



# AUSTRIA

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The draft RBMP for the Danube RBD (AT1000) was assessed in April 2021. Despite having improved inventories and assessments compared to the previous RBMPs, the draft RBMP fails to commit to improve the status of water bodies. Although the draft plan does not include explicit exemptions, the true number of water bodies estimated to fail good status in 2027 is “hidden” by the claim in the overview tables that all water bodies will achieve good ecological status in 2027<sup>19</sup>. That is totally unrealistic and not supported by the Programme of Measures.

Article 4(5) exemptions are only applied to a few water bodies with appropriate justification. For the exemptions under article 4(7), only the exemptions from the previous two RBMPs are listed (22 exemptions), and essential information on these exemptions is missing. Although many hydropower plants are currently in the approval process or are listed in other planning documents, no reference is made in the draft RBMP to upcoming exemptions under article

4(7)<sup>20</sup>. Regarding the status of implementation of the second RBMP’s PoM, no comprehensive summary is included in the draft RBMP. However, on effectiveness, information is provided for the individual pressures in the respective chapters.

Five topics are considered as main challenges in the RBDs or included as SWMIs in the draft RBMP, and the main findings of the assessment are detailed below:

### **Removal and adaptation of barriers:**

The draft RBMP provides a comprehensive inventory of 28,593 impassable barriers including information about causes, technical details and location, although not about permits and technical options. Connectivity measures are based on a prioritisation methodology, but there is no cost-benefit assessment and fish-ladders providing only limited connectivity improvement are the preferred option before removal. According to the PoM, 300 barriers shall be removed in the 2022-2027 RBMP, in addition to a backlog of another 850 barriers, which were not removed in the

19. Water body tables as part of the draft RBMP in AT contain information on watercourses, lakes and groundwater at water body level. In the table “FG-stufenweise Zielerreichung”: Running waters – planned target achievement for ecological and chemical status and reason for deadline extension: <https://team.ikt-portal.at/index.php/s/LAawa6GD4bmRcPD>

20. Such as the more than 35 concrete structures listed as planned hydropower plants by Austria Energy (Österreichs Energie) on its public list of current power plant projects in Austria. This includes the Stegenwald, Gratkorn, Stübing, Tittmoninger Becken, Tauernbach and Meng projects. Many of these will only be able to be approved with an article 4(7) exemption.

previous RBMP due to a lack of funds. The overall level of past and current ambition is very low.

**Hydropower:** Although there are over 5,200 hydropower plants in Austria, the chapter on energy only mentions the 3,036 plants that feed electricity into the public grid. The draft RBMP includes information on the major pressures from hydropower plants, such as water withdrawals affecting 3,066 residual water stretches (4,530 km, 82% caused by hydropower), impounded stretches (1,480 dammed sections of a total length of 1,339 km, 4.2% of the total river length, 73% caused by hydropower), hydropeaking (affecting 875 km or 10.4% of the larger rivers greater than 100 km<sup>2</sup>), morphological changes and obstacles to migration (more than 3,100 obstacles related to hydropower that do not allow fish to pass).

An increase in residual flow is planned in approximately 900 stretches (700 water bodies) out of 1,700 residual water stretches. However, these improvements fail to reach the environmental flows necessary to reach good status. Approximately 130 hydropower plants are to be made passable for fish.

Hydropeaking mitigation feasibility studies were due in the previous RBMP but have only been carried out for three out of 67 significant hydropeaking affected river stretches. These three are not yet published (as of May 2021). According to the draft RBMP, mitigation measures “shall” be implemented, but concrete measures on hydropeaking stretches and timetables are missing.

Plans for new hydropower plants are addressed in general but not on the water body or project level. Hydropower is considered a “significant renewable energy source” and, given renewable energy targets, further expansion is planned for up to 5 TWh by 2030. An average of 40 TWh/year are already produced by hydropower and more than 80% of hydropower’s technical-economic potential has already been built. The corresponding WFD article 4(7) exemptions are listed retrospectively and a reference is made to a regulatory process, including limitations due to regional programmes for the protection of watercourses, but no article 4(7) exemption details are provided for upcoming projects in the draft RBMP.

**River and wetland restoration:** The draft RBMP includes links to conservation targets, ecosystems and protected areas but it remains unclear how the plan will contribute to achieving biodiversity conservation objectives. Criteria for prioritising restoration efforts are explicit in the draft RBMP, and targets are set, but they cannot be considered as ambitious. Nature-based solutions are not explicitly mentioned, but some of them are considered in the PoM. Natural water retention measures are referred to in the Flood Risk Management Plan, but it remains unclear how many of them will be implemented instead of or in addition to technical measures. Restoration measures are not equally financed: While hydropower-related measures get subsidies from public budgets covering up to 50% of the total costs, restoration measures targeting diffuse pollution are 100% financed by public budgets.



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Kam hydropower dam. © Gerhard Egger

**Water allocation and abstraction control:**

In general, water abstractions are identified in the draft RBMP and are subject to permissions. Several studies addressed sustainable thresholds, and exploitation indices are calculated for groundwater bodies, and projections are available. The draft RBMP refers to the review of abstraction permits as a measure to be carried out during the implementation of the PoM, but without specifying the expected number of permits, or the criteria. No information is provided on abstraction control.

**Economic instruments and budget**

**adequacy:** In the draft RBMP, there are no proper calculations of all financial, environmental and resource costs; and cost-recovery applies only to drinking water. No overall budget figure is provided in the draft RBMP.

**Hydropeaking from hydropower: Austria is defaulting on the remediation of the negative impacts of hydropeaking.**

Used mostly in storage power plants during peak electricity production, it has one of the most negative ecological impacts on alpine watercourses. Water is collected in large reservoirs and electricity production is usually started up to several times a day “at the push of a button”. Water from the reservoir rushes through pipes to the turbine, and then into a river. This creates

sudden surge waves with immense discharge peaks, which are quickly over. These artificial flood waves run through the affected rivers – not like the floods that happen once or twice a year, but usually several times a day.

On alpine rivers, hundreds of thousands of living creatures die every year due to sinking and surging. Among them are countless aquatic insects, young fish and fish larvae, but also adult fish. In Austrian waters, this negative impact, which has persisted for decades, has led to the extinction of entire fish populations and the systematic thinning of water biomass.

The pressures caused by hydropeaking in Austria are well documented and presented in the draft RBMP, which is a strength of the current draft. A total of 875 km (119 water bodies) of the Austrian water network are affected by hydropeaking, 725 km of which are significantly affected and require urgent restoration<sup>21</sup>. Hydropeaking occurs almost exclusively in larger rivers (with a catchment area >100km<sup>2</sup>), more than 10% of all larger rivers are affected by hydropeaking. The most common fish species in these waters, such as the Enns, Mur, Inn or Drau, are brown trout and grayling.

21. Water bodies with significant hydropeaking pollution are so heavily polluted that they must be rehabilitated. Several criteria are used for the definition, among others that the hydropeaking ratio is >1:5.

		AT
Topic		Danube
<b>1</b>	<b>Removal and adaptation of barriers</b>	
	1. Identification of the problem	
	2. Prioritisation	
	3. Cost-benefit analysis and monitoring plan	
	4. Ambition	
<b>2</b>	<b>Hydropower</b>	
	1. Pressures and sectors	
	2. Inventory of planned projects	
	3. Justification and exemptions	
	4. Criteria and thresholds	
	5. Plans for refurbishment and decommissioning	
<b>3</b>	<b>Inland navigation</b>	
	1. Pressures and sectors	
	2. Inventory of planned projects	
	3. Justification and exemptions	
	4. Criteria and thresholds	
	5. 'Working with nature'	
<b>4</b>	<b>Freshwater ecosystem protection and restoration and NBS</b>	
	1. Protected areas and their status	
	2. Prioritisation	
	3. Restoration targets	
	4. Nature-based solutions (NBS)	
	5. Natural Water Retention Measures (NWRM)	
	6. Sound financial mechanism	
<b>5</b>	<b>Water allocation and abstraction control</b>	
	1. Identification of significant water abstractions	
	2. Prospects of new water abstractions, related infrastructure and land uses	
	3. Review of abstraction permits	
	4. Abstraction control	
<b>6a</b>	<b>Drought management</b>	
	1. PoM "climate checks"	
	2. Drought management plans	
<b>6b</b>	<b>Flood management</b>	
	1. PoM "climate checks"	
	3. Link with the Floods Directive	
	4. Land use and flood management	
<b>7</b>	<b>Agriculture</b>	
	1. Assessment of pressures	
	2. Gap analysis and measures	
	3. Diffuse pollution	
<b>8</b>	<b>Coal mines (and combustion)</b>	
	1. Assessment of the problem	
	2. Priority hazardous substances	
	3. Climate change	
	4. Justification and exemptions	
	5. Cost recovery	
	6. Liabilities	
<b>9</b>	<b>Economic instruments and adequacy of budget</b>	
	1. Cost recovery calculation for sectors	
	2. Cost recovery rates and exemptions	
	3. Budget	
<b>10</b>	<b>Exemptions</b>	
	1. Number of exemptions	
	2. Gap analysis	
	3. Art. 4(4) and 4(5) exemption justifications	
	4. Article 4(6) exemption justifications	
	5. Article 4(7) exemption justifications	
<b>11</b>	<b>Review and update on the implementation of the previous RBMP</b>	
	1. Implementation of measures	
	2. Effectiveness of measures	

A major weakness of the draft is that the environmental objectives for the rehabilitation of the hydropeaking sections have not yet been defined and no concrete measures are included. Therefore, a clear failure to achieve the objectives of the Water Framework Directive is highly likely in 2027 on all rivers affected by hydropeaking in Austria.

Measures for hydropeaking mitigation have long been postponed with the justification that there is a lack of knowledge about remediation options. However, following more than 10 years of research, extensive material and knowledge on damage and remediation options is available in three major studies. Based on this, feasibility studies and measures should have been available for all hydropeaking stretches by 2021, according to the RBMP. Of 67 significantly polluted hydropeaking stretches, feasibility studies have been prepared for three stretches, but they had not been published as of April 2021. There are several ways to reduce the problems associated with flow fluctuations: modifying the power plant operation mode, diverting the water into a side channel or tunnel, or adapting the river morphology.

To mitigate the negative effects of hydropeaking by 2027, the transparent development of ambitious environmental targets for all rivers affected by hydropeaking is needed. This is in addition to a definition of all necessary concrete measures for achieving the environmental objectives in all stretches and a timetable for their implementation. Until the morphological or technical measures to improve hydropeaking take effect, mandatory transitional measures are needed in all hydropeaking rivers during the most sensitive weeks of larvae and juvenile fish development to protect fish ecology.

		LEVEL OF PERFORMANCE				
		high	good	moderate	poor	N/A
RELEVANCE	Not applicable or relevant for the RBD					
	This problem/ challenge has already been solved in the second RBMP					
	One of the many problems/challenges in this RBD					
	One of the Significant Water Management Issues (SWMI)					
	The main problem/challenge in this RBD					

**Table 14:** Overview of the performance of the draft 2022-2027 RBMP Danube (Austria) on key topics by indicator.