

## **Building a Soviet Eco-Power while Looking at the Capitalist World**

The Rise of Technocratic Environmentalism  
in Russian Water Controversies, 1957–1989

Laurent Coumel



A convergence between the two adversary systems of the Cold War has been addressed in recent works on the environmental history of the former Soviet Union focusing on water issues. Klaus Gestwa studied the building of giant dams after World War II, comparing the powerful Soviet *Gidroproekt* (Hydro Project) Institute for the planning of hydraulic works, which has existed since the 1930s, with the U.S. Army Corps of Engineers.<sup>1</sup> Writing on a shorter period of time, Donald Filtzer showed the limits of the sanitary concerns in urban water-supply policies under Stalin, while Christopher Burton exposed the harshness of debates on the measures for improving water quality in the second half of the 1950s.<sup>2</sup> For the following decades of the East-West conflict, generally speaking, Marc Elie states that: “Historians have proposed that socialist countries entered into a ‘green’ competition with their capitalist rivals with the rise of political ecology in the 1970s: unwilling to enforce stringent environmental legislation, East European countries and the Soviet Union competed with words exchanged at international forums.”<sup>3</sup> But Elie adds that things may have been more complicated and the internationalization of environmental knowledge was, in fact, more important between both sides of the Iron Curtain even before the creation of the United Nations Environment Programme in 1972.

The challenge of the current chapter is to help understand the way environment became an issue in the policy-making agenda of the Soviet Union, linking this to the story of contacts with, or discourses and practices appealing to, the capitalist countries. Thus the role played by various stakeholders, including the “scientific public opinion” identified by Douglas Weiner in Russia’s nature-protection movement, will be reconsidered concerning the government of inland waters.<sup>4</sup> How effective was the shift toward a conservationist approach, as Stephen Brain defines

it: “the belief that natural resources should be treated carefully so as to produce the greatest benefit”?<sup>5</sup> I focus on the echoes of Western concerns regarding Soviet water management and protection organizations from the early 1960s to the mid-1980s in order to explore the entanglement of two discourses: Cold War competition and “nature protection,” combining in my methodology an institutional and a cultural approach. Ultimately, I contend that the rise of a technocratic environmentalism on water issues in the Soviet Union is clearly connected to similar processes in the West, where scholars identified the making of an eco-power: here I draw on the French sociologist Pierre Lascoumes to characterize a way of governing nature legitimated by “scientific and technical rationality,” and thus giving experts an “uncontested mastery.”<sup>6</sup> In this regard, eco-power is an elaborated stage of technocracy as “rule by an elite of scientists and technologists.”<sup>7</sup> This attempt at a “rational government of nature” in the French case, as Lascoumes defines it, stands at odds with the initial project of the ecologist movements that emerged in the 1970s.

This chapter aims to reinterpret the tensions inside the Soviet scientific and administrative systems concerning water-resource control by relating them to the international context of East-West competition. I argue that the latter played a decisive role in both the rise of an environmental awareness and the appeal to institutionalize an expertise clearly designed to limit the harm caused by major economic projects to the state of inland waters. How closely was the fight for an independent body to control water resources connected to the Cold War? To what extent was it the result of the circulation of ideas, knowledge, discourses, and practices across the Iron Curtain?

### **“Between East and West”: The Emergence of an Epistemic Community on Water Issues**

“We may surpass America and send people into outer space, but concerning the cleanliness of rivers, the USSR can’t compete with a small country like Denmark, where you can find trout close to metallurgical plants.” So wrote a citizen to the first secretary of the Soviet Communist Party (and prime minister of the USSR) Nikita Khrushchev in the summer of 1961.<sup>8</sup> The statement shows how, at that time, Western capitalist countries had become a reference point in Soviet debates on ecological issues, though the mention of the Danish case is not explained by any explicit source in the archive file. A few months earlier, a major reorganization of the water-management institutions occurred with the adoption of a special decree on April 22, 1960, by the Council of Ministers and the creation, four months later, of the State Committee for Water Management of the Russian Republic—not of the whole Soviet Union—and the difference is relevant.<sup>9</sup> Due to its brief existence

(1960–1964), recent surveys of Russian environmental history make no mention of the committee, known by its acronym, Gosvodkhoz.<sup>10</sup> Its role needs to be reassessed as the first attempt at an independent body responsible for water quality and use control, an attempt reclaimed by some scholars and officials over a period of almost three decades until the end of the 1980s. Here we can see the efforts of a group of scholars and engineers to set up a new approach to water resources, taking into account uses other than industrial ones—first and foremost energy use, and thus paying attention to water quality and cleanliness.

Initially, there was no kind of organization responsible for water control, although a special decree had been issued on water quality in May 1947.<sup>11</sup> The main administration dealing with water issues at this time was the Ministry of Internal Affairs, with a special branch in charge of the Main Administration of Labor Camps (GULAG): one of its economic functions was the construction of huge dams all over the Soviet Union.<sup>12</sup> According to Ronald Oechsler, a U.S. scholar who, at the end of the 1980s, wrote a very informed report on the USSR's water-pollution policies, the creation of the *Gosvodkhoz* mostly resulted from the lobbying efforts of one man, Vasilii Zvonkov.<sup>13</sup> An engineer and specialist in river transportation trained in late tsarist times, he had a brilliant scientific and administrative career and became a corresponding member of the Soviet Academy of Sciences in 1939. A member of a Soviet delegation to London in 1944, Zvonkov was recognized abroad as an expert in transportation. In 1956 he was appointed as the USSR's representative on an international panel on "the integrated management of water resources" for the United Nations Economic and Social Council (ECOSOC), "to examine the administrative, economic and social dimensions of multipurpose river basin development, and to prepare recommendations for international scientific exchanges." This was a turning point in his vision of water-resource management. As Oechsler notes, this participation "apparently had a major impact on Zvonkov, for upon his return from the January 1957 ECOSOC session, he became the country's leading advocate of multipurpose water management systems."<sup>14</sup> Here the words *multipurpose* and *integrated* are interchangeable—they carry the idea of developing water systems (dams and reservoirs especially), taking into account activities other than energy—agriculture, navigation, and fishing. The result of this expertise was a joint report finalized in November 1957 by seven authors (from Pakistan, France, England, Colombia, the Netherlands, the United States, and the USSR).<sup>15</sup> A few days after the report was finalized, the American geographer Gilbert White, another member of the expert panel, invited Zvonkov to give a lecture at the University of Chicago, which was soon published in English.<sup>16</sup> This circulation of a Soviet scholar in the early years of the Khrushchev Thaw is worth noting, for it precedes the official establishment of an academic exchange between

the United States and the USSR in 1958.<sup>17</sup> A global community of international experts was taking shape during this period. In 1959 Zvonkov finished his 482-page memoir, *Between East and West*.<sup>18</sup>

Actually, the circulation of the term *integrated* seems to have been more complicated than a single West-East transfer. With regard to water resources, it made its first appearance in Soviet scientific literature at the end of the 1930s: Zvonkov edited a collection of papers on the “integrated use” of small rivers in 1940.<sup>19</sup> At the same time, *integrated* was used in specialized literature on the mining industry. Although with quite a different meaning, it was still linked to a better management of resources, following the Russian-Soviet geochemist Vladimir Vernadsky’s views.<sup>20</sup> At the international level, the term *integrated* appeared in a panel titled “The Integrated Development of River Basins: The Experience of the Tennessee Valley Authority” at the United Nations Scientific Conference on the Conservation and Utilization of Resources held in Lake Success, New York, in 1949, the first UN conference on the global environment, where there was no Soviet representative.<sup>21</sup> As Richard P. Tucker suggests, U.S. New Deal engineers and senior officials such as David Lilienthal promoted the Tennessee Valley Authority example as a model for combining democracy and economic development in decolonized countries, especially India and Pakistan.<sup>22</sup> Clearly, this was the beginning of a long transnational career for the adjective: more precisely, its use in the United States and the USSR began to coincide more closely, and the two uses started to influence each other toward the end of the 1950s—the time of the Thaw and of “Peaceful Coexistence,” the official slogan used by Khrushchev to qualify the new direction taken at the Twentieth Congress of the Communist Party in 1956. Zvonkov’s book, *The Integrated Use of Water Resources in the USSR’s River Drainage Basins*, was published in Russian in 1957, parallel to the UN report, and concurrently with a 1958 issued volume by the U.S. organization Resources for the Future, “Multiple Purpose River Development.”<sup>23</sup>

In 1960 the American Geographical Society launched the monthly journal *Soviet Geography*, which published translations of academic articles from the other side of the Iron Curtain. The sixth issue included an article by two Soviet geographers on the independent monitoring of water resources with a clear protection aim: “In hydrology, as in other branches of science concerned by the study of the geographic environment, there is a growing need not only for *integrated* and complete utilization, but also for a *conservationist attitude toward natural resources*, even in areas where economic utilization is still far from being intensive and where the density of population is still low.”<sup>24</sup> Thus an epistemic community was emerging in the sense defined by Peter Haas: “a network of professionals with recognized expertise and competence in a particular domain and an authoritative

claim to policy-relevant knowledge within that domain or issue-area.”<sup>25</sup> At this stage, Zvonkov and his colleagues, although members of such a community, could not meet and converse directly in order to organize a unified strategy of influence on policy-making—the community was virtual. However, it was efficient enough to gain influence on water-management institutions in the USSR. In 1960, after two years of lobbying from his position at the head of the Academy of Sciences’ Council for Water Problems, Zvonkov and his allies, including the main planning administration (Gosplan), managed to get a governmental decree adopted that provided for the establishment of Republican State Committees on the use and protection of water resources.<sup>26</sup> Looking at the outline of this new agency, one may have thought about the U.S. Army Corps of Engineers’ model. Another origin of this decision may have been the controversy surrounding sanitary issues of water quality studied by Christopher Burton: second-rank scientists contested the official positions of so-called communal hygiene, the branch of medicine devoted to this issue in the Soviet Union, appealing for stricter measures of detoxification for watersheds.<sup>27</sup> Even though they did not succeed in abolishing the two key concepts of self-cleansing and the maximum allowable concentrations of toxins, they managed to create a strong debate within professional publications and institutions. While one, the ichthyologist V. P. Orlov, seems to have defended the interests of fisheries, another scholar, Mikhail Grushko, figures among those who signed the first collective open letter in defense of Lake Baikal in the autumn of 1958: the two of them could easily have identified with those promoting the “integrated use” principle.<sup>28</sup>

The appearance of Lake Baikal in our story is no coincidence: as the first big environmental public controversy started in the Soviet Union, the appeal to integrated use of water resources not only led to institutional building of a new type. It now faced real adversarial forces inside the top party-state apparatus.

### **“Proven by the U.S. Experience”: Internal Lobbying for an Independent Body of Expertise**

In this context, references to Western countries were seen as a way of justifying a shift in protection policy in the Soviet Union. Beginning in the late 1950s, this flow grew in the early 1960s, when the fate of Russian Gosvodkhoz entered a zone of uncertainty.

At its creation in the summer of 1960, the main goal of the latter was the institutional “ordering of integrated use and strengthening of protection.” In October 1960 the Russian law on nature protection was adopted, after four years of lobbying of party and state institutions by authoritative scholars, including biologists and geographers.<sup>29</sup> While the movement was not influential enough to achieve

its main goal, an independent nature-protection body at the union or republican level, the Gosvodkhoz was at least able to respond to such a demand for water resources. Significantly, Nikolai Ovsyannikov was appointed first chair of the Gosvodkhoz. First, he was a former official of the river transportation scientific and administrative organization, the field with which Zvonkov was familiar, and second, he was one of the top officials of the All-Russian Society for Nature Protection (VOOP).<sup>30</sup> One of his subordinates was the geographer Semen Vendrov, the other coauthor of the 1960 article published in *Soviet Geography*. As head of the Direction of Study and Accounting of Water Resources, Vendrov defined the main task of the Gosvodkhoz in one of his first letters addressed to the vice chair of the USSR Gosplan as the “regulation of water consumption and the coordination of the integrated use of water resources . . . for the interest of the population and all branches of the economy”—a view in clear opposition to the one that rivers were primarily dedicated to the production of electricity and irrigation.<sup>31</sup> For unclear reasons, Ovsyannikov was replaced in April 1961 by Konstantin Kornev, another engineer and official who had worked in Uzbek local irrigation systems before World War II. Despite his strong agricultural profile, Kornev, who had also been chair of the newly created Department of Water Problems at the USSR Gosplan (another institutional innovation resulting from the 1960 law), tried to convince his hierarchy to adopt an “integrated” paradigm, drawing on Western realities. Thus, in early 1961, he sent a series of suggestions to the Central Committee of the Communist Party for the text of the fifth section of the new Program of the Party on the scientific goals of the construction of Communism, stressing the importance of issues “of the integrated use and protection of water resources” in “highly developed industrialized countries such as the Czechoslovak Socialist Republic, the USA, the GDR, the FRG, England and others.”<sup>32</sup> Moreover, he added that “national and foreign experience” show[ed] that the sole construction of effluent treatment facilities [did] not solve the problem of the purification of water used for industrial and domestic purposes.<sup>33</sup>

One of the concrete proposals that followed this criticism of water policy in the Russian Republic was the development of clean technologies and the reuse of waste—the installation of closed-cycle water systems had already been suggested by Zvonkov in the late 1950s.<sup>34</sup> The same idea was expressed by Semen Vendrov at a meeting dedicated to the study of reservoir shores held near Lake Baikal. The choice of location for this scientific event was significant—it was organized by Grigorii Galazii, then quite a young director of the Baikal Limnological Station, but already a major figure in the campaign against the building of a cellulose plant in the new city of Baikalsk, located on the lake’s southern tip. Although this was not the subject of the workshop, Vendrov appealed for a new approach to the coun-

try's water-pollution issue: "There is a widespread view that maintaining the proper water quality of surface and groundwater sources is possible only through the construction of treatment facilities. The fact that this view is mistaken is well proven by the U.S. experience, where the number of newly built post-war treatment facilities is thousands, but the country still faces the unsolved problem of cleaning water."<sup>35</sup> Vendrov and Kornev were indirectly advocating for a transnational approach to the issue they were dealing with, although their first goal was to counterbalance, in the long term, the influence of economic forces that had become accustomed to using water without taking into account the other needs of the population—especially for energy, heavy industry, and irrigation purposes. Other Gosvodkhoz reports explicitly attacked the All-Union Institute for Water Supply Engineering and Hydrogeology (VODGEO), which was set up in 1934 and was, according to Ronald Oechsler, "the leading institution for the design of large-scale waste treatment installations."<sup>36</sup> To succeed in their enterprise, however, their authors still lacked sufficient backup from the top of the state-party apparatus.

This firm orientation did not last long, for a new decree issued in April 1961 remerged the Gosvodkhoz with the functions of land reclamation and irrigation management at the republic level. Therefore, the control of water quality and its use was relegated to a lower priority after productive tasks. From this point on, water management became an economic sector closely connected to agriculture, in an atmosphere of euphoria toward the huge possibilities of irrigation. Moreover, a new body emerged in late 1963: a union-level committee for the USSR that took some of the functions of the Russian one. In 1965 the creation of a union-level (Soviet-level) Ministry of Land Reclamation and Water Management (Minvodkhoz) can thus be seen as a retreat in terms of environmental concerns, for it led to a "fragmentation of policy authority," as a recent study argues, with about twenty-six different institutions responsible for water quality.<sup>37</sup> Archival material suggests that these changes occurred in a conflictual context that lasted until the end of the 1960s and beyond.

Evidence of an internal struggle around the creation of the Ministry of Land Reclamation and Water Management and its functions may be found in the papers of the Soviet Council of Ministers. The latter tried to play the role of arbiter, but its authority was apparently short-circuited by the country's supreme organ of power: the Central Committee of the Communist Party apparatus. The first organization to oppose the USSR Minvodkhoz (Ministry of Water Management) was the Hydrological and Meteorological Service under the Council of Ministers of the USSR (Gidrometsluzhba), which had gained increasing importance with the Cold War as a result of the military implications of its work. Among its stakeholders were the Academy of Sciences and the State Committee for Science and

Technology (GKNT), an institution reshaped in 1965 in order to enforce the links between science and economic development in the country. The rivalry between the *Gidrometsluzhba* and the *Minvodkhoz* in 1965 extended to the monitoring and control of the use of water resources (that is, not only their scientific consideration but also the ability to negotiate with the ministries concerned in order to take decisions). In March 1965 the academician Evgenii Fedorov, a geophysicist and chairman of the *Gidrometsluzhba*, where he had worked from the early 1930s, asked the Soviet government to reorganize the “survey and protection” of water resources by transferring all of the functions and related bodies from other institutions to the *Gidrometsluzhba*. The point was clear: to take away the functions of the USSR Ministry. The main argument was also clear—“The fact that the *Gidrometsluzhba* itself does not use or pollute water resources is crucial”—contrary to the *Minvodkhoz*.<sup>38</sup> The response from the minister Evgenii Alekseevskii, an official in water-management administration who had worked in Central Asia, Russia, and the Ukraine, came a few months later. He gained the support of a member of the Presidium of the Central Committee (the supreme level of the party organization), Andrei Kirilenko.<sup>39</sup> In the first instance, however, the first vice chairman of the GKNT was pragmatically in favor of the *Gidrometsluzhba* solution.<sup>40</sup> After a new exchange of letters, however, his boss, Vladimir Kirillin, declared that *Gidrometsluzhba*’s request should be pulled off the agenda.<sup>41</sup> The fact that Kirillin, Prime Minister Aleksey Kosygin’s protégé, refused to confront the *Minvodkhoz* showed the limits of the reformist-technocratic current in Moscow.

In June 1966 Zosima Shashkov, a former minister of River Navigation who had worked with Zvonkov in the late 1930s, wrote directly to Kosygin with the request of establishing an independent body for water protection (and nature in general).<sup>42</sup> He was followed by Minister of Agriculture Vladimir Mackevich: the latter proposed the organization of a state committee, but in its own structure, by taking all the departments and staff dealing with nature protection from other ministries. The prime minister took the proposal seriously, and sent copies of the letter to the USSR Gosplan and all concerned ministries in August 1966.<sup>43</sup> The initiative for a new decree was due to the Ministry of Agriculture’s Laboratory of Nature Protection, a structure that was partly inherited from the Academy of Sciences’ Commission for Nature Protection, created in 1955.<sup>44</sup> There, the possibility of taking into account Western experience was still alive: “The laboratory gathered information on the state of the country’s water resources . . . compared with the world’s resources and the resources of some countries, particularly the USA. . . . In addition, there is evidence of the contamination of water bodies, of treatment facilities construction and of different sewage methods in our country and abroad.”<sup>45</sup> To study rather than condemn Western experiments and policies in



water management—this could have been the unofficial line of such departments. Still, the censorship remained strong: a monograph prepared between 1962 and 1965 on “Nature Protection Abroad” for *Nauka*, the main publisher of the Soviet Academy of Sciences, was never published. Nevertheless, the age-old dream of scientific monitoring and governance of the environment, reactualized in the debates of the late 1950s, could again reemerge at the top of the scientific, and even the state, apparatus.

The outcome of the six-year process of examining the Ministry of Agriculture’s proposals on nature protection already mentioned was the joint Council of Ministers and Central Committee Decree of December 1972, “on measures to strengthen environmental protection and the rational use of natural resources.” For the first time, this text suggested concrete ways to improve the situation: the Soviet Union was entering the “Age of Ecology,” a new environmental awareness.<sup>46</sup> Water resources in Russia were concerned, but it remained difficult to report openly on their degradation: here the capitalist countries could help too.

### Proxy Awareness: Comparisons in Soviet Discourses on Environmental Crisis

A new way of mentioning environmental damage had emerged in the Soviet Union during the Thaw: a disguised one that could be called *proxy awareness*. The denunciation of Western ecological crisis instead of referring to national issues allowed writers to partially bypass censorship in the general and specialized press and literature. Between 1968 and 1972, and in following years, a turning point in the evolution of global environmentalism on the world scene, this device became a frequent one in conservationist discourses.<sup>47</sup>

Referring to the West was part of a discursive strategy: to mention the country’s ecological problems without being suspected of anti-Soviet propaganda. Published a few months before Khrushchev’s dismissal, the geographer David Armand’s book, *For Us and Our Grandchildren* (1964), is one of the first global surveys of environmental problems published for a large audience in the postwar era. Systematically, it looked at the situation in the United States before giving examples of damage and pollution in the Soviet Union.<sup>48</sup> It mentioned the ability of U.S. technology to sharply reduce the amount of water needed for the pulp and paper industry. The emphasis of the chapter devoted to water was placed on the progress of Soviet legislation, with the creation of Gosvodkhov. But, it was added in the book’s second edition in 1966, the latter had been since deprived of most of its functions in resource monitoring.<sup>49</sup> Such sentences were crucial—they expressed a criticism of official policies. Proxy awareness could thus be mixed with fake self-satisfaction or even dissatisfaction. And it was not only used by publicists-

scholars like Armand, the author of many geographical books for children: some second-rank or provincial officials also started drawing on capitalist experience to legitimate their recriminations against the inertia of the center in water-protection issues.

In August 1968 the Directorate of Water Resources Protection of the Russian Ministry of Water Management sent a report to the state inspectorate of the Soviet Minvodkhoz with a list of demands emanating from regional (basin) branches. Among them, one stated that, “it should be more objectively looked at the . . . question concerning the creation of special All-Union and Republican organs for integrated use and protection of water resources,” regretting that “not a single word” about it appeared in the project under consideration.<sup>50</sup> Two months earlier, at a meeting of all the heads of the basin inspectorates in the country, the ministry’s central apparatus received several criticisms regarding the lack of attention paid to the issue of “integrated use and protection.” An official in Kharkov, Ukraine, compared the policies of the United States and the Soviet Union to emphasize the differences in terms of the number of institutes and scientists devoted to the issue following the U.S. Water Resources Research Act of 1964 (see table 1.1).<sup>51</sup> Not only was the comparison clearly in favor of the capitalist superpower but, the speaker added, \$100 billion was to be spent for this purpose annually.<sup>52</sup>

A coalition including Gosplan asked the government to create a state committee for water resources and atmospheric air protection (another important issue with regard to the sanitary and economic effects of pollution)<sup>53</sup>. However, the joint reaction of the economic departments of the Central Committee in support of Minvodkhoz led to this project being rejected as “artificial,” for such a state committee would have weakened the attention of other ministries and agencies.<sup>54</sup> In the summer of 1970, the Gidrometsluzhba and the GKNT launched a new attempt: they proposed a joint project for a state body responsible for the monitoring, control, protection, and distribution of water resources. In the explanatory note, they referred to similar institutions in Western countries: “the USA, Japan, Sweden, India and others.”<sup>55</sup> The president of the special commission on this issue, Gosplan chairman Nikolai Baibakov, supported the initiative—according to his report, the Minvodkhoz should abandon its water protection and monitoring functions, for it was not “objective” enough in their implementation, and become the “Ministry of Land Reclamation.”<sup>56</sup> Alekseevskii immediately launched a counterattack. In a “specific opinion” sent in the name of his ministry, he wrote: “The attempt to rely on foreign experience in the issue of the organization of water resources protection is untenable. One can understand that we take from abroad the best examples of technology, but what can be taken from foreign experience in the protection of water resources, if all the major waterways of Europe and America

Table 1.1. A comparison of U.S. and Soviet inland water pollution research at the federal level, according to Minvodkhoz official Vladimir Lozanskij in June 1968

	United States (since 1964)	Soviet Union
<b>Number of research institutes</b>	One in each state (fifty)	One institute (Minsk) & a dozen laboratories or laboratory departments
<b>Amount of staff</b> (scientific and technical)	Around twenty thousand	Around four hundred (including forty with scientific training)

Source: GARF, R-436/2/726, 199–200.

are in a disastrous state? The cause of it: private enterprise.”<sup>57</sup> No matter how convincing this argument was, the ministry ultimately remained all-powerful in water control, combining both the productive management and protection of resources. In 1971 another attempt by Baibakov to create a state committee for water protection was unsuccessful.<sup>58</sup>

The discourse emphasizing the damage in capitalist countries and partly masking the reality of the Soviet environment was predominant in the public sphere. It made the Soviet Union and the Socialist camp in general the best place to live compared with the capitalist world. It was dominant in newspapers, journals, and documentary films on the state of the environment. One of these, *Nature and Society*, released in 1976 on behalf of the Ministry of Higher Education, presumably for Soviet students, points to the “capitalist form of scientific-technical revolution” as being responsible for the “ecological crisis” of the world.<sup>59</sup> Besides a shot of the Rhine River (probably taken in the 1950s or 1960s, but the black-and-white format could deceive viewers), the documentary shows Lake Erie with an apocalyptic voice-over: “Inhabitants of the area say the water is too thick to swim in, and too liquid to till.” This statement echoed the words of a prominent *Time* article: “Some River! Chocolate-brown, oily, bubbling with subsurface gases, it oozes rather than flows. ‘Anyone who falls into the Cuyahoga does not drown,’ Cleveland’s citizens joke grimly. ‘He decays.’”<sup>60</sup>

Naturally, the Soviet voice-over kept quiet about the work of the joint commission, as it did about the Great Lakes Water Quality Agreement, signed by the United States and Canada in April 1972 to reduce pollution.<sup>61</sup> The second part of *Nature and Society*, devoted to the Soviet Union, painted an idyllic picture of the country’s environmental protection—the Volga River was supposedly being depolluted, and the Moskva River cleaned.

This context was also favorable for environmentalists/academics. As Ronald Oechsler puts it, “the growing international concern over the environment in the late 1960s and early 1970s may also have spurred agenda change in the USSR.”<sup>62</sup> In 1968, the year of the Paris Biosphere Conference, a Council on Water Resources and Water Balance was established within the GKNT, which also included a special joint commission on environmental issues with the Academy of Sciences, headed by the geographer Inokentii Gerasimov from 1966.<sup>63</sup> The coincidence in timing between the Soviet decrees and the Clean Water Act, passed by Congress in October 1972 over President Richard Nixon’s veto, is significant.<sup>64</sup> In fact, the latter may have been in response to the adoption of the Principles of Water Legislation by the USSR Supreme Soviet in December 1970.<sup>65</sup> During these years, the Gidrometsluzhba continued to try to develop its functions in order to become a state environmental protection agency.<sup>66</sup> It was mentioned in a new decree issued in 1978 as the main agency for environmental monitoring.

Although the issue of inland water pollution had only an indirect importance for transboundary environmental concerns, the USSR had an interest in responding positively to Western calls for environmental cooperation.<sup>67</sup> The Soviet scientific elites continued their lobbying in favor of a new form of decision making on environmental issues. The academician and physicist Pyotr Kapitsa, an internationally recognized figure in Soviet science, had already mentioned the Great Lakes in a column published by *Pravda* (the party’s central organ and the most famous newspaper in the USSR).<sup>68</sup> Under the title “Our Home, Planet Earth,” Kapitsa called for the challenge of combining economic development and nature protection to be met, since the resources on Earth were partly limited. For the first time in the Soviet press, Kapitsa referred to the U.S. systems scientist Jay W. Forrester and his colleagues’ 1972 book, *The Limits to Growth*.<sup>69</sup> A paragraph was devoted to water pollution in North America: “A clear example of the fate of lakes as a result of poor management of their waters and neglect of the biological processes which take place in them can be found in the Great Lakes of the United States and Canada. . . . The US government has therefore decided to restore normal life in these lakes. . . . For this purpose the US government will spend \$5 billion over the next three years. . . . Many experts believe that about \$25 billion will be needed.”<sup>70</sup> Kapitsa therefore advocated for better foresight of the environmental impact of technologies. In an unsent letter to Brezhnev written in June 1972, he suggested that the existence of public controversies on water issues was a sign of the superiority of the Soviet regime in comparison with others: “At present, the issue of the purity of fresh water stands very badly in the world economy and it is not good enough. There is a particularly acute problem now in the US and in most industrialized countries in Europe: Germany, England et al., where the pollution

of rivers and lakes with different types of waste production has reached a very high level.”<sup>71</sup> Without departing from his faith in technical progress, Kapitsa argued that the problem would be solved “in the next 10–20 years” both in the West and in the Soviet Union. But, he added, the so-called “Baikal problem . . . has captured the whole country” and “this is good, because . . . it is evidence of the vitality of our country and its desire to develop and move forward. This is healthy democracy.” Although Kapitsa probably knew about the existence of a public debate in the other superpower, he stated: “The weakness of capitalism is that people are not interested in the general development of the country. . . . In America, the fate of the Great Lakes region cannot become a national issue.” Such a white lie aimed at defending the possibility of “free debates” in the press for the Baikal and other similar issues is a leitmotif of Kapitsa’s position from the early 1950s.<sup>72</sup> But the authorities didn’t open the press to this kind of issue, and it remained an internal question for scholars—only now, of a growing number and variety of disciplines. Actually, this was maybe precisely the meaning of the term *democracy* in Kapitsa’s view—shared by many other scholars.

### “How Is This Problem Solved Abroad?” Strategies of Opposition to the Siberian River Diversion Project

Under Brezhnev, other scientists referred to the United States more positively at internal meetings. One of the major scientific and ecological controversies of the twentieth century gave them occasions to compare not the state of the environment, an exercise quite risky and hazardous as seen before, but the institutional means to deal with environmental issues.

In February 1973 at the Academy of Sciences’ Commission on the Study of Natural Water Protection Issues, Vice President Aleksandr Vinogradov, a geochemist, declared: “The president of the Washington Academy of Sciences [*sic*] was recently here. When asked how they have solved such problems, he replied: ‘I’ll give you an example of a problem that our Academy undertook to resolve. It was necessary to expand Kennedy Airport without destroying the surrounding forests. The Academy of Sciences took up the challenge and solved it.’ The Washington Academy takes on such problems and solves them thanks to the joint efforts of the entire staff of the academy.”<sup>73</sup> The fact that Vinogradov was giving a speech on the Siberian River Diversion Project (Sibiral) is significant. The latter had begun under sole control of the Minvodkhoz and its institutes.<sup>74</sup> In 1974 a joint meeting was held on the topic between two Academy of Sciences departments—the Bureau of the Department of Oceanology, Atmospheric Physics, and Geography, and the Scientific Council for Biosphere Problems (created in the summer of 1973 from an existing department within the academy, with a clear reference to Vernadsky’s

work that was just revived in the late 1960s). Answering to the project's engineer-in-chief, several scientists appealed for a leaf to be taken out of the United States' book—for example, metals specialist Boris Laskorin: “You always start from the fact that the only source of fresh water is the northern flow. Have you considered other sources? How is this problem solved abroad? Does the problem exist on the American continent, and what sort of approach is taken there?”<sup>75</sup> Another scholar interested in the implementation of the Sibaral replied that the problems of the United States and the USSR were completely different: “For Americans it is a matter of pollution, but for us—of water regime.”<sup>76</sup> The idea was that U.S. industry and agriculture spoiled the rivers, whereas the Soviet economy only had the problem of the natural distribution of rivers. This view was not shared by other scholars, however. The physicist and oceanographer Leonid Brekhovskikh asked: “In order to come to a conclusion about the necessity of [river transfer], somewhere, I do not know *in what forum* it should be done, but all the evaluations must be reported. In America, for example, company managers only provide *alternative options* and the policymakers make the choice. We also need to put forward *alternative solutions* and let the policymakers choose. . . . For one unit of production, we use four times more water than in the United States.”<sup>77</sup> Such a statement would have perhaps sounded ironic to many American ecologists at that time, but the idea was to convince the political authorities that U.S. water policy was the result of a consensus decision-making process led by scientists: a true, efficient, and eco-responsible technocracy in today's words. At the same meeting Mark L'vovich, director of the hydrological department of the Academy's Institute of Geography from 1962 to 1986, criticized the project for its enormous costs and proposed to introduce new methods as “two way” land reclamation—that is, by providing both drainage and irrigation as in the Netherlands, a country he referred to.<sup>78</sup> His colleague Vendrov also expressed doubts about the technical possibility of building a system involving thousands of kilometers of connecting canals without huge infiltration, and asked for a scientific committee to be set up to provide expertise on the project<sup>79</sup>. Other similar proposals kept being formulated for larger-scale expertise building: at age eighty, Vinogradov wrote to the Gosplan in August 1975 to advocate for the creation of republic-level state committees for nature protection and the unification of air and water control by Gidrometsluzhba. He stressed the need “to activate participation in international programs on the study of nature and its components to not only increase the USSR's contribution, but to make a more complete use of the data provided by other countries, especially for short- and long-term forecasts of changes in the state and level of pollution.”<sup>80</sup> Seven days before he died, Vinogradov wrote another long, programmatic letter in favor of the creation of such an authoritative organ.<sup>81</sup>

But no state body was created. Instead, the government and the Communist Party's Central Committee issued a joint decree on December 21, 1978, planning the Technical-Economic Justifications (TEO) for the Volga basin diversions to be completed by 1979, and those for Central Asia and Siberia by 1980. The Minvodkhoz and its institutes would prepare the documents, while the Academy of Sciences' Institute of Water Problems would provide "scientific justification."<sup>82</sup> This was not the kind of "forum" expected by scholars involved in resource protection at the top level of the Academy of Sciences. The only public discussion on this issue took place in the *Literary Journal* in March 1982, concerning the economic cost of the project.<sup>83</sup> Things changed radically with Gorbachev's reforms, also known under the catchwords *perestroika* and *glasnost*.

### Epilogue: The Apex of Western Legitimization for Building a Soviet Eco-Power, 1986–1989

At the beginning of the 1980s, a group of scholars, led by the vice president of the Academy of Sciences, Aleksandr Yanshin organized a real war machine against Sibaral within research institutes. Yanshin, an activist of the nature protection movement from the early 1950s and the head of the above mentioned Scientific Council for Biosphere Problems, was joined, among others, by two young mathematicians at the Central Economic Mathematics Institute in Moscow, Lúbov and Mikhail Zelikin.<sup>84</sup> Over several years they managed to access, copy, and verify some of the 140 volumes of TEO in order to prove that the project was not mathematically sound. Here the intrusion of Western technologies played a small but decisive role according to Zelikin's memoirs: a German student who spent a year in Moscow brought a pocket calculator and helped them to check some of the previsions with regard to the level of the Caspian Sea—an issue closely related to the argument that the diversion project was necessary. Thanks to this technical device, according to Zelikin, the institute that authored the TEO did not receive the state prize for this work. Finally, in August 1986, a Communist Party and Soviet government decree ordered that the planning and construction of the project be stopped. In early April the Minvodkhoz had already been severely criticized for the excessive funding of its projects, especially Sibaral, and for the environmental impact of the latter. Central Committee secretary Viktor Nikonov, a former minister of agriculture, sharply denounced the lack of preparation of the water-management plans, citing the examples of Hungary, Czechoslovakia, the United States, and Canada, where land reclamation was "far more effective."<sup>85</sup> Five months later the geographer Nikolai Koronkevich made a significant remark on the issue of improving Moscow's freshwater supply with regard to another much-criticized project involving the construction of a dam near the city of Rzhev on the Upper Volga—it

was necessary, he said, to study West Berlin's experience in terms of a closed water circle, before building a new dam there.<sup>86</sup> The positive perception of Western techno-scientific practices was a key argument in these controversies now becoming public, in the glasnost context. Fighting these big hydraulic projects meant openly drawing on the capitalist world in this field. Not very far from traditional industrial espionage, diplomats also became aware of this need for information on water-management issues and the solutions being developed by the capitalist superpowers. In November 1986 the Soviet Embassy in Washington, DC, sent a digest of the U.S. press regarding the struggle with water pollution to the GKNT's Department of Low-Waste Technologies and Nature Protection "for possible use and information." An official in Moscow warmly thanked the Soviet attaché for his initiative and asked him to continue sending materials, especially on "federal and other environmental legislation (including water), and also methods for its implementation."<sup>87</sup> In other words, rather than compromising the enemy with evidence of ecological disasters as a result of the capitalist system, the Soviet Union was more interested in acquiring a deeper knowledge of how the West was dealing with such environmental issues.

In 1988 the Minvodkhoz was liquidated as a unified ministry and the State Committee for Nature Protection was created at the All-Union (Soviet) level.<sup>88</sup> At last, the uncontrolled and dispersed management that the so-called planned economy had offered to sectorial ministries was replaced by the technocratic conservationist management of natural resources that scholars had been advocating for since the end of the Stalin era.

Defending the new system in 1989, the major players in the previous decade's water controversies referred to the U.S. model as the one to follow in order to avoid the return of "monster projects." In an interview published in July by the monthly literary journal *Zvezda*, Yanshin expressed his concerns about other "monster projects" like the Volga-Chograi Canal, a relic of the Sibiral that had been protested against, with demonstrations taking place in one hundred of Russia's big cities in February.<sup>89</sup> Ironically, he criticizes the famous sentence attributed to the Russian-Soviet agronomist Ivan Michurin—"We must not wait for favors from Nature; our task is to wrest them from her"—as "the slogan of technocracy," but in the same interview he states: "Unfortunately, the opinion of scientists and scholars is still rarely listened to, and it is only when the issue under consideration reaches a high level such as the Presidium of the Council of Ministers that the correct solution is usually approved."<sup>90</sup>

Ironically, this could be considered as a definition of scientist-led technocracy, but a better one than existed in the Soviet Union: "ruled by engineers with more narrow educations than nowhere else in the world" as the historian of Soviet sci-



ence and technology Loren Graham wrote a few years after.<sup>91</sup> Yanshin's concept of a correct decision-making process was already obvious in June 1987, when he opposed the Ministry of Energy's proposal to establish a specialized commission "on the study of the role of hydropower" designed to validate the publication of articles on these issues in the press—in a time of growing dam controversies. He called for a special expert scientific committee to be created at the top of his institution.<sup>92</sup> In October 1987 both the writer Sergey Zalygin and the biologist Aleksey Yablokov, two major characters of the environmental movement, expressed their regret that water resources had actually stayed under the control of the water-management administration, no matter that the *Minvodkhoz* did not exist anymore. According to Zalygin, "in the USA, the state exercises control over enterprises and firms it does not own," while the USSR exercises control "over itself. . . . But self-monitoring, self-planning, and self-knowledge—this is the hardest thing to do, the most unreliable."<sup>93</sup> Yablokov, a recently elected people's deputy and chairman of the first Committee on Ecology and the Rational Use of Natural Resources of the Supreme Soviet, the highest legislative body in the country, argued in a popular scientific review: "The USA's rivers have become cleaner and two of the three Great Lakes that had been completely ruined have already been cleaned up."<sup>94</sup>

Thus this was a time of complete idealization of the state of the environment in the United States and in the West in general—and also for building new expert mechanisms at the country's highest level.

### **Soviet Technocratic Environmentalism as a By-Product of the East-West Rapprochement and Internal Changes Rather Than of the Cold War**

At least two conclusions remain after the previous exploration: a historiographical and a heuristic one. In a recent, thought-provoking article, Stephen Brain argues, "the ideological contest between the United States and the Soviet Union . . . transformed the global environment into a space where environmental virtue was more attractive and thus environmental accomplishments more likely."<sup>95</sup> In the case of Soviet inland water resources, it is true that echoes of capitalist experiences served as examples of both good and bad resource-management practices, as discursive arguments that helped the groups of actors involved in the controversies, shaping virtual epistemic communities. But in the end, environmentalism grew in power as a result of the warming of international relations rather than East-West competition and tension: Khrushchev's Thaw in the late 1950s and early 1960s and the end of the Cold War in the late 1980s were the two most important moments for the institutionalization of water protection in the USSR or, more precisely, respectively a failed and a successful attempt at a scientist-led technocracy. This is

not to say that knowledge and expertise circulated more in these periods (further research is necessary to make such a statement), but it is clear that in the lapse of time between them, conservationist ideas had only a weak impact, despite the official “green” discourses addressed to national and international publics. Robert Darst’s argument still remains relevant, at least for the first part of his assumption: “the conjunction of the Cold War and the centralized, authoritarian domestic structure of the Soviet system opened a window of opportunity for those interested in environmental problems, but for most of the period under consideration this window was narrow, and the USSR’s environmental policies steadily fell behind those of the West.”<sup>96</sup>

Indeed, the Lake Baikal and Sibiral controversies were also, for twenty years (1966–1986), two defeats of nature protection activists. East-West competition did not help the conservationist cause in the USSR; rather, it was used as a tool by the environmental movement, especially for what we called proxy (or disguised) environmental awareness. But, and this is the second, heuristic conclusion to draw here, the controversies offer a fruitful observation post for Soviet environmentalism. In letters and specialized commissions or departments, scholars prepared plans for institutional action and waited patiently for a positive response from the top leaders: for a strong shift in nature policies. To be sure, the scientist-led environmental movement, as Douglas Weiner argues, “was not terribly influential or efficient,” but it did have an impact on the regulation and institutionalization of water-resource protection—here too, as with the soil experts studied by Marc Elie, a “silent ecologization” occurred.<sup>97</sup> One could add that it was a strongly nonlinear one, for already in the late 1950s, stakeholders were trying to organize specific institutions within the state to control and protect water resources, before the all-powerful Minvodkhoz destroyed these isolated constructions. In the 1960s and 1970s, scientists and some officials, notably in Gosplan, continued trying to improve the independent monitoring of nature, and their discourse reached a progressively broader public audience. However, they didn’t succeed until the crisis of Soviet power accelerated in the late 1980s.

Thus, Soviet environmentalism was a by-product of the East-West rapprochement more than of the Cold War competition, as well as of the “age of ecology” described by Joachim Radkau, drawing on the work of the sociologist Ulrich Beck on “reflexive modernity” in liberal democratic societies.<sup>98</sup> In the context of a centralized and—supposedly—planned economy and firmly controlled public sphere, this environmentalism can be defined as *technocratic* quite in the sense that the American political scientist Frank Fischer uses it: as a model of decision-making “embedded in the technocratic languages of environmental impact assessment, cost-benefit analysis, technology assessment, and risk-benefit analysis.”<sup>99</sup>

Such economic tools were lacking in the Soviet Union, but regarding the history of internal disputes over the control and protection of water resources, and their outcome during the Gorbachev years, the term fits pretty well. Some Soviet scholars truly advocated for the establishment of environmental management separate from social and economic spheres: a reign of experts with green awareness. A Soviet-style eco-power.