promote recreational boating in a user-centric and environmentally sound manner.

**Digitalization**

The digital transformation is advancing at a rapid pace and has significant potential for the mobility sector and therefore also for traffic on waterways. Although the process of harnessing this potential is still in its infancy, various digital development opportunities that are also relevant to recreational boating have already been identified and initiated for federal waterways. One example of this is collecting and analysing vast quantities of data on structures or traffic figures as a basis for investment decisions. Official processes and services of the Federal Waterways and Shipping Administration can be accelerated and simplified using digital technologies. The automation of locks (→ Glossary) and the deployment of digital lock management can make technically state-of-the-art process control at locks possible. Digital information and mobility services can make journeys easier for waterway users and make important information more readily available.

→ Chapter D-III describes measures to tap these and other digitalization potentials for recreational boating.

**Environment**

A wide range of different uses coincide on Germany’s waterways, as do many different objectives with regard to the environment, nature conservation and climate adaptation, among other things. This includes recreational boating and provides an opportunity both to develop recreational waterways in an environmentally sound manner and to upgrade them for leisure and recreational use. In addition to its responsibility for transport issues on federal waterways, the Federal Ministry for Digital and Transport is therefore also committed to its responsibility to protect the valuable habitats along waterways and boost biodiversity. The Ministry is actively engaged in mitigation of and adaptation to climate change. The Ministry also champions continued ecological development of federal waterways. Potential synergies between recreational boating, water management and nature conservation are to be identified and the development of sustainable construction and maintenance measures (→ Glossary) is to be promoted. Ecologically intact federal waterways are also more attractive for recreational boating. Further reducing emissions from traffic using appropriate technologies and measures is another important goal for recreational boating within the framework of European legal requirements.

→ Chapter D-IV describes measures for nature conservation, environmental and climate protection as well as for adaptation to the consequences of climate change in the context of supporting and promoting recreational boating.
Communication and cooperation

Promoting and supporting recreational boating are cross-cutting responsibilities for federal, state, and local governments, requiring collaboration with many different stakeholders. Associations and companies have also expressed a desire for more consultation and transparency for measures on and around federal waterways. For this reason, multi-authority, multi-state and multi-project exchanges as well as dialogue with the business community and the general public are to be strengthened, as already begun in the consultation process for the Masterplan (see figure on page 12). This chapter proposes a communication and participation concept for this purpose. The aim is to pool the decentralized expertise and plans that are available at different levels. This can be nationwide or regional. The aim is to coordinate and dovetail measures in different areas, such as nature conservation and environmental protection or infrastructure projects, at an early stage.

→ Chapter D-V describes measures to enhance communication and cooperation to successfully promote and support recreational boating.
I. MEASURES FOR THE PROVISION OF DEMAND-BASED AND USER-CENTRIC INFRASTRUCTURE

1. Prioritization and transparent coordination of infrastructure measures

Only some of the upcoming infrastructure measures on waterways used for leisure purposes are included in the Federal Transport Infrastructure Plan and the Framework Investment Plan (→ Glossary). This is due to the fact that a large part of the infrastructure needs in the secondary network are covered by maintenance measures at the level of the respective Waterways and Shipping Office. Only the major investments in replacement infrastructure for the secondary network have found their way into the Framework Investment Plan. The Federal Transport Infrastructure Plan does not currently include any upgrading schemes (→ Glossary) from the secondary network as first priority projects. The infrastructure in the secondary network is generally sufficient for the existing and forecast freight traffic use without upgrading schemes. Until now, this has also applied to the – in some cases very extensive – recreational use in the secondary network, so that no recreational boating projects have had to be evaluated in the Federal Transport Infrastructure Plan to date. Insofar as the development of leisure traffic (→ Glossary) on the federal waterways will also be explored under a changed socio-political perspective in future, upgrading schemes considered on the basis of traffic requirements must be subjected to a macroeconomic assessment – as is also the case in the core network. For this purpose, an addition to the benefit component is available for the existing Federal Transport Infrastructure Plan methodology to take recreational boating into account.
As described above, infrastructure measures in the secondary network currently primarily involve maintenance measures (→ Glossary) or investments in replacement infrastructure. Decision-making processes on the chosen infrastructure measures and the order in which they are tackled must be improved. In this context, the planned measures must be better coordinated, especially measures on recreational waterways, and they must be communicated at an early stage (measures for this are listed in Section 2 of Chapter D-V). Similarly, recreational boating associations and businesses need a reliable assessment of the duration and construction site/works-related risks of infrastructure projects.

The Federal Waterways and Shipping Administration is therefore striving to optimize its infrastructure planning, also using modern digital methods. Major capital investment projects on the recreational waterways are already included in the 5-year Framework Investment Plan. Minor capital investment projects are also to be made transparent in the future. The assessment of the condition of structures plays a significant role in the prioritization and planning of infrastructure measures. In addition to documenting the current condition of structures, in future, forecasting of the condition and remaining service life of structures and parts of structures as well as forecasting of replacement or partial replacement and the scope of upcoming measures are to be improved and considered in relation to the existing traffic density and the development of traffic.

Short-term/medium-term measures:

- The Federal Ministry for Digital and Transport is adapting the previous prioritization methodology with the aim of advancing maintenance measures on facilities with significant traffic relevance on main and secondary waterways equally. The aim is to continue to give priority to safety-relevant measures (e.g. weirs) in the transport infrastructure, followed by system-relevant measures (e.g. heavily used locks), regardless of whether they are located on main or secondary waterways.

- The Federal Waterways and Shipping Administration will prioritize measures based on their systemic importance to recreational boating. In addition to the condition of the structure, both assessed and forecast, this will take into account the importance of the route for shipping traffic as well as other factors, such as staggering or concentrating measures in individual cases or locally available planning or construction capacities.

- The Federal Ministry for Digital and Transport continues to advocate increasing synergies by improving timely coordination of infrastructure measures on federal waterways with ecological development measures for efficient use of existing resources (see Section 2 of Chapter D-V). This also applies to third-party projects related to federal waterways.
## 2. Fast and cooperative design, construction and operation

Optimizing connections between existing digital processes and IT systems is an important step towards more efficient, cost-effective and timely design and operation of hydraulic engineering structures in the long term. In addition, the development of standardized construction methods for recreational boating infrastructure, such as recreational boat locks or boat transfer facilities, is to be promoted by standardizing structures and structural components. The expansion of hydraulic engineering standards approved under building law can make a significant contribution to faster and more cost-effective construction. In addition, the use of new or alternative construction materials will be assessed for recreational boating construction projects, such as the construction of lock gates with low vertical travel.

Particularly in the case of smaller, manageable facilities, as those for recreational boating often are, new forms of construction contracts (e.g. ‘design and build’) can help move implementation forward and speed it up. In addition, administrative cooperation is seen as an opportunity to implement construction measures earlier than would be the case if only the Federal Waterways and Shipping Administration’s own resources were available. Furthermore, public–public partnerships of these kinds can facilitate local and inter-authority communication, by better connecting local authorities, for example. As a result, these types of cooperation are particularly suitable for infrastructure measures on recreational waterways. One example of cooperation is the pilot project at Kannenburg lock, where a replacement structure is being built via a cooperation agreement with the city of Templin. Both the associations and the companies welcome the expansion of cooperative projects of this kind. For example, 70% of participants in the then Federal Ministry of Transport and Digital Infrastructure’s 2020 online survey of recreational boating stakeholders rated this as important or very important.

### Short-term/medium-term measures:

- The Federal Waterways and Shipping Administration is driving forward the optimization and networking of its existing IT systems for more efficient and quality-assured design, construction and operation of river and canal structures.1

- In cooperation with the Federal Waterways Engineering and Research Institute, the Federal Waterways and Shipping Administration is evolving standardized construction methods in river and canal structure engineering, including those for the infrastructure of recreational waterways, in order to accelerate planning and execution processes.

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration, in cooperation with the Federal Waterways Engineering and Research Institute, are considering the use of new or alternative construction methods and materials in recreational boating construction projects.

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The Ministry is updating the Guidelines for the Design of Water Sports Facilities along Inland Waterways of 2011 based on new findings.

The Federal Ministry for Digital and Transport supports the formation of administrative cooperations to facilitate demand-driven implementation of infrastructure schemes on recreational waterways. In this context, existing cooperative infrastructure projects will be evaluated by the Federal Waterways and Shipping Administration and the dialogue with states and municipalities will be enhanced.

**Measures already underway:**

- The Ministry is promoting the evolution of digital design and construction by setting up a national centre for the digitalization of construction, with the aim, among other things, of enabling the various stakeholders involved in waterway engineering projects to exchange information in a structured and transparent manner. In addition to major construction projects, minor infrastructure projects in the recreational boating sector will also benefit from this in the long term.

- The Ministry is committed to a cooperative culture of construction, i.e. improved cooperation between the public sector and the private construction industry, in recreational boating-related infrastructure projects.
3. **Upgrading of federal waterway infrastructure in the recreational boating sector**

Due to the historical focus on carriage of freight by water, the existing federal waterway infrastructure is not tailored for the current recreational and leisure needs in many places. This is reflected in the 2020 online survey, which highlights various deficiencies in amenities for recreational users at or around barrages. These deficiencies include equipment at locks, such as the availability of grabrails for boaters. Other deficiencies mentioned were the facilities in approach areas or at waiting points upstream or downstream of locks, such as the availability and height of jetties, the number of moorings, and embarking and disembarking facilities.

The waterways, especially recreational waterways, enrich the water-based tourism sector with varied and attractive experiences thanks to their many historical technical structures and facilities. The old boat lift in Niederfinow is one example of a historical technical structure whose significance goes beyond the water-based tourism sector. When dealing with state-owned, listed river and canal structures, the aim is to keep the costs of operation and maintenance within an economically justifiable range. In particular, this requires cooperation with the responsible heritage conservation authorities, local authorities and private-sector sponsoring entities. It is important to improve accessibility for canoe tourists, too.

**Short-term/medium-term measures:**

- The Federal Ministry for Digital and Transport is putting in place a suitable framework for adapting the waterway infrastructure to the needs of the different recreational boating user groups. Adaptations by the Federal Waterways and Shipping Administration include, for example, waiting areas in the lock approaches and grabrails in locks.

- The Federal Waterways and Shipping Administration is developing core principles for appropriate handling of listed river and canal structures in dialogue with the authorities and private-sector sponsoring entities. This also includes ways to create experiences on land using objects or parts (e.g. displaying propulsion systems, engines, components in museums/technical exhibitions etc.). This is already being done with lighthouses now that they have been made obsolete by modern equipment.²

- Where feasible, the Federal Waterways and Shipping Administration supports third parties in developing local tourism concepts for listed river and canal structures owned by the Federal Government, e.g. by providing information.

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² Cf. Waterways and Shipping Administration (2019): Leuchttürme der deutschen Küsten auf Briefmarken (Lighthouses of the German Coasts on Stamps).
4. **Upgrading water-based tourism infrastructure for which third parties are responsible**

Besides the deficiencies in the Federal Government-owned waterway infrastructure, the 2020 online survey identified numerous needs for improvement of third-party infrastructure for water-based tourism. Examples include deficiencies in berthing and mooring facilities outside lock waiting areas, in the availability of refuelling and charging stations, and in disposal and supply points. As a rule, the federal states, local authorities or private-sector companies are responsible for providing these infrastructure services. The Federal Government, for example, provides financial support for upgrades by local authorities or other third parties to state-owned towpaths along federal waterways for cycling.

**Short-term/medium-term measures:**

- The Federal Waterways and Shipping Administration supports recreational boating by leasing state-owned land, e.g. for establishment of disposal and supply points by third parties.

- In dialogue with the federal states, municipalities and associations, the Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration encourage the development of concepts for waterway rest areas for motorized and/or human-powered recreational boating, boat launching and mooring facilities for recreational boating (→ Glossary), for example, and support their implementation.

**Measures already underway:**

- The Ministry is supporting local authorities and third parties in making bicycle-friendly upgrades to state-owned towpaths on federal waterways, with funding for up to 90% of the costs.³

- The Ministry is drawing up funding guidelines for the implementation of the Federal Tourist Waterways Programme.

5. **Measures to ensure navigability**

Over 15% of the measures proposed in the 2020 online survey relate to ensuring continuous navigability of federal waterways for leisure traffic. These proposals include reliable ways to overcome barrages, adequate depth of the navigation channel of the federal waterways, and in the approach zones to yacht harbours.

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There is no entitlement to creation, maintenance, or upgrading of federal waterways as traffic routes. However, where feasible in terms of resources, (continuous) navigability should be ensured or improved in accordance with traffic needs. To this end, cooperation and communication formats, such as round tables, are also to be established (see measures in Section 2 of Chapter D-V), to discuss existing deficiencies and identify solutions. In addition, boat transfer facilities for human-powered watercraft are to be provided when necessary, as they can be used outside lock operating hours and can also be implemented at low cost. The existing boat transfer facilities – boat slips, boat chutes, ramps or stairs (→ Glossary) – do not have uniform standards. According to feedback from the 2020 online survey, there is room for functionality and usability improvements in some areas.

**Short-term/medium-term measures:**

- The Federal Waterways and Shipping Administration maintains waterways with economically significant leisure traffic and adapts them in line with demand where feasible in terms of resources.

- The Federal Waterways and Shipping Administration is examining the need to upgrade locks at critical points on recreational waterways to keep leisure traffic moving fluently on the water in the long term. Cooperation with third parties could be considered for faster implementation of the construction measures.

- The Federal Waterways and Shipping Administration is championing upgrades to boat transfer facilities. A nationwide evaluation of boat transfer facilities is being conducted for this purpose.

- The Federal Waterways and Shipping Administration is gradually equipping barrages with suitable boat transfer facilities as needed to improve navigability for human-powered traffic.

**Third party measures:**

- Third parties are responsible for dredging outside the navigation channel, such as approaches to ports and yacht harbours. The Federal Waterways and Shipping Administration is open to dialogue to leverage synergies and improve coordination.
II. MEASURES TO PROMOTE RECREATIONAL BOATING IN A USER-CENTRIC AND SUSTAINABLE MANNER

1. Up-valuation of recreational boating within the administration

In order for the Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration to be able to promote recreational boating in the long term, appropriate legal, financial and personnel framework conditions must be put in place. The amendment to the Federal Waterways Act, for example, will increase the visibility of recreational boating as a legal responsibility of the Federal Waterways and Shipping Administration. The new definition of general traffic will then include both freight shipping and recreational boating.

Short-term/Medium-term measures:

- The Federal Ministry for Digital and Transport will work with the Federal Waterways and Shipping Administration to develop a strategy for sustainable human resources management. The procedure for filling vacancies is to be accelerated and the working conditions for personnel responsible for services relevant to recreational boating in offices and at locks are to be made more attractive.

Measures already underway:

- The Ministry has amended section 1 of the Federal Waterways Act, to include recreational boating in the definition of general traffic, as well as Annex 1 to the Act to include what were previously termed ‘other federal waterways’ (most of which are recreational waterways) in the scope of the Act.
The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration are expanding their organizational structures to better take account of recreational boating. For example, the Ministry and the Waterways and Shipping Administration have set up organizational units specifically for the development of minor waterways and for water-based tourism.

2. **Promoting sustainable modernization of commercial recreational boating**

The development and increasing use of innovative technologies is a key prerequisite for a sustainable and competitive boating sector. For example, growing environmental awareness and slowing of global warming require more efficient and lower-emission propulsion systems as well as weight- and performance-optimized boats and/or vessels. Appropriate financial assistance programmes, e.g. for the use of alternative propulsion systems and fuels, are needed to drive the development of technical innovations. In addition, incentives for investment in technical innovations are essential to ensure that these innovations are actually deployed. In the Inland Waterway Transport Masterplan, the Federal Government has already committed itself to the goal of continuing and expanding support for climate- and environmentally-friendly inland waterway vessels. This funding is based on the current funding guidelines for the promotion of sustainable modernization of inland waterway vessels of 20 November 2019, which aims to make inland waterway transport more energy-efficient, climate-friendly and environmentally friendly in a technology-neutral manner. The ‘On-board Power Supply Tech Guidelines’ (→ Glossary) are also relevant as a financial assistance programme. In order to promote the modernization of the approximately 425,000 private and charter boats that ply German waters in addition to vessels used for passenger shipping, support is also to be provided for corresponding projects involving alternative propulsion systems. Conducive framework conditions should also be considered.

**Short-term/Medium-term measures:**

- The Federal Ministry for Digital and Transport is stepping up its support and/or funding of third-party research programmes for the development of alternative watercraft propulsion systems, including motorized recreational boating.

- The Ministry advocates an enhanced dialogue between the responsible government departments at federal and state levels to better dovetail existing financial assistance programmes for technical innovations, especially in commercial recreational boating.

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4 Of these, around 280,000 are motorboats and around 145,000 are sailboats, see Federal Ministry for Economic Affairs and Energy (eds.) (2016): Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland. (Commercial Potential of Water-based Tourism in Germany).
Measures already underway:

- The Ministry is supporting the modernization of passenger shipping with financial assistance programmes.

- The Ministry is exploring the promotion of smaller and design-optimized inland waterway vessels (‘shallow-draught vessels’) as part of the Inland Waterway Transport Masterplan. The transferability of the results to passenger shipping is being examined.

- The Ministry is advocating a closer cooperation of the responsible bodies in the development of rules for alternative propulsion systems and fuels as well as for automated and connected navigation, including autonomous shipping – initially primarily in inland navigation and ferries. However, amendments to the EU Recreational Craft Directive 2013/53/EU for recreational craft between 2.5 m and 24 m in length, which also governs propulsion systems, are the responsibility of the European Commission.

3. User-centric provision of traffic information and services

In recreational boating, maritime and inland waterways are often navigated only occasionally or without specialist prior knowledge. Between 2009 and 2017, the numbers of new boaters in Brandenburg more than tripled, as a study commissioned by the Wassertourismusinitiative Nordbrandenburg (Water-based Tourism Initiative of North Brandenburg) shows. In the private recreational boating sector, many are increasingly dependent on additional information. However, compared to commercial shipping (Glossary), there is often a lack of knowledge about where to find useful and necessary information, e.g. on traffic, infrastructure and water level data. Furthermore, increasing quality expectations during holidays result in increased demand for reliable and clear information about water-based tourism services. In addition, companies and associations also need a variety of information on water-based tourism.

Short-term/Medium-term measures:

- The Federal Ministry for Digital and Transport supports the development of standardized information displays for recreational boating in dialogue with the federal states, with the aim of providing important information in a user-friendly manner for boaters, e.g. on put-ins and take-outs for canoe tourists, landside infrastructure or nature reserves.

- The Federal Waterways and Shipping Administration supports regional and local cooperations in setting up standardized information and guid-

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6 Project M (2018): Bootsrurlaubbefragung im Land Brandenburg im Auftrag der Wassertourismusinitiativen WIN und WIR/FUN (Survey of boating holidaymakers in the federal state of Brandenburg commissioned by the WIN and WIR/FUN water-based tourism initiatives).
The Ministry welcomes the evolution and implementation of the Water-based Tourism Germany Quality Model\(^7\), which aims to provide a standardized, superordinate model for information, classification and certification in water-based tourism.

The Federal Waterways and Shipping Administration is improving the local availability of rules on traffic and pilot behaviour for recreational boating. To this end, existing information services will be linked across the entire government department (see, for example, the ‘Safety on the Water’ brochure) and made more readily accessible. This can be backed up by additional formats, such as short introductory videos or digital overviews of rules.

4. Improving regulations and reducing red tape

In recent years, the Federal Government has already been working to improve regulations and reduce red tape in the recreational boating sector. For example, the then Federal Ministry of Transport and Digital Infrastructure made it possible to operate recreational craft on designated waterways without a license and simplified the requirements for carrying license documents by merging the regulations on the operation of recreational craft for maritime

\(^7\) Federal Ministry for Economic Affairs and Energy (eds.) (2013): Wassertourismus in Deutschland: Praxisleitfaden für wassertouristische Unternehmen, Kommunen und Vereine (Water-based tourism in Germany: a practical guide for water-based tourism businesses, local authorities and associations).
and inland waterways. Efforts are also continuing to ease the burden on companies and associations with improved regulatory frameworks and reduced red tape. Important tasks in this regard include a harmonization of Federal State Shipping Ordinances with the Traffic Regulations for Inland Waterways as well as a possible simplification of the Regulations on the Commercial Rental of Recreational Craft. New developments in the water sports sector (e.g. SUP) cannot always be legally unambiguously classified, but are being monitored and incorporated into the existing set of regulations. Digitalization also offers an opportunity to speed up official processes. This includes the digital provision of administrative services, which is to be guaranteed by 2022 in accordance with the Online Access Act (OZG). One example of the administrative services to be digitalized is the granting of permits for water sports events. In addition, the provision of digital documentation, such as the allocation of registration numbers and the issuing of boat certificates for rented pleasure craft, represent further reductions in red tape.

### Short-term/Medium-term measures:

- The Federal Ministry for Digital and Transport is encouraging the federal states to harmonize the Federal State Shipping Ordinances with the Traffic Regulations for Inland Waterways. The transition between state and federal waterways is also to be made more readily apparent. A good example of this is the signage of branches of a state waterway from a federal waterway in Brandenburg.

### Measures already underway:

- The Ministry is combining the Regulations on the Commercial Rental of Recreational Craft for Inland and Maritime Waterways, the Regulations on the Operation of Recreational Craft, the Water Ski Ordinance and the Jetbike Ordinance and examining further simplification options.

- Together with the Federal Waterways and Shipping Administration, the Federal Ministry for Digital and Transport is developing uniform nationwide procedures for the digital availability of administrative services.

- The Federal Waterways and Shipping Administration is simplifying the approval procedures for watersports events and other events on or along the water’s edge as part of the Online Access Act.

### 5. User-centric development of lock operation

Waterway infrastructure operations must be geared to keeping shipping traffic flowing smoothly. Lock operation is also a key issue for recreational boating, as long waits and handling times at locks are increasingly common during the peak season due to the high volume of traffic. Further, the operating hours needed vary across the recreational boating sector. Help and information is required in many areas, as more and more beginners are using the federal waterways. Overall, the Federal Ministry for Digital and Transport is taking various steps with the Federal Waterways and Shipping Administration in order to align lock operation with demand and user needs, and to reduce the burden on the Waterways and Shipping Administration’s shift systems. However, the available inflow and other traffic-related aspects must be taken into account here.
Short-term/medium-term measures:

- The Federal Waterways and Shipping Administration is seeking to cooperate with local authorities and associations to operate its facilities.
- The Federal Waterways and Shipping Administration is examining deploying more lock personnel for facilities not yet connected to a control centre, or where personnel is required at the lock for (traffic) safety reasons.

Measures already underway:

- Where lock personnel is not required on site, the Federal Waterways and Shipping Administration is driving the rollout of automation (→ Glossary), remote-controlled and self-service locks in order to offer reliable lock operation geared to demand on recreational waterways.
- The Federal Waterways and Shipping Administration is consulting with local associations and businesses to ensure that lock operating hours are geared to demand in various waterway regions with significant recreational use.
- The Federal Waterways and Shipping Administration is evolving existing training/continuing professional development programmes for personnel operating locks based on requirements and is implementing training/continuing professional development programmes for employees at locks for pleasure craft.

6. Supporting boating with traffic management

In contrast to freight shipping, traffic volumes and demand in the recreational boating sector are highly seasonal and occur predominantly between mid-March and the end of October. According to a study commissioned by Wassertourismusinitiative Nordbrandenburg (Water-based Tourism Initiative of North Brandenburg), commercial ports in Berlin and Brandenburg recorded twice the occupancy rate of guest berths in the high season as in the low season in 2015, for example. This not only leads to increased pollution and noise at critical points in the traffic system, such as locks, but also to long waits and handling times. In order to avoid overloading waterway sections, the capacities of individual waterways must be continuously reviewed and given greater consideration in the development of these waterways. The data collected will serve as the basis for any structural lock upgrades that may be necessary or for equipping barrages with boat transfer facilities to keep traffic running smoothly (see Chapter D-I, Section 5). Moreover, incentive-based traffic management measures, such as via increased coordination of locking times with local boat rental times, should be explored and supported.

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8 Federal Ministry for Economic Affairs and Energy (eds.) (2016): Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland (Commercial potential of water-based tourism in Germany)

9 Project M (2018): Bootsurlauberbefragung im Land Brandenburg im Auftrag der Wassertourismusinitiativen WIN und WIR/FUN (Survey of boating holidaymakers in the federal state of Brandenburg commissioned by the WIN and WIR/FUN water-based tourism initiatives).
Short-term/Medium-term measures:

- As part of the upcoming 2040 traffic forecast, the Ministry will assess the current and future recreational (passenger) traffic on waterways. The planned expansion and standardization of the future collection of transport statistics in the recreational boating sector is another key aspect (see Chapter D-III, Section 4).

- The Federal Waterways and Shipping Administration looks at recreational waterways to identify potential (seasonal) congestion in the waterway network at an early stage and take preventive measures, such as adjusting the operating hours of very busy locks, if necessary. Constraints such as available inflow (→ Glossary) are also taken into account.

- The Federal Ministry for Digital and Transport is working in dialogue with companies and associations to improve coordination of the use of waterways for transport purposes, such as potential route planning for rented boats.

- Also in dialogue with companies and associations, the Ministry is examining the development of cooperative traffic management on very frequently used recreational waterways.
III. MEASURES TO HARNESS POTENTIAL FOR
DIGITALIZATION

1. Increased use of digital innovations

The digitalization of traffic information systems and waterway infrastructure offers great potential with regard to the future viability of boating and effective use of the transport infrastructure. Innovations in transport technology are enabling increasingly safe, environmentally friendly shipping with light craft. The use of digital innovations is a key issue in freight shipping, as evident not least in the 2030 Traffic Technology and Engineering Strategy. The lessons learned there on the use of digital technologies, for example in the form of smart structures, with sensors on bridges and virtual gauges, digital assistance systems or autonomous shipping traffic, can create significant opportunities for passenger shipping and enrich the rest of the recreational boating sector, for example by automating infrastructure or optimizing traffic flows.

Short-term/Medium-term measures:

- The Federal Ministry for Digital and Transport is exploring setting up an Innovation Lab to help its employees test new digital tools and technologies. Among other things, it will assess the use of digital innovations in the recreational boating sector.

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration are examining the transferability of the lessons learned and the fundamental principles of autonomous freight shipping to passenger shipping.

- The Ministry is championing innovation in digital design and construction for recreational waterways infrastructure (for other measures on digital design and construction, see Chapter D-I, Section 2).

Measures already underway:

- Together with the Federal Waterways and Shipping Administration, the Federal Ministry for Digital and Transport is supporting the development of autonomous inland navigation, such as a digital test bed for automated and autonomous operation on the Spree-Oder Waterway (SOW). The lessons learned in autonomous navigation there are particularly important for the long-term development of autonomous passenger shipping.

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration are developing additional short- and medium-term measures based on the recommendations for a digitalization masterplan in order to drive the rollout of digital innovations in the areas of design, construction and operation of waterway infrastructure. These are also to include recreational waterway infrastructure.

2. **Ensuring network coverage in line with demand**

The increasing use of digital media is accompanied by growing demand for stable network coverage along waterways as well. Ensuring stable mobile communications coverage in line with demand on inland waterways is therefore imperative, as already described in Chapter B, and also relates to the rollout of 5G technology as supported by the Federal Ministry for Digital and Transport.

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Short-term/Medium-term measures:

- The Federal Waterways and Shipping Administration is starting to provide open WiFi at locks frequently used by recreational traffic and is gradually expanding this service.

- The Ministry is committed to providing adequate mobile connectivity (at least 4G mobile communications standard) along all waterways in the secondary network that play a key role for recreational traffic.

- The Federal Ministry for Digital and Transport is examining the use of innovative connectivity systems, such as LoRaWAN (→ Glossary), on waterway sections of the secondary network to enable comprehensive retrieval of basic traffic, infrastructure and water level data.

Measures already underway:

- In cooperation with local authorities and rural districts, the Federal Waterways and Shipping Administration is driving the rollout of broadband along federal waterways that are important for recreational boating.

- The Ministry is committed to mobile connectivity at the 5G mobile communications standard in the core network. This project is based on the Federal Government’s 2019 Mobile Communications Strategy.14

Third party measures:

- The federal state of Mecklenburg-Western Pomerania is promoting the rollout of free WiFi infrastructure along waterways with funding from the Digital Agenda.15

3. Expansion of digital (information) services

A comprehensive collection of information for inland and maritime boating can be found in the Federal Waterways and Shipping Administration’s Electronic Waterway Information Service (ELWIS) (→ Glossary). Among other things, topical news, water level information and information on waterway infrastructure and lock operating times can be accessed on the central platform. ELWIS also contains free electronic inland waterway charts (Inland ENC) (→ Glossary) that can be displayed using an Inland Electronic Chart Display and Information System (ECDIS) application (→ Glossary). Inland ENC charts are currently limited to a selection of inland waterways, but the systems required to display them are unlikely to be of universal interest in the recreational sector for cost reasons. In the 2020 Recreational Boating Masterplan online survey, 75.2% of respondents rated the expansion of digital charting services for recreational boating as important. In future, digital charts will

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also be available for federal waterways that have not been charted to date and play a key role for recreational traffic. In addition, 70.6% of respondents would like ELWIS to be more user-friendly. It needs a more intuitive user interface and way of providing information, especially for occasional use in recreational boating.

**Short-term/Medium-term measures:**

- The Ministry is pursuing the expansion of the electronic waterway charts to be made available initially for recreational waterways that play a key role in passenger shipping.

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration are championing wider availability of the digital information services they provide in the recreational boating segment, including ELWIS (myELWIS), the PEGELONLINE hydrographic information system and others.

- The Federal Waterways and Shipping Administration is responsible for providing traffic and pilot behaviour rules or explanatory videos for recreational boating on ELWIS in line with user needs (see also the measure in D-II, Section 3).

- The Federal Waterways and Shipping Administration is expanding and regularly updating the information provided in ELWIS on its berths on federal waterways for recreational boating (see also Chapter D-II, Section 3).

**Measures already underway:**

- The Federal Waterways and Shipping Administration is committed to making ELWIS user-friendly for recreational boaters. Provision of basic information on ELWIS via an app with an offline function is also being explored (ELWISgo).

- The Federal Waterways and Shipping Administration is assessing the completeness of the information relevant for recreational boating on ELWIS, with the aim of filling in missing information within its remit.

- In cooperation with its responsible executive agencies, the Ministry is driving the expansion of information on bodies of water provided in ELWIS.  

- The Federal Waterways and Shipping Administration is evolving ELWIS into myELWIS with traffic information for recreational boating.

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4. Expanding the collection and provision of data

There are other online information and mobility services for recreational boating besides ELWIS, such as route planning systems or online port guides offered by private providers. Examples include the ADAC Skipper Portal or various apps that show current water levels on waterways. In order to better support the development and provision of third-party digital applications and information services, the collection of data and its permissible provision in the form of open data is to be expanded. Open data refers to the public provision of machine-readable, freely accessible and (re-)usable data. The Federal Ministry for Digital and Transport is a key player in the promotion of open data, not least because this data has a wide range of important potential applications, especially in the freight and transport sector. The lessons learned there will also feed into the expansion of open data in the recreational traffic sector. Conversely, there is room for improvement in the area of data collection, especially in the collection of traffic figures on recreational boating, as there has been no systematic collection of recreational traffic across the board to date. Furthermore, recreational boaters may also be interested in and occasionally need information about possible berths.

Short-term/Medium-term measures:

- The Ministry and the Waterways and Shipping Administration are putting in place a system for the future collection of traffic data on recreational boating and are laying the legal groundwork that may be necessary for this, taking privacy-related aspects into account.

- The Ministry aims to expand the open data provided to include recreational boating, to the extent legally permissible. In particular, data relevant for the development of digital information and mobility services is to be made available centrally.

- The Federal Waterways and Shipping Administration provides information on its berths as open data for motorized recreational boating on federal waterways.

5. Digitalization and automation of locks

As already described in Chapter D-II, Section 5, there are often bottlenecks at locks for recreational boating. The use of digital technologies such as lock management systems could help improve lock approaches and stagger traffic. Even the digital provision of information on current waiting times at locks would enable users from the recreational boating sector to adjust their travel and route planning where appropriate. In the 2020 online survey, 69% of respondents rated the provision of this information as important.

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17 Some of the data collected by the Federal Waterways and Shipping Administration may not be passed on to third parties. All information published via ELWIS is open data per se.
In the core network, work is already underway to roll out intelligent lock approach control, which currently includes both freight and passenger shipping. The inclusion of the entire recreational boating sector is being explored in accordance with existing shipping rules. Increasing automation of locks (→ Glossary) also allows lock operating hours to be extended in line with demand. Automated locks can be operated by Waterways and Shipping Administration personnel (in a control centre or on-site) or by boaters and pilots themselves (with or without a connection to a control centre). In the future, the automation of locks – in addition to many other existing constraints – must increasingly take into account the available inflow for lock operations. Finally, the increasing automation of river and canal structures requires adequate data cables between the individual installations.

**Short-term/Medium-term measures:**

- The Federal Waterways and Shipping Administration is expanding the display of updated waiting times at locks. It is also exploring digital provision of this information.

- The Ministry is examining the use of intelligent lock approach control outside the core network to stagger traffic, taking into account the existing shipping rules and the current equipment standards of recreational craft.\(^\text{18}\)

**Measures already underway:**

- The Federal Waterways and Shipping Administration is gradually networking its properties to ensure that the data cables are sufficient for remote operation and monitoring of locks, even on recreational waterways.

- The Federal Waterways and Shipping Administration is gradually increasing the number of automated locks.

\(^\text{18}\) Currently under consideration for commercial shipping.
1. Strengthening sustainable use of waterways

The Federal Waterways and Shipping Administration is the owner of the federal waterways and, as such, is responsible for maintenance not only in terms of traffic but also water management. As a sovereign task, the Waterways and Shipping Administration is in charge of structural maintenance or restoration of the ecological continuity at federal barrages within a specific legal framework. In addition, the Federal Ministry for Digital and Transport (BMDV), together with the Federal Ministry for the Environment and Consumer Protection (BMUV), is striving to bring about a more ecological development of the federal waterways with the federal Blaues Band Deutschland programme. All this not only serves to protect nature, the environment and the climate, it also enhances the experience of nature for all users of the federal waterways, including those in the recreational boating sector. In order to preserve the attractive river and natural landscapes and protect the environment from negative impacts, sustainable and environmentally friendly use of the waterways in the recreational boating sector is to be promoted. The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration have a strong interest in ensuring that the measures from the Blaues Band programme, for example, are tangible and, at the same
time, do not lose their environmental protection function. An important step towards environmentally sound use of the waterways is to raise awareness among individual user groups of local environmental, nature and climate protection concerns. To this end, the existing (digital) information services and their accessibility are to be further improved (see also Chapter D-III, Section 3). In addition, strategies for incentivizing specific user behaviour on and along federal waterways are to be implemented to achieve an environmentally sound geographical and quantitative distribution of users. This can help preserve sensitive natural areas, such as reed belts.

Short-term/medium-term measures:

- The Federal Waterways and Shipping Administration is increasing the availability of information about environmental protection and nature conservation measures along federal waterways on its website\textsuperscript{19} to raise awareness of environmental concerns and promote environmentally responsible behaviour.

- The Federal Waterways and Shipping Administration supports suitable regional or local initiatives and third-party activities, which provide information about needs for protection and promote environmentally responsible behaviour on and along waterways.

- The Federal Waterways and Shipping Administration advocates for local stakeholder measures to incentivize specific user behaviour and maintain the attractiveness of the waterways in the long term. For example, use strategies including rest areas and the routing of cycle tracks are one potential approach.

Measures already underway:

- In the brochure ‘Sicherheit auf dem Wasser – Wichtige Regeln und Tipps für Wassersportler’\textsuperscript{20}, the Federal Ministry for Digital and Transport (BMDV) provides a code of conduct in German with a focus on environmental protection and nature conservation.

Third party measures:

- Companies and associations are to increasingly raise awareness among users of environmental protection on and along waterways, e.g. by providing information as well as holding appropriate training events.

2. Promoting environmentally and climate-friendly boating

The most climate and environmentally friendly ‘boat’ is indisputably the human-powered one. Various initiatives are needed to make motorized

\textsuperscript{19} For more information in German, see also www.gdws.wsv.bund.de/.
\textsuperscript{20} Published by the Federal Ministry for Digital and Transport (2021): Sicherheit auf dem Wasser. (Safety and security on the water.)
recreational boating climate- and environmentally-friendly, too. In addition to the research and funding programmes for modernizing recreational boating from Chapter D-II (Section 2), which are already in place or have been suggested, there is further potential for active climate and environmental protection in the recreational boating sector. This includes, amongst other things, reducing emissions by retrofitting filter systems, which has been subsidized in passenger shipping since April 2007. In addition, organizational measures, such as the introduction of corporate environmental management systems for environmentally-friendly fleet management, can also enhance sustainability. Meanwhile, the Federal Ministry for Digital and Transport is contributing to climate and environmentally friendly operations in the recreational boating sector by providing further recommendations and incentives, and is working to further reduce the substance input from boats into waterways.

**Short-term/Medium-term measures:**

- The Federal Ministry for Digital and Transport supports the further development of alternative propulsion systems for climate-friendly recreational boating (see Chapter D-II, Section 2).

- The Federal Ministry for Digital and Transport supports the work of the Central Commission for Navigation on the Rhine (CCNR) on an environmental certification system for inland navigation.

- The BMDV is examining the introduction of a formal environmental management system for commercial recreational boating (including charter boat hire) within an appropriate transition period, e.g. in accordance with the EC Eco-Audit or ISO 14001 (International Environmental Management Standard, → Glossary).

- The Federal Ministry for Digital and Transport has entered into a dialogue with the federal states and municipalities to improve the nationwide disposal infrastructure (see Chapter D-I, Section 4).

- The Federal Ministry for Digital and Transport advocates for the use of environmentally-friendly antifouling coatings (→ Glossary) for ship hulls and research into alternative antifouling coatings, e.g. foil coatings.
Measures already underway:

- The Federal Maritime and Hydrographic Agency (BSH) and the Federal Environment Agency (UBA) have developed and published recommendations for action on the subject of biofouling\(^{21}\) and antifouling\(^{22}\) for recreational boating.

3. **Driving sustainable construction and maintenance measures forward**

The Federal Waterways and Shipping Administration’s goal of developing the federal waterways in an environmentally sound manner, as described in Section 1, relates in particular to the planning and implementation of the corresponding infrastructure. Recreational waterways offer great potential in terms of ecological design, not least because it can enhance the attractiveness of riverscapes for leisure visitors. Strong synergies in the area of recreational waterways would result in particular if water-based tourism were to become more attractive while, at the same time, the good ecological status/potential according to the Water Framework Directive (WFD)/Water Resources Act (WHG) (→ Glossary) was reached. The water-based tourism segment of human-powered canoe touring offers particular potential for synergies.

An important example of the ecological design of federal waterways is the removal or transformation of bank stabilizers or use of bioengineered bank stabilizers, which are an alternative to conventional methods. Where applicable, bioengineered bank stabilizers are already used by the Federal Waterways and Shipping Administration, and their use is being monitored in an ongoing research project by the Federal Waterways Engineering and Research Institute and the Federal Institute of Hydrology.\(^{23}\) Furthermore, there are guidelines and recommendations for action for the design or operation of recreational boating waterway infrastructure, such as the Guidelines for the Design of Water Sports Facilities along Inland Waterways\(^ {24}\), which are to be expanded to take into account climate and environmental protection requirements to a greater extent.

Valuable synergies exist between projects aimed at the ecological development of the federal waterways and infrastructure projects to promote and support recreational boating. They result primarily from the integrated implementation of measures and the pooling of financial resources to achieve the different objectives. In order to identify further synergies between recreational boating or water-based tourism objectives and environmental and nature conservation, the Federal Ministry for Digital and Transport (BMDV)

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\(^{23}\) For more on the research project on bioengineered bank stabilizers along inland waterways, see: https://ufersicherung-baw-bfg.baw.de/binnenbereich/en.

is also driving greater networking of research activities. Among other things, the network of experts\(^{25}\) is being expanded and projects on relevant topics are being promoted.

**Short-term/Medium-term measures:**

- The Federal Waterways and Shipping Administration is assessing the removal of bank stabilizers where they are not technically necessary in a step by step process. Where applicable, the use of alternative bioengineered construction methods for bank stabilizers is being explored and is increasingly being used, particularly along recreational waterways.

- Potential positive effects for recreational boating are determined by the Federal Waterways and Shipping Administration, among other things, on the basis of the projects carried out within the framework of the federal ‘Blues Band Deutschland’ (Germany’s Blue Belt) programme as well as on the basis of experience within the maintenance of the water resources.

- The BMDV is updating the ‘Handbuch Umweltbelange an Bundeswasserstraßen’\(^{26}\) (Environmental Considerations along Federal Waterways manual) with a special focus on recreational waterways.

- The Federal Waterways and Shipping Administration is committed to the integrated implementation of (recreational) boating and ecological measures to adapt infrastructure along recreational waterways. For this purpose, the Federal Waterways and Shipping Administration is seeking cooperation with third parties in particular, since water-based tourism infrastructure services are often provided under their responsibility (see Chapter D-I, Section 4). An example of this is the combination of the removal or transformation of bank stabilizers with third-party construction projects to create rest areas for canoe touring.

- The Federal Ministry for Digital and Transport reviews the Guidelines for the Design of Water Sports Facilities along Inland Waterways\(^{27}\) with regard to the requirements of environmental protection and nature conservation and, if necessary, provides additional recommendations for action for sustainable construction methods and the environmentally sound operation of water sports facilities.

- When it comes to sustainable water-based tourism research activities related to infrastructure, climate and the environment as well as recreational boating (see also Chapter D-V, Section 5), the Federal Ministry for Digital and Transport is committed to stronger cooperation with the Federal Ministry for Economic Affairs and Climate Action and the Federal Ministry for the Environment and Consumer Protection.

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\(^{25}\) For more in German on the Federal Ministry for Digital and Transport network of experts see: https://www.bmdv-expertennetzwerk.bund.de.


Measures already underway:

- The Federal Waterways and Shipping Administration, together with the Federal Waterways Engineering and Research Institute and the Federal Institute of Hydrology, is investigating bioengineered bank stabilizers along federal waterways for their durability and possible applications.28

Third party measures:

- In the recreational boating sector, the Blauer Anker29 programme of the Internationale Wassersportgemeinschaft Bodensee (International Lake Constance Water Sports Association) can serve as a model for environmental certification.

- The approach of the international PERS30 environmental certificate for seaports could also be interesting for yacht harbours.

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28 For more on the research project on bioengineered bank stabilizers along inland waterways, see: https://ufersicherung-baw-bfg.baw.de/binnenbereich/en.

29 For more on the Blauer Anker environmental programme, see: www.iwgb.net/blauer-anker/ (German only).

30 See more at: www.ecoports.com/about.
V. MEASURES TO PROMOTE COMMUNICATION AND COOPERATION

1. Jointly developing regional strategies

Federal waterways are used in a variety of ways and must meet a wide range of requirements. Especially in the area of recreational waterways, potential demand for water tourism varies greatly, as illustrated not least by the 2016 study ‘Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland’ (Commercial Potential of water-based Tourism in Germany).

As early as 2016, the water tourism strategy stated that no uniform nationwide infrastructure standard was required for recreational waterways but that the respective infrastructure should be geared to significant types of use of the recreational waterway. To this end, regional approaches such as regional development strategies (→ Glossary) are to be devised that go beyond the transport and water management responsibilities of the Federal Waterways and Shipping Administration. The aim is to define the main areas of use, including water tourism, in accordance with regional needs, e.g. in the field of water management or environmental protection. Due to the large number of – sometimes diverging – interests involved, early and comprehensive

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31 Federal Ministry for Economic Affairs and Energy (eds.) (2016): Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland (Commercial potential of water-based tourism in Germany)
32 Federal Ministry of Transport and Digital Infrastructure (eds.) (2016): Water-based tourism strategy
participation of the general public and of stakeholder groups is necessary. In dialogue processes, coordinated strategies for the further use of recreational waterways are to be developed, taking into account the various requirements, above all from navigation, water management, hydropower, nature conservation, freshwater ecology and tourism. The Federal Waterways and Shipping Administration assumes the role of a mediator and represents the interests of the Federation. Regional strategies for individual waterways or sections of waterways are to be devised on the basis of the experience gained in the ongoing development of regional development approaches, such as the Lahnkonzept. In particular, this requires appropriate participation formats that make possible constructive communication and cooperation between the various interest groups.

Short-term/medium-term measures:

- As part of the implementation of the Masterplan, the Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration are conducting a systematic evaluation of leisure traffic on federal waterways that can be updated continuously (see also Chapter D-III, Section 4). This evaluation serves as a data basis for the development of regional strategies.

- The BMDV establishes dialogue processes, e.g. round tables, together with the participating federal states in order to formulate common goals for individual waterways or waterway sections.

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration draw up development strategies for select waterways and waterway sections with the support of the federal states and with extensive participation of the general public.

Measures already underway:

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration set initial regional priorities in response to needs already identified for specific recreational boating segments and provide targeted support. Studies already carried out on potential demand for water tourism, such as the brief study\(^ {23} \) by the then Federal Ministry for Economic Affairs and Energy, studies on the water tourism strategy, and the data collected in the participation process of the Recreational Boating Masterplan, e.g. from the 2020 online survey or the expert interviews, serve as an important basis for this.

- The Federal Waterways and Shipping Administration is gaining important experience with the Lahnkonzept in the LiLa Living Lahn\(^ {24} \) EU LIFE project, on the basis of which future regional strategies will be developed in close cooperation with local stakeholders.

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23 Federal Ministry for Economic Affairs and Energy (eds.) (2016): Die wirtschaftlichen Potenziale des Wassertourismus in Deutschland (Commercial potential of water-based tourism in Germany)

24 See the Lila Living Lahn website at: https://www.lila-livinglahn.de/en/the-project/project-description.
Third party measures:

- Some countries, regions and local government associations already have strategies in place for the promotion and development of water sports and tourism. These provide an important basis with regard to the development of regional strategies for individual waterways or waterway sections.

2. Strengthening communication and cooperation in the Federal Waterways and Shipping Administration’s measures

Providing information early in time and in a comprehensive and continuous manner as well as involving the general public is important for a fast and successful realisation of infrastructure projects. This is made clear, among other things, by the 2017 final report of the Innovationsforum Planungsbeschleunigung (Innovation Forum for Speeding up the Planning Process). In order to involve relevant stakeholders, it is particularly necessary to strengthen informal citizen participation procedures. This is to be achieved through the continuation of district-specific discussion groups with administrations and representatives of the interests of recreational boating as well as other important stakeholders, such as environmental associations, which already exist in various formats in many places.

Furthermore, digital participation formats are to be established and further developed. An example of this is the introduction of digital communication tools for cooperation between stakeholders involved in construction projects across different phases. Another example is a central digital platform for feedback from the general public and for informal exchange at all stages of the process.

For successful and well-organized participation, it is also essential to have sufficient financial resources as well as adequately trained personnel to mediate between the various interests and requirements.

Facilitating the integration of additional objectives, such as nature conservation or water management concerns, can help to achieve greater social acceptance of the (construction) projects and thus speed up implementation (see also Section 3). Increased collaboration with private or other public sector stakeholders can also contribute to faster implementation of infrastructure projects (see Chapter D-I, Section 2). Moreover, there is room for improvement with regard to the communication of already planned infrastructure schemes that lead to temporary disruption of vessel traffic, such as construction work at locks. For example, in the 2020 online survey, over 85% of respondents indicated that it was important or very important to them that investment and construction programmes on recreational waterways be established swiftly and corresponding impacts be communicated in a timely manner.

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Short-term/Medium-term measures:

- The Federal Waterways and Shipping Administration will keep an eye on leisure traffic and water tourism-related uses and will also inform this interest group in advance about construction and maintenance measures. This includes information on temporary traffic restrictions. In addition to the ELWIS platform which is already in use, greater use is to be made of other information channels such as local press releases or social media. Moreover, the Federal Waterways and Shipping Administration prepares thematic and use-specific ELWIS newsletters as needed.

- The Federal Waterways and Shipping Administration organizes occasional meetings with stakeholders of recreational boating in order to ensure a continuous and early exchange on planned projects with regard to construction and operation of waterway infrastructure as well as closure times.

- The Federal Waterways and Shipping Administration will expand opportunities for informal public participation in infrastructure projects. Digital participation tools, such as interactive maps, can also be useful for the recreational boating interest group or water tourism interest groups in the run-up to construction projects.

Measures already underway:

- The Federal Waterways and Shipping Administration will involve affected stakeholders to a greater extent at an early stage in construction projects to include their ideas and needs. One example of this is the construction of boat transfer facilities on the Lahn in Ahl and Limburg, where the Waterways and Shipping Administration had been in contact with the municipalities, clubs and associations already before the concrete planning of the project began. In the further course, the Waterways and Shipping Administration will maintain close contact with the stakeholders and, in doing so, ensure participation.36

- The Waterways and Shipping offices (e.g. Spree-Havel and Havel-Oder) hold regular information events with stakeholders from the recreational boating sector.

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3. **Strengthening communication and cooperation for environmentally friendly water tourism**

As already stated in chapter D-IV, measures to promote climate and environmental protection as well as water tourism can harbour significant synergies. This is based, among other things, on a trend toward environmentally friendly ‘soft’ tourism and a growing demand for recreation in an attractive natural environment, as well as the simple need to cut emissions and slow down the decline in biodiversity. The synergies can be harnessed if a dialogue between environmental groups and the recreational boating and tourism industry on federal waterways takes place at an early stage and with the Federal Waterways and Shipping Administration as the responsible body in a central role. For example, 88% of participants in the 2020 online survey indicated that renaturalisation measures on federal waterways should be planned in cooperation with recreation and tourism stakeholders in order to coordinate the use of the areas at an early stage. Moreover, impairments of nature and environment by touristic use are to be avoided. Water tourism that is becoming softer and more compatible with the needs of nature is to be promoted through measures adapted for creating awareness of an ecological use of the waterways (see Chapter D-IV).37

In all of this, it is also necessary to consider the possibility of increased pressure on the use of ecologically valuable waterways that are attractive for water tourism, which could occur, for example, as a result of the travel restrictions during the Corona pandemic or people from the urban agglomerations seeking recreation options (e.g. to escape from summer heat as a result of climate change). In order to not impair the desired coexistence of leisure seekers and intact natural areas, clarifying and, if necessary, regulative measures are required.

**Short-term/Medium-term measures:**

- The Federal Waterways and Shipping Administration develops participation formats to strengthen the exchange between administrations and associations from the environment, leisure and tourism sectors and implement sustainable infrastructure measures along federal waterways.

**Measures already underway:**

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration contribute to an environmentally friendly behaviour on and along waterways by a user-friendly presentation and communication of information, recommendations and rules on nature conservation and environmental protection (see chapter D-IV, section 1).

**Third party measures:**

- The Federal Ministry for the Environment and Consumer Protection (BMUV) has set up an advisory board for environment and sport that is to initiate events and participation formats aimed at sustainable sports development, including topics related to recreational boating.38

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38 See the website of the BMUV in German: https://www.bmu.de/themen/nachhaltigkeit-digitalisierung/tourismus/beirat-fuer-umwelt-und-sport
4. **User-friendly communication of information relevant to water sports and water tourism**

Information that is provided by the Federal Waterways and Shipping Administration is often designed for professional navigation. Without the appropriate prior knowledge, existing information services are often not readily understandable for lay people. The communication of information related to traffic, infrastructure and shipping law, e.g. information on traffic rules and behaviour in water sports and water-based tourism or information on existing infrastructure equipment, is to be improved for recreational boating. Furthermore, information relevant to water tourism should also be available in multiple languages. Another important point in the communication with users, associations and companies from the recreational boating sector are clear responsibilities and contact persons for their concerns. This became also evident in the 2020 online survey, where the desire for clear communication of responsibilities in the area of waterways (administrations) was expressed.

**Short-term/medium-term measures:**

- The Federal Waterways and Shipping Administration is progressing the digital provision of traffic rules and a code of conduct for the waterways with the aim of making them easier to understand. This includes, for example, communicating rules and prohibitions with the help of explanatory videos and digital overviews of rules (see also Chapter D-II, Sections 3 and 4).

- As a first step, the Federal Waterways and Shipping Administration provides information relevant to recreational boating in English.

- The Federal Waterways and Shipping Administration informs about its responsibilities and points of contact with regard to recreational boating and water tourism at federation, federal state and district levels.

- Commitment at the local level is demonstrated inter alia via the Federal Waterways and Shipping Administration’s digital media channels, which, in turn, helps to increase the public visibility of recreational boating.

- The Federal Waterways and Shipping Administration is continually adding information on recreational boating to the contents and documents of the Waterways and Shipping School, such as the waterways and shipping guides. The Federal Waterways and Shipping School aims to provide children and young people with knowledge about waterways and shipping in Germany in a compact and edited form.\(^{39}\)

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\(^{39}\) For more information in German, visit the website of the Waterways and Shipping School at: https://www.schifffahrtsschule.wsv.de/.
Measures already underway:

- The Federal Ministry for Digital and Transport and the Federal Waterways and Shipping Administration regularly publish information on legislative provisions and recommendations for recreational boating – such as brochures on general and waterway-specific information for water sports enthusiasts – on the Waterways and Shipping Administration’s Website40 and via ELWIS41 (see also Chapter D-III, Section 3).

- The Federal Waterways and Shipping Administration will be providing additional press information on recreational boating activities and measures in future.

5. Strengthening cooperation across authorities and federal states

For sustainable as well as comprehensive support of recreational boating and water tourism, close cooperation between various agencies at federation, federal state and local government levels is required. Consequently, cooperation in this area between different departments and authorities should be additionally strengthened. Moreover, the federal ministries, especially the ministries for infrastructure, the economy and the environment, need to cooperate closely. Increased cooperation to promote domestic water-based tourism has already been initiated as part of the development of the National Tourism Strategy42.

Short-term/Medium-term measures:

- Together with the Federal Ministry for Economic Affairs and Climate Action and the Federal Ministry for the Environment and Consumer Protection, the Federal Ministry for Digital and Transport will establish an interministerial working group to further accompany the Recreational Boating Masterplan and thus strengthen sustainable water tourism in Germany.

- The BMDV is looking into expanding the dialogue with federal state administrations to strengthen links with regional infrastructure (public transport, federal-state waterway network, etc.) and with regional strategies (e.g. Water Sports Development Plan of the federal state of Brandenburg).43

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40 For more information in German, visit the website of the Federal Waterways and Shipping Administration at: https://www.gdws.wsv.bund.de/DE/schifffahrt/sport-freizeitschifffahrt/sport-freizeitschifffahrt-node.html.

41 For more information in German, visit the ELWIS website at: https://www.elwis.de/DE/Sportschifffahrt/Sportschifffahrt-node.html.

42 For more information in German, visit the website of the Federal Ministry for Economic Affairs and Climate Action at: https://www.bmwk.de/Redaktion/EN/Dossier/tourism.html.

43 Published by the Ministry for Economic Affairs, Labour and Health of Brandenburg (2016): Fortschreibung - Wassersportentwicklungsplan 4. Infrastruktur für das Wasserwandern. (Continuation of the Canoe Touring Development Plan (wep4). Infrastructure for Canoe Touring.)
Measures already underway:

- Under the leadership of the Federal Ministry for Economic Affairs and Climate Action, the federal government is developing interdepartmental strategies and programs to promote water tourism in Germany as part of the National Tourism Strategy.\(^44\)

Third party measures:

- The appointment of contact persons for recreational boating topics, e.g. at federal state level, contributes to cross-sectoral cooperation.

### 6. Participation process for implementing the Recreational Boating Masterplan

Transparency and comprehensive participation are not only significant goals of the Recreational Boating Masterplan itself, but are also essential in terms of its development and implementation. A participation process was therefore initiated at the regional conference in Oranienburg in March 2020 and is to be continued also after publication of the masterplan. Various communication and participation formats are to ensure a broadly coordinated and transparent implementation of the measures as well as promote recreational boating. The intention is to provide regular updates on the implementation status of the masterplan, continue with the regional conferences and elaborate the proposed measures with regional stakeholders, such as local water sports associations, recreational boating companies, etc.

Short-term/Medium-term measures:

- The Federal Ministry for Digital and Transport (BMDV) organizes conferences in regions that are important for recreational boating on federal waterways to ensure exchange with different stakeholders from administrations, associations and enterprises at the local level.

- The BMDV will document the status of the agreed implementation and evaluate it together with the stakeholders.

Measures already underway:

- The Federal Ministry for Digital and Transport makes available information on participation opportunities and results on the Recreational Boating Masterplan’s\(^45\) project website.

- The Federal Ministry for Digital and Transport organizes workshops aimed at initiating the implementation of the measures listed in the Recreational Boating Masterplan according to the technical responsibility at the regional level.

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\(^44\) For more information in German, visit the website of the Federal Ministry for Economic Affairs and Climate Action at: https://www.bmwk.de/Redaktion/EN/Dossier/tourism.html.

\(^45\) For more information in German, see the Recreational Boating Masterplan website at: https://masterplan-freizeitschifffahrt.bund.de/.
E. SUMMARY
E. SUMMARY

The Recreational Boating Masterplan constitutes a paradigm shift and will raise the profile of recreational boating within the Federal Waterways and Shipping Administration. It lays the foundation for aligning the waterway infrastructure more closely with the needs of leisure traffic in future. Recreational boating will be increasingly promoted through measures to improve regulations and services, funding programs, as well as the use of digital technologies. At the same time, measures are taken to ensure that leisure traffic on federal waterways develops in an environmentally friendly manner and attractive water landscapes are preserved. Furthermore, communication and cooperation with all stakeholders from the recreational boating sector is to be strengthened beyond the creation of the masterplan.

The Recreational Boating Masterplan is intended as a starting point with basic measures that are to be fleshed out and filled with life in dialogue with all stakeholders and interested parties and elaborated taking into account local needs. For the paper to be filled with life, constructive cooperation between all the administrations involved and stakeholders concerned will be necessary also in future. Experience to date in the participation process has shown that a joint effort to sustainably support and promote recreational boating can be successful.

The participation process accompanying the creation of the Recreational Boating Masterplan thus represents the beginning of a broader participation that will continue even after its publication, as already outlined in Chapter D-V.
## ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADAC</td>
<td>Allgemeiner Deutscher Automobil-Club (German Automobile Club)</td>
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<tr>
<td>AIS</td>
<td>Automatic Identification System</td>
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<tr>
<td>BMDV</td>
<td>Bundesministerium für Digitales und Verkehr (Federal Ministry for Digital and Transport) (since 8 December 2021)</td>
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<tr>
<td>BMUV</td>
<td>Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz (Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection) (since 8 December 2021)</td>
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<tr>
<td>BMWK</td>
<td>Bundesministerium für Wirtschaft und Klimaschutz (Federal Ministry for Economic Affairs and Climate Action) (since 8 December 2021)</td>
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<tr>
<td>ECDIS</td>
<td>Electronic Chart Display and Information System</td>
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<td>ELWIS</td>
<td>Electronic Waterway Information Service of the Federal Waterways and Shipping Administration</td>
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<td>EU</td>
<td>European Union</td>
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<td>GDWS</td>
<td>Federal Waterways and Shipping Agency</td>
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<tr>
<td>LoRaWAN</td>
<td>Long Range Wide Area Network</td>
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<tr>
<td>OZG</td>
<td>Onlineszugangsgesetz, Online Access Act</td>
</tr>
<tr>
<td>PERS</td>
<td>Port Environmental Review System</td>
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<tr>
<td>RiGeW</td>
<td>Richtlinie für die Gestaltung von Wassersportanlagen an Binnenwasserstraßen (Guidelines for the Design of Water Sports Facilities along Inland Waterways)</td>
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<tr>
<td>SOW</td>
<td>Spree-Oder Waterway</td>
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<tr>
<td>SPC</td>
<td>ShortSeaShipping Inland Waterway Promotion Center</td>
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<tr>
<td>SUP</td>
<td>Stand-Up Paddling</td>
</tr>
<tr>
<td>WLAN</td>
<td>Wireless Local Area Network</td>
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<tr>
<td>WSV</td>
<td>Wasserstraßen- und Schifffahrtsverwaltung des Bundes (Federal Waterways and Shipping Administration)</td>
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GLOSSARY

**Antifouling** is the term used to describe the painting of the lower hull with herbicides as protection against fouling. (Source: Federal Ministry for Economic Affairs and Energy 2013; see also Biofouling)

**Automation of locks:** different types of automation are distinguished in the operation of locks: Type 1) Lock operated by Waterways and Shipping Administration personnel from a local or central control station directly on site. Lock-through happens via automatic processes. Type 2) Lock operated by Waterways and Shipping Administration personnel from a central location. Lock-through happens via automatic processes. Type 3) Lock operated by users on site. Lock-through happens with/without operator support and monitoring by Waterways and Shipping Administration personnel and via/not via automatic processes. Type 4) Type 4 includes fully automatic locks where no action is required during normal operations. (Source: Leitfaden – Automatisierung und Fernbedienung von Anlagen der Wasserstraßen- und Schifffahrtsverwaltung, Automation and Remote Control Guide for Waterways and Shipping Administration Installations of 30 April 2019)

**Berthing areas:** a part of a waterway on the shore, outside of a harbour, intended for the berthing of watercraft, with or without land access, whereby the watercraft may be located in whole or in part in the fairway. A berthing area consists of several berths. In many cases, lock channels/lock approaches fulfil a protective function against floods. They can then be designated as ‘flood-protected berths’. (Source: https://wiki.baw.de/en)

**Berths** are places intended for mooring watercraft, especially in passenger shipping; designated shore location with fixed infrastructure. (Source: https://wiki.baw.de/en)

**Biofouling** is the unwanted growth of underwater structures by microorganisms, plants, algae and animals. This applies in particular to ship hulls and niches. (www.bsh.de); see also Antifouling

**Boat chutes** are chutes for crossing barrages with pleasure craft (usually from headwater to tailwater). (Source: Federal Ministry for Economic Affairs and Energy 2013; https://www.baw.de/en/glossar/glossar.html)

**Boat ramps** provide an inclined plane for tow trucks to move pleasure craft at barrages. (Source: Federal Ministry for Economic Affairs and Energy 2013; https://www.baw.de/en/glossar/glossar.html)

**Boat staircases** are used for moving pleasure craft at barrages. (Source: Federal Ministry for Economic Affairs and Energy 2013; https://www.baw.de/en/glossar/glossar.html)

**BordstromTech funding guidelines:** funding guidelines with investment grants for upgrading seagoing and inland vessels to use shore-side electricity, for on-board power generation from alternative energy sources, or for procuring mobile shore-side power systems in seaports and inland ports. (Source: www.bmdv.bund.de)
Charter boat tourism: commercially oriented boat tourism with leased watercraft, i.e. temporary use against payment. This mainly includes motor and sailing yachts as well as houseboats and rafts. (Source: Federal Ministry for Economic Affairs and Energy 2016)

Construction measures include measures that go beyond structural maintenance and measures to provide or redesign water bodies, installations or parts of installations (source: Zuordnung und Differenzierung der Ausgaben für die verkehrliche Infrastruktur of 25 February 2019, Division WS 10); see also upgrading measures, structural maintenance measures and maintenance measures

Development concepts describe the future infrastructures and uses, type and scope of maintenance, as well as traffic, ecological and other objectives for individual state-owned waterways or sections of waterways. (Source: Decree WS 11/5222.2-0 of the Federal Waterways and Shipping Administration of 28 July 2016)

EC Eco-Audit or the Eco-Management and Audit Scheme (EMAS): according to Regulation EC No. 1221/2009 of the European Parliament and of the Council of 25 November 2009, a Community eco-management and audit scheme for the voluntary improvement of the environmental performance of organizations. (Source: www.emas.de)

Electronic Chart Display and Information System (ECDIS) application: interactive electronic navigation information system for ships, which allows the nautical chart, the current position of the ship as well as its movements and many additional information (radar, AIS, echo-sounder) to be displayed simultaneously on the screen. (Source: www.deutsche-flagge.de)

Electronic Waterway Information Service (ELWIS) of the Federal Waterways and Shipping Administration: online service offered by the Federal Waterways and Shipping Administration with information for all users of the waterways – vessel operators, undertakings and private users - and other interested parties on the waterways. (Source: www.elwis.de)

Federal inland waterways serve general traffic and are included in Annex 1 to the Federal Waterways Act. Geographically, inland waterways connect to the maritime waterways. Maritime waterways are the area between the shoreline at mean high water or the seaward limit of inland waterways and the seaward limit of the territorial sea (source: VV-WSV 1401); see also Federal waterways

Federal Transport Infrastructure Plans (FTIP) form the basis for the renewal, development and upgrading of transport infrastructure. The current 2030 FTIP is the transport infrastructure planning tool of the Federation and lays the transport policy foundations for the next 10 to 15 years. In doing so, it addresses both the existing networks as well as upgrading and new construction projects for the road, rail and waterway modes.

Federal waterways, according to § 1 of the Federal Waterways Act, are 'the inland waterways of the Federation that are used for general traffic' as well as the maritime waterways. All inland waterways that are used for general traffic are listed in Annex 1 to the Federal Waterways Act.
**Framework investment plans** define the investment priorities for the structural maintenance, upgrading and new construction of transport infrastructure in five-year plans for all modes of transport.

**Inland Electronic Navigation Charts (Inland ENC):** the Federal Waterways and Shipping Administration provides its spatial data free of charge in accordance with the Spatial Data Access Act in conjunction with the Ordinance on the Determination of the Terms of Use for the Provision of Federal Geodata. (Source: www.gdws.wsv.bund.de)

**ISO 14001:** international standard and applied standard for environmental management systems. It sets requirements for an environmental management system that organizations can use to improve their environmental performance and achieve environmental goals. (Source: www.umweltbundesamt.de)

**Leisure traffic:** shipping traffic not used to transport goods (as opposed to freight traffic); in this masterplan, the term is used as a synonym for recreational boating.

**Main waterways (or core network)** are federal waterways of categories A, B and C where more than 600,000 tons of goods are transported each year. They amount to a total of around 3,750 km. (Source: www.gdws.wsv.bund.de)

**Navigation channel:** part of the fairway where there are certain widths and depths for passing ships and which are to be maintained to the extent possible and reasonable. (Source: https://wiki.baw.de/en)

**Passenger Cabin Shipping:** navigation with passenger cabin or river cruise ships, which, unlike day trips ships, have overnight accommodation in the form of cabins on board the ship (source: Federal Ministry for Economic Affairs and Energy 2016). In the master plan, it is summarized under the collective term “passenger shipping”.

**Passenger shipping:** term used in the masterplan as a collective term for day trip navigation and passenger cabin shipping (river cruise navigation) on all federal waterways.

**Professional navigation:** commercially operated shipping. This includes the transport of goods as well as passengers.

**Put-ins/Take-outs** are used for putting pleasure craft in and taking them off the water. Put-ins and take-outs must be connected to the local road network. Source: Guidelines for the Design of Water Sports Facilities along Inland Waterways, Federal Ministry of Transport and Digital Infrastructure 2011)

**Recreational boating:** tourism and sporting activities in watercraft; comprises the following segments: sailing, motor boating, human-powered water sports and passenger shipping, as well as other water sports with watercraft.

**Recreational boating, commercial:** recreational shipping, which is operated commercially, including, in particular, passenger shipping, charter boat rental, boat hire.
Recreational waterways are federal waterways where only recreational traffic takes place; they are secondary waterways of categories E and F (see also secondary waterways).

Secondary waterways (or secondary network) are federal waterways of categories D, E and F. Category D includes waterways with low freight traffic volumes, i.e. less than 600,000 tons of freight per year. Categories E and F are also referred to as recreational waterways. In Category E, solely recreational boating governs the setting of standards for construction and maintenance; in Category F, standards are based on human-powered boating only. (Source: www.gdws.wsv.bund.de)

Structural maintenance measures are measures to preserve and restore functions and to determine and assess the actual condition (source: Zuordnung und Differenzierung der Ausgaben für die verkehrliche Infrastruktur of 25 February 2019, Division WS 10); see also upgrading measures, construction measures and structural maintenance measures.

Structural maintenance measures are measures to restore the target state (source: Zuordnung und Differenzierung der Ausgaben für die verkehrliche Infrastruktur of 25 February 2019, Division WS 10); see also upgrading measures and construction measures.

Upgrading measures are construction measures for the substantial redesign or enlargement of a body of water, a facility, or a part of a facility (source: Zuordnung und Differenzierung der Ausgaben für die verkehrliche Infrastruktur of 25 February 2019, Division WS 10); see also construction measures, structural maintenance measures and maintenance measures.
**Water Framework Directive (WFD):** EU Directive establishing the framework for Community action in the field of water policy. The primary objective is to achieve a good ecological status for all bodies of water – rivers, lakes, transitional and coastal waters, and groundwater – in the European Community. The requirements of the WFD are implemented in Germany for surface waters, coastal waters and groundwater in Sections 27, 44 and 47 of the Water Resources Act (WHG). (Source: www.bmuv.de)

**Water rest areas** are characterized by being exclusively addressed to tourists, providing a smaller number of berths and being located on an inland body of water. They are aimed at canoe tourists and have a function for them as a place to take a break, rest or, if necessary, stay overnight for a short time. The facilities and duration of stay are designed more simple than at yacht harbours and ports. The waterborne infrastructure is provided for human-powered and/or motorized recreational traffic. (Source: own definition, based on Federal Ministry for Economic Affairs and Energy 2013)

**Water supply:** the usable quantity of fresh water available from the natural water cycle for a given period of time. The water supply of the Federal Republic of Germany averages around 164 billion cubic meters per year. (Source: www.wasser-lexikon.de)

**Water tourism:** includes all activities in which staying in or on the water is the main reason of day trips or overnight trips. This also includes recreational boating in the broadest sense. (Source: Hamburg Messe und Congress GmbH, German Tourism Association (ed.) 2003 (authored by: BTE, dwif)

**Water tourism information and guidance systems** are signage systems to inform and guide motorized and human-powered recreational boats. (Source: Federal Ministry for Economic Affairs and Energy 2013)
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