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**PROJECT PERFORMANCE ASSESSMENT REPORT**

**UKRAINE**

**DANUBE DELTA BIODIVERSITY PROJECT  
(GET GRANT 28654)**

**June 20, 2005**

*Sector, Thematic, and Global Evaluation Group  
Operations Evaluation Department*

## CURRENCY EQUIVALENTS

Currency Unit = Hrivnya (UAH)

1994	US\$1.0	=	0.328 UAH (appraisal)
1999	US\$1.0	=	3.756 UAH (completion)

## ABBREVIATIONS AND ACRONYMS

DBR	Danube Biosphere Reserve
DBRA	Danube Biosphere Reserve Authority
DPA	Danube Plavni Reserve Authority
DDBR	Danube Delta Biosphere Reserve
EIA	Environmental Impact Assessment
GEF	Global Environment Facility
GET	Global Environment Trust
GIS	Geographic Information System
ICR	Implementation Completion Report
LCB	Local Competitive Bidding
MoE	Ministry for Environmental Protection and Nuclear Safety
MOT	Ministry of Transport and Communication
UAS	Ukraine Academy of Science
OED	Operations Evaluation Department (of the World Bank)
PIU	Project Implementation Unit
RIZA	Dutch Institute for Land Water Management and Waster Treatment
SZP	Stentsovsko-Zhebrianski Plavny
WWF	World Wildlife Fund
ZP	Zhebrianski Plavni

## FISCAL YEAR

Government: January 1 - December 31

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### **About this Report**

The Operations Evaluation Department assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, OED annually assesses about 25 percent of the Bank's lending operations. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

Each PPAR is subject to a peer review process and OED management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

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**Relevance of Objectives:** The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

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**Efficiency:** The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible. This rating is not generally applied to adjustment operations.

**Sustainability:** The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

**Institutional Development Impact:** The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

**Outcome:** The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

**Bank Performance:** The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

**Borrower Performance:** The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, towards the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.



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## Principal Ratings and Key Staff Responsible

### UKRAINE DANUBE DELTA BIODIVERSITY PROJECT (GET GRANT 28654)

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Moderately Satisfactory
Sustainability	Uncertain**	Uncertain**	Unlikely
Institutional Development Impact	Substantial	Substantial	Substantial
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Unsatisfactory

\* The Implementation Completion Report (ICR) is a self-evaluation by the responsible operational division of the Bank. The ICR Review is an intermediate OED product that seeks to independently verify the findings of the ICR.

\*\* The "uncertain" rating was dropped after 2003.

<i>Project</i>	<i>Task Manager</i>	<i>Division Chief/ Sector Manager</i>	<i>Country Director</i>
Appraisal (1993)	Phillip Brylski	James T. Goering	Basil Kavalsky
Completion (2001)	Alexci Slenzak	John Hayward	Lily Chu (Acting)



## **Preface**

This is the Project Performance Assessment Report (PPAR) prepared by the Operations Evaluation Department (OED) for the Ukraine Danube Delta Biodiversity Project. The project was approved in April 1994 for a Global Environment Trust Grant of US\$1.54 million. The project closed after a six-month extension in June 1999 when US\$10,000 was cancelled. At completion total project costs were US\$1.74 million.

This report is based on the Implementation Completion Report (ICR) prepared by the Europe and Central Asia Region (Report No. 19911 dated November 1999), the Memorandum and Recommendation of the President, the Global Environment Facility Project Document, loan documents, project files, and discussions with Bank staff. An OED mission visited Ukraine in November 2004 to discuss the effectiveness of the Bank's assistance with representatives of the government, project implementing agencies, nongovernmental agencies, and with beneficiaries. The cooperation and assistance of central government and regional officials and staff, the Ukrainian Academy of Scientists and its various organizations, nongovernmental stakeholders, and other interested parties are gratefully acknowledged.

The project was selected for performance assessment for four reasons. First, Ukraine is a relatively new Bank client and very few projects have been assessed by OED. Second, this project was part of the first global round of GEF's biodiversity grants that are now reaching completion. Third, an almost identical GEF project covering the Romanian portion of the Danube Delta has also been completed and will be assessed along with this project to draw lessons from the different approaches to biodiversity conservation. And fourth, since project completion, sustainability has become an international issue because the Government of Ukraine is constructing a navigation canal through the center of the biodiversity reserve in contravention of several international conventions ratified by the government.

Following standard OED procedures, this draft PPAR was sent to the borrower for comments but none were received.



## Summary

The Ukraine GEF Danube Delta Biodiversity Project aimed to raise the level of national and international interest in the protection and management of the delta. A parallel GEF project also assisted the larger Romanian part of the Danube Delta and it was assessed by OED at the same time. These two Danube Delta Projects were designed as a pilot for a broader regional initiative with two other GEF regional projects, one for the Danube River basin, and one for the Black Sea.

The principal objective of the project was to support Ukraine's efforts to protect and enhance the ecosystems and biodiversity of the Danube Delta Plavni Reserve. Specific objectives were to strengthen the capacity of the Reserve Authority to expand and manage the protected area effectively and continue the activities during the operational phase; work with local community groups to introduce participatory protected area management to the Danube Delta and ensure sustainable resource use within it; protect and enhance the Ukrainian portion of the delta ecosystems and contribute to conservation of biodiversity within the delta; and coordinate the project with the GEF Romania Danube Delta Biodiversity Project.

Three of the four project objectives were substantially achieved with few shortcomings. However, failure to introduce participatory protected area management to the Danube Biosphere Reserve now threatens project sustainability. Accordingly, the outcome of the project is rated as moderately satisfactory.

Institutional development is rated as substantial. The capacity and credibility of the Danube Plavni Reserve Authority was significantly strengthened. Staff benefited from extensive overseas and in-country training that brought them into the mainstream of the European and international conservation community. The number of wardens tripled and they effectively regulate the reserve based on training provided on-the-job, in the Netherlands, France, and Romania – the latter under a collaborative agreement with Romanian Danube Delta Biosphere Reserve whose staff also received reciprocal training in Ukraine. Efforts to upgrade and expand scientific monitoring and database management were successful. An endowment fund was established and appears to be successful. Good coordination with the GEF Romania Danube Delta Biodiversity Project enabled fairly extensive scientific collaboration that led to joint publications and research during and after the project. Conservation of biodiversity and enhanced ecosystem protection in the Ukrainian Delta built on the project's capacity-building efforts. The area of the Danube Plavni Reserve was expanded more than threefold and its status was affirmed by Presidential Decree. It was elevated to an internationally-recognized transboundary biosphere reserve by UNESCO in 1999.

Although public awareness of the mission of the Reserve Authority and the importance of biodiversity was raised through extensive outreach efforts by the reserve's staff, the project was unsuccessful in building local support for participatory protected area management. The lack of participation, allied with contraction of the local economy and high unemployment, has reduced local support for the Biosphere and encouraged local communities to support a 2003 Ministry of Transport initiative to construct an international

shipping route – the Bustroy Canal – through the center of the reserve. This not only threatens the viability of Biosphere Reserve, it also runs counter to a number of international agreements and conventions that Ukraine had acceded to since independence. It also set the Ukrainian Academy of Science and NGOs against the government leading to the police seizure of all managerial records and effective suspension of the trust fund supporting reserve management.

Bank performance is rated as satisfactory. Notwithstanding earlier efforts by the Ukrainian government and line agencies to create and support the Biosphere Reserve, and the exemplary performance of line agencies responsible for the project, borrower performance on biodiversity conservation ex-post is rated as unsatisfactory on account of recent government actions. And for the same reason - the unresolved Bustroy Canal issue - sustainability is rated as unlikely.

Experience with this project confirms a number of OED lessons:

- Biodiversity conservation cannot be carried out in isolation. It has to be integrated within the economic interests of local and regional communities. Resentment is created when financing of nature conservation appears to have preference over unmet local needs, be it delivery of basic services or employment. Failure to integrate local interests in the conservation and management strategy of a biosphere reserve can endanger its longer-term sustainability.
- Conservation areas will be sustainable only if there is good management and sufficient funding to maintain it. Thus it is incumbent upon GEF project designers to facilitate establishment of sound management and governance arrangements that include local stakeholders and promote income-generating activities that will provide sustainable income for management.
- Biodiversity conservation may require trade-offs, particularly on the size of the restricted area in which all economic and human activities are banned. Too large an area creates very high overheads on policing and regulation and possibly strong local opposition that may undermine longer-term sustainability. The size of the area depends on the conservation objectives. Thus there should be sufficient funding and time to facilitate agreement on the species and/or landscape that are the targets of conservation, and for research to determine required minimum viable habitats/landscapes and their connectivity to larger-scale ecosystems.
- When establishing biodiversity reserves it is important to promote networking of the reserve staff with the national and international NGOs and promote recognition by international conventions. By doing so, a supportive network can be created that can quickly mobilized to support the objectives of conservation management should these be threatened by political, financial, or disaster-related events.

Ajay Chhibber  
Acting Director-General  
Operations Evaluation

## 1. Background

Ukraine, with a population of 48 million, has the second largest landmass in Europe and is comparable in size to France. After more than 70 years of Soviet rule, the government was successful in stabilizing the economy by the mid-1990s but had undertaken few systemic reforms. As a result, by the end of 1999 official GDP had dropped to 40 percent of its 1990 level in real terms. The incidence of poverty increased sharply, with 29 percent of the population falling below the poverty line in 1999, including 3 percent living in extreme poverty. The government's subsequent strong economic-reform program improved the macroeconomic framework enabling GDP to grow by a third in the period to 2004. This growth was the result of strong industrial output especially in manufacturing, a surge in retail trade and construction, good agricultural performance, and creation of a dynamic private sector. Agriculture production accounts for about 12 percent of GDP.

Soon after independence Ukraine's Ministry of Environmental Protection, assisted by the Bank and the U.S. Environmental Protection Agency, initiated a study to suggest priorities for environmental protection and natural resource management.<sup>1</sup> A formidable array of problems and challenges was identified ranging from severe air and water pollution from industries and municipalities, to hazardous waste management and environmental clean-up following Chernobyl. With the economy in transition most of what needed to be done was unaffordable and, in some instances, maybe unnecessary as some of the major industrial polluters would be non-viable in a market economy. Accordingly, the main recommendations in the short- to medium-term were to encourage low-cost mitigation measures;<sup>2</sup> build and improve the capacity for environmental management and regulation (particularly of facilities with deleterious health impacts); and focus on interventions that would: have economic payoff (e.g., energy conservation), be cost-effective through generated revenues (e.g., tourism), or prevent severe or irreversible damage to important natural or agricultural areas.

Ukraine possesses a number of unique ecologically important areas and in 1990 the International Union for the Conservation of Nature classified 11 of the nation's 15 strict nature reserves as Category I reserves, the highest category of protection.<sup>3</sup> The strict nature reserves do not allow recreational activities, and travel by unauthorized persons is prohibited. In many cases this has fostered resentment by local communities. Following UNESCO's Man and Biosphere Program, three biosphere reserves were created in which a strictly protected area is surrounded by a buffer zone which in turn is surrounded by a transition zone that includes traditional land use, settlement and recreation, and limited economic activity. The idea is that endangered resources will be protected if the interests of the surrounding community and sustainable natural resource use are fully integrated under reserve management.

Like the Carpathian Mountains and the last virgin steppes in Europe, the wetlands of Ukraine are of international importance. Two regional flyways for migratory birds also cross the

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1. World Bank. 1994. *Ukraine – Suggested Priorities for Environmental Protection and Natural Resource Management*. Two volumes. Report No. 1238-UA. June 15, 1994.

2. Mitigation measures included improved safety, water and energy conservation and greater attention to maintenance at individual industrial and municipal plants.

3. Ukraine has 22 designated protected areas. These include 15 strict nature reserves, 4 national parks and 3 biosphere reserves. In addition, there are many other protected landscapes, zoological and botanic gardens.

country, the birds being attracted by feeding and nesting sites around the Black Sea, particularly at Chernomorski and the Danube Delta.

The Danube Delta, shared between Ukraine and Romania, is the second largest wetland in Europe.<sup>4</sup> The Ukrainian part of the Delta and its associated wetlands cover some 150,000 hectares in the southwest part of the Odessa region. The Kiliya branch of the River Danube – taking 60 percent of the annual flow – forms the international boundary between Ukraine and Romania in the delta region. The relatively young evolving delta encompasses a large number of islands, marshes, tributaries and canals, lakes with aquatic plants and reed beds, and a mosaic of forests, grasslands, and dunes in the wetland area. These myriad habitats provide critical wintering and feeding habitat for about 320 of the 350 bird species in Ukraine, which include 42 globally-threatened species of birds in the Red Data List.<sup>5</sup> The Delta also has over 75 fish species and 47 species of mammal, some of which were also threatened. Over the last century the wetlands had been degraded by the construction of dikes and large-scale hydrological works for irrigation and navigation – even so, the area retained significant social, economic, and biodiversity values.

The Danube Plavni Reserve – a strictly protected area covering only about 10 percent of the Ukrainian Delta – was established as a branch of the general Black Sea Reserve in 1981, but in 1991 the Danube Plavni Reserve became a reserve in its own right by government decree. Under the control of the Institute of the Biology of the Southern Seas, whose main goal is scientific research, little attention was given to management of protected areas. Other Black Sea wetlands fell under the control of the Centre for the Ecology of the Seas that reported to the Ministry of Environmental Protection.

Human and economic pressure in the Danube Delta region was high and, with the downturn of the local economy after independence, the needs to strengthen conservation management and ensure its financial viability increased.<sup>6</sup> Specifically, the Danube Plavni Reserve needed to establish a buffer zone and carefully regulate fishing, hunting, grazing, and other wetland resources harvesting activities. In 1991 the Danube Delta was declared a Ramsar Wetland of international significance and an International Seminar was held in Romania to agree a series of management objectives for the delta.<sup>7</sup>

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4. The total area of the Danube Delta is 5,640 square kilometers of which about a fifth (1,220 square kilometers) lie in Ukraine, the rest in Romania. The Kiliya branch, the northernmost major tributary of the River Danube, conveys about 60 percent of the River Danube's annual discharge to the Black Sea.

5. The International Union for the Conservation of Nature's (IUCN's) Red List of *Threatened Species* provides taxonomic, conservation status and distribution information on taxa that have been globally evaluated using the IUCN Red List Categories and Criteria. This system is designed to determine the relative risk of extinction, and the main purpose of the IUCN Red List is to catalogue and highlight those taxa that are facing a higher risk of global extinction (i.e. those listed as Critically Endangered, Endangered and Vulnerable).

6. The Danube Plavni Reserve is uninhabited but the surrounding area of the Kiliya rayon has a population of 68,500 people, 11,000 of whom live in Vilkovo on the eastern edge of the reserve. About 50,000 hectares adjacent to the wetlands are irrigated and about 44,000 sheep feed on semi-natural rangeland. Shipping on the Danube employed about 2,000 people and commercial fishing a further 300. There were about 1,500 registered hunters in the area.

7. The objective of the internationally-agreed Convention on Wetlands is to halt the worldwide loss of wetlands and to conserve those that remain through wise use and management. The convention was held in Ramsar, Iran in 1971 and is universally known as the Ramsar Convention.

## 2. The Project

The original Danube Delta GEF Project planned assistance only to the Romanian part of the delta to raise the level of national and international interest in the protection and management of the delta. Subsequently, the scope of the Romanian project was amended to include Ukraine after it joined the Bank in 1992. Recognizing, however, that differing national institutions would make implementation difficult it was decided to have two parallel projects, one for Romania, and one for Ukraine. These Danube Delta Projects were designed as a pilot for a broader regional initiative with two other GEF regional projects, one for the Danube River basin, and one for the Black Sea.<sup>8</sup>

### OBJECTIVES

The GEF Trust Fund Agreement defined a very broad objective that was refined in the GEF Project Document and disaggregated into four sub-objectives in the ICR. Thus the global objective to support the Ukraine's efforts to protect and enhance the ecosystems and biodiversity of the Project Area was refined to include introduction of participatory management in order to protect the delta ecosystem and restore biodiversity within the broader context of the regional GEF programs. To achieve this objective eight components were agreed for the strengthening the Danube Plavni Reserve. Table 1 relates the objectives to components and costs.

### IMPLEMENTING ARRANGEMENTS

The executing agency was the Ministry of Environment and Natural Resources (MoE) through its Department of Protection, Use and Restoration of Natural Resources. The MoE appointed a small non-profit NGO to become the project implementation unit (PIU). The same NGO had served successfully in the same role for three earlier GEF projects. But the institutional arrangements were relatively complex because of the overlapping jurisdictions of different ministries and agencies.

At the start of the project, the Academy of Sciences of Ukraine managed the Danube Plavni Reserve as a part of its Chernomorskiy Reserve from its Odessa branch of the Institutes of Biology of the Southern Seas. Initially, the Reserve Authority had jurisdiction only over the land resources because fishermen based in Vilkovovo retained their historic fishing rights. The MoE's Ukrainian Scientific Centre for the Ecology of the Sea was the coordinating center for wetlands, their sustainable management, and (where appropriate) their reclamation. Accordingly, the Academy of Sciences and MoE agreed to coordinate research efforts in the reserve. To avoid the general ambiguity regarding overall control of project implementation in the field, the status of Reserve Authority was upgraded by the Academy of Sciences and the PIU was given overall authority for contracting. Several international NGOs also independently provided technical assistance to the Reserve Authority: the World Wildlife Fund (WWF) for wetland restoration and

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8. The Danube River basin project has attracted funding of US\$56.7 millions and focuses on preparation of an action plan, improved river basin management, a regional environmental survey, inventory of biological resources, strengthening monitoring, data management, and applied research. The Black Sea program, for US\$9.3 millions, has as its objectives reversal of environmental degradation of the Black Sea, and rational natural resource management, development of a pilot pollutant monitoring program, database, policy and legislative enhancement, preparation of investment proposals, and donor mobilization.

Birdlife International for bird monitoring and public awareness. Even so, 80 of the 127 weeks of technical assistance was provided directly by Ukrainian NGOs.

**Table 1: Project Objectives, Components, and Costs**

<i>Objectives</i>	<i>Components</i>	<i>Costs (000s)</i>	
		<b>Planned</b>	<b>Actual</b>
1. Strengthen the capacity of the Danube Plavni Reserve Authority (DPA) to expand and manage the protected area effectively and continue the activities during the operational phase	<b>Institutional strengthening.</b> Restructure and strengthen the institutional and operational capabilities of the DPA necessary for the development and implementation of effective management of the Project Area, including the provision of technical assistance, staff training, staff housing, office facilities, equipment and recurrent costs.	\$750	\$991
	<b>Strengthen the wardens section.</b> Strengthening the warden's unit through training, relocation of warden stations to more appropriate sites, construction of facilities, and provision of goods	\$167	\$275
	<b>Monitoring and Data Base Management.</b> Developing and carrying out a monitoring program, through improved population species inventories, ecosystems surveys, hydrochemical monitoring, vegetation mapping and development of an integrated database using a simplified geographical information system, to provide the basis for development of resource management plans, including the provision of technical assistance, staff training and goods.	\$110	\$193
	<b>Endowment Fund.</b> Developing and implementing legal, financial and administrative mechanisms necessary for the establishment of an endowment fund designed to finance the recurrent costs of managing the Project Area following the completion of the Project	\$12	0
2. Work with local community groups to introduce participatory protected area management to the Danube Delta and ensure sustainable resource use within it	<b>Public awareness and community participation.</b> Carrying out a program to increase public awareness of, and community and local non-governmental organizations involvement in, ecological protection, including the provision of technical assistance, training, equipment and goods.	\$131	\$91
3. Protect and enhance the Ukrainian portion of the delta ecosystems and contribute to conservation of biodiversity within the delta	<b>Pilot restoration activities.</b> Including a pilot program for wetland restoration, including the provision of studies, technical assistance, civil works and goods.	\$300	\$44
	<b>Create a Biosphere Reserve.</b> Developing and implementing a program for protected area expansion and creation of a biosphere reserve, through the preparation of management plans and maps, workshops, and seminars, including the provision of technical assistance	\$60	\$133
4. Coordinate the project with the GEF Romania Danube Delta Biodiversity project	<b>Coordinate with GEF activities</b> in Romania and the GEF Black Sea Environmental management Program	\$11	\$5
	<b>Price and Physical contingencies</b>	<b>\$195</b>	
	<b>Total Project Cost</b>	<b>\$1,737</b>	<b>\$1,739</b>

## IMPLEMENTATION

Implementation went smoothly with no major problems. Disbursement was slow due to the plethora of Ukrainian regulations and the PIU's unfamiliarity with the Bank's procurement policies and practice. The contract for a new headquarters building and separate accommodation had to be cancelled as it proved to be too expensive. A prefabricated building incorporating accommodation was built instead and existing apartments were purchased/renovated – this required a six-month extension of the project.

## 3. Evaluation

### Counterfactual

Without the project it was feared that the Ukrainian portion of the delta would not remain viable because the Reserve Authority did not have sufficient authority to resist the human threats (hunting, grazing, and fishing) to the reserve area, or the financial, physical, and human resources to manage the reserve effectively.<sup>9</sup> Additionally, it was believed that the Reserve Authority would be isolated from the European conservation mainstream, including work in the Romanian portion of the delta and the international conservationist NGO community.

Experience in the delta prior to appraisal justified these concerns, particularly the way in which the unprotected 9,700 hectares of the Stensovsko-Zhebriyanskie Plavni (SZP) was managed. This area forms the northern part of the delta discharging to Zhebranskie bay, just south of the beach resort town of Primorskoye. The SZP was one of the most important nesting places for birds in the delta region and relied upon the unrestricted flow of water into and out of the area. While the Zhebriyanskie dune habitat is mined for sand, ill-conceived advice and policies from departments of the former Ministry of Fisheries and the Ministry of Amelioration and Water Management led to dredging, canal construction, and dyking of the plavni to form rice paddies and fish ponds that continued until 1991. A very large canal was constructed from near the Lapytsh inlet to the Sasyk lagoon as a first link of the (now abandoned) intra-coastal Danube-Dniester connection and this cut the SZP into two halves. Polluted effluent from the rice paddies significantly reduced fish production and, in the summer, the stench adversely affected tourism in Primorskoye. Despite this problem water levels were artificially maintained by sluices to encourage breeding of muskrats even though the number trapped by hunters fell from 18,000 a year in the 1980s to only 2,000 a year in 1991. No opinion or advice from the local fishermen was sought by the central authority, and fishermen have reported a sharp decline in catches since the canals were built. Thus clearly conflicting interests of cultivators, hunters and fishermen had not been resolved.

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9. At appraisal the Reserve Authority had a total staff of 18 including 6 scientific researchers, 4 wardens and 5 administrative staff. The local population was 68,000 of whom 32,000 relied on the land for a living. The Reserve Authority had a small office in Vilkovo with no access to the water and no space to store equipment. Effective management of the Reserve Authority was estimated to cost \$47,000 a year – the actual budget was only \$3,000. Hunting in the delta produced 30,000 kills per year including birds and mammals. About a third of the fish caught from the river and interconnected waters (average 900 tons per year) came from the reserve area.

## Monitoring and Evaluation

While project inputs and outputs were adequately monitored, much greater attention was given to biodiversity monitoring and evaluation (component 3). Importantly, US\$193,000 (75 percent more than estimated at appraisal) was spent on ecosystem, biological and hydrochemical monitoring. External experts (WWF and others) were mobilized to bring the level of biodiversity monitoring and evaluation to international standards. The standards adopted generally comply with the Bank's guidelines for biodiversity projects.<sup>10</sup>

## OUTCOME

**The outcome of the GEF Danube Delta Biodiversity Project is rated moderately satisfactory at the time of this evaluation.** This rating is based on the relative importance of objectives, their relevance, and the efficacy and efficiency of efforts to achieve them (see Table 2). Objective 2 is given slightly more weight than objective 1 as described below.

OED's assessment adjusts the ICR's satisfactory outcome rating to moderately satisfactory, a rating not available to the ICR. The primary reason is that attempts to ensure participation of all stakeholders in the management of the Reserve were generally unsuccessful. The local population believes the Reserve Authority's regulatory activities reduce economic activities even while the economic fortunes of the region continued to decline. Thus their support for the construction of the Bustroy Canal through the center of the Reserve – and the jobs it may bring – is more important than their concern for the effects the canal would have on the viability of the biosphere reserve. The findings are elaborated below.

## RELEVANCE

**Overall relevance was high at appraisal and remains high.** The project design was relevant at appraisal to both the Bank's and Ukraine's evolving priorities for environmental protection and natural resource management (para. 2). Current relevance is reaffirmed by the government's commitment to protection of its natural resources. To date Ukraine has ratified 27 key environmental conventions and is the Party to 26 environmental conventions some. Practically all important international agreements in the domain of conservation and non-exhaustive use of biodiversity have become formalized through Ukrainian national legislation.<sup>11</sup> According to the recommendations of the Pan-European Strategy on Conservation of Biological and Landscape Diversity, a Ukrainian National Ecological Network 2000-2015 was developed and made effective (2000), the Law of Ukraine "On Ecological Network of Ukraine" (2004) was adopted, and the Concept of the State Program on Biodiversity Conservation was developed. To

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10. World Bank. Guidelines for Monitoring and Evaluation for Biodiversity Projects. Environment Department Papers. No. 065, June 1998.

11. EU Committee on Environmental Policy. 2004. Environmental Performance Review of Ukraine. 11<sup>th</sup> Session, Geneva, 13-15 October 2004. Agenda item No 4(a). Relevant international environmental agreements acceded to or ratified include: Agreements to protect and manage transboundary watercourses; Convention on Biological Diversity (Rio); Convention on Wetlands of International Importance as Waterfowl Habitat (Ramsar); Convention on the Conservation of Migratory Species of Wild Animals (Bonn); Convention on the Conservation of European Wildlife and Natural Habitats (Bern); Convention Concerning the Protection of World Cultural and Natural Heritage (Paris); and the Convention on access to information, public participation in decision-making and access to justice in environmental matters (Aarhus).

ensure sound management and preservation of biodiversity and landscapes of the Black Sea and the Sea of Azov, the government is in process of ratifying the Protocol on Biodiversity and Landscapes Conservation.

**Table 2: Ratings for Achievement of Project Objectives**

<i>Objectives</i>	<i>Relative Importance</i>	<i>Relevance</i>	<i>Efficacy</i>	<i>Efficiency</i>	<i>OUTCOME</i>
1. Strengthen the capacity of the Danube Plavni Reserve Authority (DPA) to expand and manage the protected area effectively and continue the activities during the operational phase	1	High	Substantial	Substantial	Satisfactory
2. Work with local community groups to introduce participatory protected area management to the Danube Delta and ensure sustainable resource use within it	1	High	Negligible	Modest	Unsatisfactory
2. Protect and enhance the Ukrainian portion of the delta ecosystems and contribute to conservation of biodiversity within the delta	3	High	Substantial	Substantial	Satisfactory
4. Coordinate the project with the GEF Romania Danube Delta Biodiversity project	4	Substantial	Substantial	Modest	Moderately Satisfactory
<i>Overall ratings</i>		<i>High</i>	<i>Modest</i>	<i>Substantial</i>	<i>Moderately Satisfactory</i>

## **EFFICACY**

Overall efficacy is rated modest taking into account the relative importance of objectives and their level of achievement.

### ***Objective 1: The capacity and credibility of the Danube Plavni Reserve Authority was strengthened***

Overall staffing numbers grew from 18 to 35 during the life of the project and increased ex-post to 47 in 2004 to fill the fully equipped and computerized headquarters building and accommodation provided by the project in Vilkovo. The number of scientists increased by half and a public affairs officer was appointed. More importantly, the number of wardens carrying out inspection and regulatory work increased almost fourfold to 14. There was also a marked increase in technical and support staff who now number 23. Why the Reserve Authority needs 6 engineers, 8 security guards, and 5 accounts staff is not clear.

Staff benefited from extensive overseas and in-country training that brought them into the mainstream of the European and international conservation community. This also allowed foreign wetlands management specialists and NGOs access to the Ukrainian Danube Delta, contributing to capacity and network-building and a better understanding of international wetland management practice. In addition to extensive English language training, scientists received about 580 person days of technical training that ranged from wetlands management and restoration, bio-business workshops, and management of protected areas and also included participation in a number of international workshops on wetlands. Some of this training was provided by the project, but there were substantive inputs from the Dutch Institute for Inland Water Management and Waste Water Treatment (RIZA), WWF and through a USAID-sponsored study tour of protected areas in the United States.

**The wardens are now effectively regulating the reserve** using boats, other equipment, the three wardens' stations and training provided by the project. Training was provided on-the-job, and in the Netherlands, France and Romania – the latter under a collaborative agreement with Romanian Danube Delta Biosphere Reserve, whose staff also received reciprocal training in Ukraine. The MoE also provided training and manuals to standardize wardens' skills and knowledge with protected area management practice within Ukraine.

**Efforts to upgrade and expand monitoring and database management were successful.** The major contribution of the project was to provide basic equipment (computers, software, geographic information systems, and email) that enabled reserve staff to more effectively apply their existing research skills and network with the global community of scientists. Importantly, monitoring and evaluation not only provided basic management data but also helped to define the strategy adopted by the management plan for the reserve. Project funding and partner international NGOs facilitated training and participation in conferences, efforts that led to more efficient ways of data analysis and dissemination and the use of feedback to improve research and database methodology. Among the many notable achievements the Reserve Authority, in association with the Romania Danube Delta Institute assisted by the Netherlands, produced in 2002 the first transboundary vegetation map of the whole Danube Delta.<sup>12</sup>

**An endowment fund was established and appears to be successful.** Although the technical assistance allocated for this component was not used, a fund was established by the Reserve Authority. Money generated from royalties from resource use, fees, and tourism is reportedly used to top-up the budget provided by the Ukrainian Academy of Sciences. Details of income and expenditure were unavailable to OED's team because the accounts and computers in Vilkoovo had been seized by the Ministry of Transport Police for use in criminal proceedings against the Reserve Authority (discussed in more detail under institutional development, para. 44).

***Objective 2: The project failed to work with local community groups to introduce participatory protected area management to the Danube Delta***

Public awareness of the mission of the Reserve Authority and the importance of biodiversity was raised through extensive outreach efforts by the reserve's staff. Staff represent

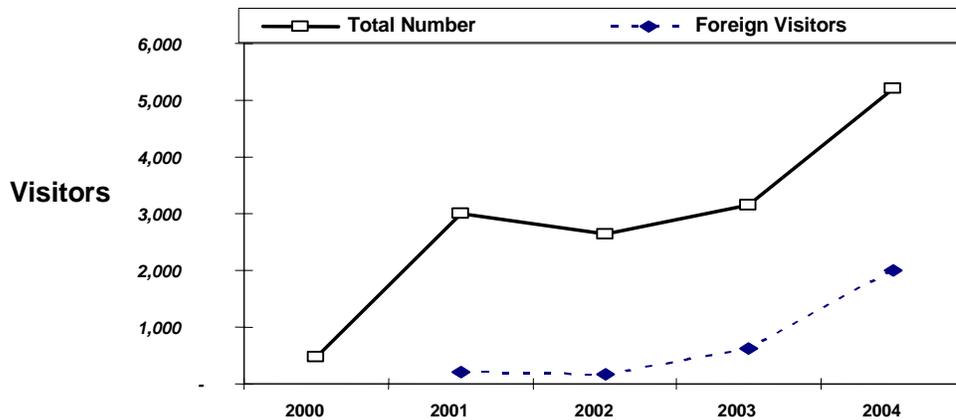
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12. Directorate-General for Public Works and Water Management (RIZA), the Netherlands. 2002. Vegetation of the Biosphere Reserve "Danube Delta." RIZA Report 2002-049, December 2002.

the Reserve Authority on Vilkoovo Council and on the committees of fishing and hunting associations. A large number of articles and some films on the Reserve have been publicized through local and national newspapers and TV.<sup>13</sup> A full-time publicity officer was appointed and a Reserve Authority Information-Tourist Center created from a former primary school in Vilkoovo town center. As a result, a greater number of visitors to the region are aware of the Reserve Authority's activities (Figure 1). The number of foreign visitors, representing 23 countries in 2001 and 40 in 2004, increased tenfold in the same period – the financial benefits this brought to the region are unknown. Some of this growth is due to the increased international attention following the Ministry of Transport's proposal to dredge the Bustroy Canal through the center of the reserve (para. 45).

In a notable initiative, a small grants program (\$5,000 per activity) started in 1998 and involved about 500 adults and children in 22 local conservation activities. The process of selecting eligible proposals from the 85 received illustrates the differing perspectives of locals and the Reserve Authority. The Authority tended to prefer activities led by Kyiv-based environmental NGOs because these reflected reserve priorities, not those of locals, a bias that was toned down after discussion with the Bank's supervision team. These details are well described in the ICR (para. 24) and are very much top-down and paternalistic in nature.

**Figure 1: There is growing interest in Ukraine's Danube Biosphere Reserve**



Source: Danube Biosphere Reserve Visitors' Book, 2004

In contrast to awareness raising, the project was unsuccessful in building local support for participatory protected area management. After delays caused by the attention given to staff training and procurement, reserve staff initiated (in 1996) surveys of individuals and groups in Vilkoovo to determine their views on the reserve, its function, and its relation to the local community. Latterly (1998), staff was reluctant to undertake public consultation and encourage participation until the biosphere reserve was established and a management plan became available for comment. Thus by the end of the project there was no participatory management – and six years later (2004) nothing has changed.

13. There was a trice-weekly newspaper column on the DPR in the Kiliya newspaper; and magazines and booklets were produced with the assistance of the WWF.

Stakeholders ascribe the lack of local participation in the biosphere reserve management to three principal causes. First, reserve management is seen as a prerogative of the Reserve Authority; second, regulatory activities are seen to restrict local income-generating and sporting activities; and third, the Reserve Authority has not created as much local employment as expected.

**State-employed experts do not have a culture of participatory management.** The Ukrainian Academy of Sciences is one of the most prestigious institutions in the country and employs the country's best scientists. As an elite organization its various specialist organizations – such as the Institute for the Biology of the Southern Seas and its offshoot the Danube Plavni Reserve – see pure research as their principal function. And a basic tenet of the UAS's natural biological research was that human interventions had to be strictly controlled by exclusion – hence its designation as a strict nature reserve. Thus the overall culture of UAS staff for the last 77 years has not considered local residents as stakeholders in its scientific management of biological reserve areas – traditionally local populations not only posed a threat to nature, they also had no scientific knowledge as a basis for sound decision-making. Consequently, the culture norm is that locals' views were (and are) irrelevant to the management of protected areas – the evolution of the small grants program (para. 25) highlights entrenched attitudes. Not surprisingly, the project's aim to diametrically change this perspective in five years was not successful.

There is a strong local perception that the Reserve Authority's regulation over an increasingly large area has led to a decline in traditional income-generating activities in the wetlands. With the establishment of the Danube Biosphere Reserve in 1998 (para. 33) the area under management and regulation increased and jurisdiction was extended to cover water as well as terrestrial resources. The most obvious impact has been in the Stensovsko-Zhebriyanskie Plavni where a return to the natural hydrologic regime has further reduced the muskrat population and placed greater limitations on shooting and grazing. Research established viable levels of cattle grazing on seasonally burned wetlands but these recommendations were ignored by farmers and the Reserve Authority had to crack down on offenders.<sup>14</sup> Fish catches in the Reserve have also declined (Figure 2). While locals blame the Reserve Authority's regulation, the Authority cites the increasing incidence of unregulated fishing and pollution of the Danube River by upstream riparians. The environmental impact assessment for the Bustroy Canal notes that fishermen increasingly avoid having to report catches to the Reserve Authority wardens' official fish catch stations.<sup>15</sup>

At the public launching of the GEF project in Vilkovovo many locals gained the impression that a good part of the \$1.5 million grant funds – huge in their terms – would benefit the local economy. This did not happen. Apart from the few locals directly employed by the Reserve Authority and the income brought into the community, there are no data on the incremental employment impact of the project except for partial data related to reed cutting. According to the Reserve Authority, the available workforce in Vilkovovo is about 4,000 of whom 1,000 people are

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14. For example in one area the agreed grazing intensity was one cattle head per hectare, in practice farmers exceeded seven per hectare and were prosecuted as a result.

15. Ministry of Ecology and Natural Resources of Ukraine. 2003. Environmental Assessment (EA) within the framework of the project "Creation of the Danube – the Black Sea deep-water navigable passage in the Ukrainian part of the delta. Stage 1" Report No. 1.3-19. Kharkov.

employed in reed harvesting within the reserve (November-March) and a further 300 over the period March-July on cleaning and bundling reeds for export. About 3,000 are mostly unemployed (because of the downturn in Danube shipping and related industries) or are engaged in small micro-enterprise activities such as apiculture, wood cutting, and collection of forest products – much of it within the reserve. Formerly reed harvesting was a state cooperative enterprise, the value added by the GEF

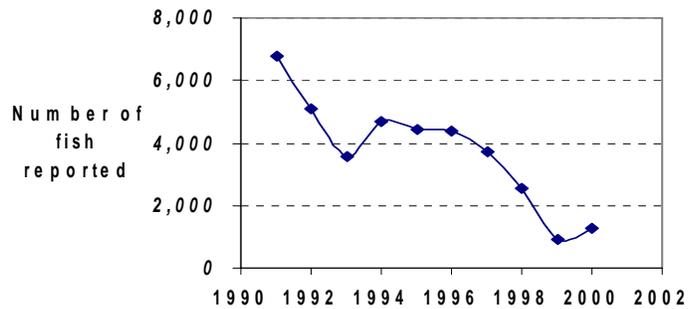
project being to improve harvest efficiency and initiate exports that increased fivefold between 1995 and 2004. The royalty paid to the Reserve Authority provides a substantial part of its income, reportedly giving rise to some resentment by local councilors.<sup>16</sup> Overall, the conclusion is that stakeholders see the Reserve Authority as managed by a relatively privileged group of outsiders who have done little to further their economic interests. In consequence, the Reserve Authority has become the target for local grievances – rightly or wrongly – due in many instances to the effects of cessation of guaranteed employment in state enterprises and a declining regional economy.

***Objective 3: The project contributed to conservation of biodiversity and enhanced ecosystem protection in the Ukrainian Delta***

The Danube Plavni Reserve was enlarged to give it greater protection and its status was elevated to an internationally recognized biosphere reserve. The MoE's rationale and justification for enlargement, put forward in 1996, was based upon the scientific work facilitated by the project and consultation with all stakeholders that ranged from the Oblast government to local hunting and fishing organizations. However, plans to include surrounding agricultural areas falling within the drainage area affecting the reserve's lands (so that they could regulate land practice, fertilizer and herbicide and pesticide application) failed because of strong local opposition and fear of economic consequences.

The 1998 enlargement of the original Danube Plavni Reserve, that now forms the core of the Danube Biosphere Reserve, increased the managed area from 14,851 hectares to 46,400 hectares and included channels, interior ponds and a two kilometer strip of the Black Sea adjacent to the delta. The strictly protected core is surrounded by the regulated zone of the Stensovsko-Zhebriyanski Plavni (7,811 hectares that was transferred from the Ministry of Forests) and a buffer zone of 19,687 hectares. A further 4,054 hectares that includes vegetable gardens and pasture was designated an anthropogenic landscape.<sup>17</sup> As a result, human activities in 49 percent of the enlarged reserve (22,659 hectares) are either banned or strictly regulated,

**Figure 2: Reported Fish Numbers in the Danube Biosphere Reserve**



16. A million bundles were harvested in 2003/04 and were exported to the Netherlands (Hidhoorn City) at €1.65/bundle. Transport accounted for €0.6, the reed cutting enterprises got €0.25. The Reserve Authority's royalty was €0.04/bundle amounting to €40,000 in 2003/04.

17. Decree of the President of Ukraine No 861/98 placed the Danube Biosphere Reserve under the management of the Academy of Science of Ukraine. August 10, 1998. UNESCO certified the reserve on February 2, 1999.

while the rights of traditional land use and ownership (by either collectives or the Ministry of Forests) were retained in the remaining area. Tourism access to the strictly protected parts of the reserve is only possible under the strict supervision of the Reserve's wardens.

In 1999 UNESCO accorded the Danube Biosphere Reserve the status of an international biosphere reserve and also recognized the delta shared by Romania and Ukraine as the transboundary Biosphere of the Danube Delta – one of the five transboundary biosphere reservations in the world.

In recognition of their importance, the wetlands of the Danube delta were also added to the Global 200 list of the world's most valuable wetlands notable for their high biodiversity. The Global 200 list is a science-based global ranking of the Earth's most biologically outstanding terrestrial, freshwater, and marine habitats, providing a framework for biodiversity conservation at a global scale.<sup>18</sup>

Physical activities financed by GEF to aid conservation were substantially reduced (by 85 percent) and much of the proposed work was done in partnership with other bilateral and international agencies. Primary reasons for the reduced GEF input were cost overruns on capacity building and the new prefabricated headquarters building, and changing priorities as the project matured. Even so, the project financed \$50,000 to initiate restoration of the Stensovsko-Zhebriyanskie Plavni, a task successfully continued by RIZA and WWF-International.

***Objective 4: Successful coordination with the GEF Romania Danube Delta Biodiversity project has grown into a working relationship based on common goals***

Reciprocal visits by Romanian and Ukrainian scientists and wardens took place early in the project and some training activities were shared (para. 21). Major impediments that were partly overcome included the difficulties of border transit, the lack of foreign exchange on the Ukraine side and historical precedents that made cross-border collaboration difficult. Even so, since the initial meetings there has been fairly extensive scientific collaboration leading to joint publications and research. More recently EU-TACIS financed four workshops in 2003 dealing with transboundary cooperation in Romania, Ukraine, and Moldova in which 250 specialists debated the existing conditions in each reserve, identified needs for cooperation in adjacent areas and harmonization of the legal framework related to conservation. Objectives for integrated management of transboundary biodiversity areas were agreed.<sup>19</sup>

## **EFFICIENCY**

**The overall efficiency is rated as substantial.** Being primarily a capacity-building project, a formal economic rate of return was not estimated at either appraisal or completion and

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18. The Danube Biosphere Reserve is Global 200 EcoRegion Developed by WWF scientists in collaboration with regional experts around the world, the Global 200 is the first comparative analysis of biodiversity to cover every major habitat type, spanning five continents and all the world's oceans. The aim of the Global 200 is to ensure that the full range of ecosystems is represented within regional conservation and development strategies, so that conservation efforts around the world contribute to a global biodiversity strategy.

19. TACIS. 2004. *Transboundary Cooperation in the Nature protected Areas in Danube Delta and Lower Prut - Management Objectives for Biodiversity Conservation and Sustainable Development*. The TACIS Programme is an EU initiative for the New Independent States and Mongolia aimed at fostering harmonious and prosperous economic and political links by supporting partner countries' initiatives.

efficiency is rated on cost-effectiveness. Efforts to improve the capacity and elevate the status of the Reserve Authority, accounting for 92 percent of project costs, were conducted very efficiently primarily because of the high degree of coordination among the principal actors (the Reserve Authority, government, national and international NGOs, and RIZA) and agreement on well-defined objectives. Conversely, the efficiency of the components dealing with community participation and coordination with Romania, accounting for five percent of costs, is rated modest because the transaction costs were relatively high compared with achievements.

### **INSTITUTIONAL DEVELOPMENT IMPACT**

**Overall institutional development impact is rated as substantial.** The project supported creation of an administratively and technically viable Reserve Authority with enhanced legal authority to implement its mandate to protect and conserve biodiversity in the Danube Delta. From being relatively unknown, in fewer than six years the Danube Biosphere Reserve has become internationally recognized and supported. Additionally, strong links have been created and maintained with national and international NGOs, pan-European organizations, and bilateral donors interested in promoting wetlands and biodiversity. These links not only stimulated growth of the Reserve Authority but more recently they have assisted in publicizing the Bustroy Canal proposal that threatens integrity of the reserve.

One aspect of institutional development, participatory management, is rated modest at best. Many of the reasons for this are clear (paras. 26-30). A slightly different governance structure in which the management of the reserve and regulation are clearly separated from the science and conservation functions could help. A non-technical managerial authority could act as interlocutor between monopolistic concerns of the scientist and the concerns of the local communities – the experience of such a set-up in the much larger Romanian portion of the Danube Delta works well.

### **SUSTAINABILITY**

**Sustainability is rated as unlikely.** If the OED assessment had been based on the Reserve Authority's performance until 2002, then sustainability would have been rated likely. Until then government and MoE support for the reserve was unwavering. The Reserve Authority had enlarged and legally secured the integrity of the biosphere reserve, budget support from the Academy of Sciences was assured, and income generated within the reserve from licensing, reed cutting, and tourism filled the gap between the central budget contribution and total running costs.

In March 2004 Ukraine's Cabinet of Ministers unilaterally endorsed the Ministry of Transport and Communication (MoT) put forward a proposal to canalize the Bustroy distributary, thus cutting the core of the reserve in half.<sup>20</sup> The decision to construct the 7.6-meter-deep Bustroy Canal overrode international concerns about the process and transparency of this decision, specifically the consideration of alternatives. To facilitate the canal construction, the MOT had a Presidential Decree issued alienating the lakes and waterways and a 100-meter strip of adjacent shores from the biosphere reserve, thus making nonsense of the reserve's *raison*

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20. The Decree of the President of Ukraine No. 502/2003, Decree of the Cabinet of the Minister of Ukraine No. 598-r, dated 13.10.2003 and as amended by Presidential Decree No. 117/2004.

*d'etre*. The MOTC justified this decision by invoking: (a) the strategic importance of navigation to Ukraine; (b) the need to challenge Romania's near-monopoly on international trade on the Danube River; and (c) the imperative to rejuvenate the economy of Pridunajskogo region of southwest Ukraine.

A series of environmental impact assessments (EIAs) commissioned by the MOT eventually raised no objection to proceeding with the canal proposal. Reviews by local and international environmentalists, and officials of the international biodiversity conventions ratified by Ukraine, found the EIA faulty and insufficiently robust. Specifically, they alleged that the terms of reference were too narrow, and that the MOT repeatedly tendered the EIA until they got the result they required. The Ukrainian Academy of Sciences and the Reserve Authority hold the same opinion. The Ministry of Environment supports the MOT's position. There was no economic appraisal. Physical work on the canal – estimated by MOT to cost about US\$40 million at completion – started on May 24 and it was officially opened by President Kuchma on August 26, 2004. A rapid appraisal by the Council of Europe put the total capital cost at €30-40 million (US\$38-50 million) and annual maintenance at €0.25 million (US\$0.3 million).<sup>21</sup>

There is now doubt that the reserve will be managed sustainably. In response to the public objections of Reserve Authority staff and the Ukrainian Academy of Sciences, the MOT Transport Police, alleging accounting irregularities by staff of the Academy of Sciences, raided the Biosphere's office (built and equipped by the GEF/Bank project) in 2 November 2004 and seized computers, correspondence and 340 volumes of account files. All financial activities were halted, including the ability to pay staff and purchase fuel for the wardens' transport.<sup>22</sup> The day before OED's visit (November 17), the MOT Police threatened to arrest the Director of the Biosphere Reserve unless he endorsed the canal (and voted for Yanukovich) and tried to arrest the finance director (who was absent in Odessa) on unspecified corruption charges. The local population is against the reserve. Local people used to work in harmony with the reserve, but they have been recently swayed by adverse propaganda into believing that the strict management and regulation of the reserve threatens their livelihood and the 1,000 to 1,500 jobs the Bustroy Canal and the port work may potentially provide. A result of these police actions and adverse publicity is that reserve management is starved of the income it generated from providing licenses for regulated harvesting of the natural resources of the biosphere (mainly fishing, reed cutting, and tourism).

The Ukrainian Academy of Sciences alerted local and international NGOs to the Bustroy Canal issue, the threat to the reserve, the lack of a transparent EIA process, and the implications for good governance in Ukraine. Several thousand letters from around the world have been sent to government raising concern about these issues.<sup>23</sup> UNESCO (Man and Biosphere Programme) and the Ramsar Convention sent a delegation in October 2004, and the European Commission's Directorate of Environment sent delegations to Ukraine in July and October 2004. In

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21. Council of Europe. 2004. Secretariat Memorandum T-PVS/files(2004) 3. Convention on the Conservation of European Wildlife and Natural Habitats. *Report on the Shipping Canal in the Bystre estuary, Danube Delta, Ukraine – Report of the on-the-spot appraisal by M. Herve Lethier (22-24 July, 2004)*.

22. BirdForum. 2004. [www://birdforum.net/archive/index.php/t-26699](http://birdforum.net/archive/index.php/t-26699) and personal communication Alexander Voloshkevick, Director of the Danube Biosphere Reserve Authority.

23. Between May 1 and November 2004 there were 51,024 comments from 90 countries. [www.petitiononline.com/RomDELta/petition.html](http://www.petitiononline.com/RomDELta/petition.html).

consequence, the EC asked for “reassurances [from Ukraine] confirming its intention not to proceed further with this project pending preparation of a proper Environmental Impact Assessment to international standards.” No such reassurance has been given.

There may be a transboundary effect on Romania, increased sediment transport through the deepened Bustroy channel increasing sedimentation and sand bars in the coastal area south of the outlet to the Black Sea, and this may potentially hinder navigational access to the Selima Branch of the Danube, an international waterway. Consequently, Romania has made a series of formal objections and these have rested with the Ukrainian Prime Minister since June 2004.

Construction of the Bustroy Canal without adequate consultation allegedly violates a number of international conventions signed by Ukraine, including:

- The Ramsar Convention on Wet Lands, 1971
- The Paris Convention on the Protection of the World’s Cultural and Natural Heritage, 1975
- The Bern Convention on the European Wildlife and Natural Habitats Protection, 1979
- The Rio de Janeiro Convention on Biological Diversity, 1992
- The Helsinki Convention on the Protection and Use of Transborder Waters and International Lakes, 1992
- The Sophia Convention on the Cooperation, Protection and Durable Use of the Danube River, 1994
- The Agreement between the Romanian Government and the Ukrainian Government on cooperation in the management of transborder waters, Galati, 1997

There is thus a question of principle: will Ukraine abide by international conventions and agreements it signs?

The new Yushenko government, after initially announcing it would finalize the construction, softened its stance in March 2005 after the international Compliance Committee of the Aarhus Convention found Ukraine liable for violation of the Convention (February 2005).<sup>24</sup> Following a site visit, the Minister of Transport announced at a meeting in Odessa that the government is going to analyze all consequences and issues around the canal, including environmental impact and compliance with international agreements. The EIA documentation for the second and last stage of the canal was given for public review in December 2004, and in September 2005 the government plans to organize a conference on development of the Danube region. Even so, ships still go through the canal, there has been no annulment of the Presidential Decrees cutting the reserve in half and the criminal prosecution against the Reserve Authority brought by the MOT continues.

## **BANK PERFORMANCE**

**Overall Bank performance is rated as satisfactory.** The project was thoroughly prepared and drew extensively on the experience of the biodiversity issues found when designing the Romanian Danube Delta Biodiversity Project. Thus the project design provided the basis for a coherent approach to biodiversity conservation in the region. Supervision was very effective

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24. Personal Communication. Dr. Andriy Andrusevych, Executive Director of Ecopravo-Lviv (Environmental Public Advocacy Center). April 10, 2005.

and all Ukrainian officials and Reserve staff were very complimentary about the quality, knowledge, and experience of Bank staff, their understanding of local issues and problems, and their ability to work at the local, national, and international levels and bringing NGOs, government, and other donors to assist development of the Reserve Authority. The only shortcoming was that supervision was sidetracked by procurement problems related to new Ukrainian legislation at a time when the project needed more attention to developing instruments for participatory management.

### **BORROWER PERFORMANCE**

**Borrower performance is rated as unsatisfactory.** The Ukrainian Academy of Sciences and its Reserve Authority staff performed exceedingly well during project preparation and implementation. This wealth of expertise, enabled by the project funding, led to the production of scientific work, research, and conservation to international standards. Reserve Authority staff have actively engaged in international exchange and cooperation to enhance their skills and the management of the Reserve. The major shortcoming has been that the more purist outlook of the Reserve Authority's scientific staff sometimes conflicted with the practical aspects of making a reserve viable, specifically developing working partnerships with the surrounding communities and participatory management of the biosphere reserve. In consequence, the Reserve is not managed according to all accepted biosphere principles (Table 3.)

**Table 3: UNESCO's principles of Biosphere management are only partially addressed**

<i>Definition: A biosphere reserve is a unique concept which includes one or more protected areas and surrounding lands that are managed to combine both conservation and sustainable use of natural resources.</i>	
<i>Principles</i>	<i>Current Status</i>
Each biosphere reserve conserves examples of characteristic ecosystems of one of the world's natural regions, managed for their protection and study.	Yes but under threat from the Bustroy Canal
It is a regional centre for monitoring, research, education and training on natural and managed ecosystems.	Yes
It is a land and/or coastal/marine area in which people are an integral component, and which is managed for objectives ranging from complete protection to intensive yet sustainable production.	No, people are missing
It is a place where government decision makers, scientists, managers and local people cooperate in developing a model program for managing land and water to meet human needs while conserving natural processes and biological resources.	No, local people are missing
Finally, each biosphere reserve is a symbol of voluntary cooperation to conserve and use resources for the well being of people everywhere.	Voluntary cooperation is limited to NGOs

The government was very supportive of the project at inception and through implementation, and worked hard to pass the required legislation to create the Biosphere Reserve. Counterpart funding, despite financial difficulties at the center later in the project, was timely and according to plan, demonstrating the government's continued ownership of the project. This status continued for four years after project closure, but in 2003 the Ministry of

Transport prevailed in their determination to construct the Bustroy Canal. This not only had severe ramifications for the integrity of the Biosphere Reserve, it also ran counter to a number of international agreements that Ukraine had acceded to since Independence. It also set the Academy of Sciences and the Ukrainian NGO and international NGO communities against the Kuchma government. Thus the future of the Reserve and its staff is in some doubt, accentuated by the government's subsequent unilateral actions. As a result borrower performance is rated as unsatisfactory despite the generally good record of the implementing agency.

#### 4. Findings and Lessons

The objective of the project to establish a viable biosphere reserve was substantially established but with some shortcomings, the main one being very modest progress on developing stakeholder participation in the management of the reserve authority.

The organizational setup of the Reserve Authority in which the Academy of Sciences manages the reserve and scientific research is not working well as it creates a number of conflicts of interest between the scientific agenda and management needs. A better model may be to set up a separate reserve management authority that deals with administration, public relations, territorial access, and regulation and this could be staffed and managed by the Ministry of the Environment that has the greater public interest as one of its responsibilities. The Academy of Sciences could then establish a biosphere reserve scientific institute to deal with the scientific aspects of research and conservation. Such a model has been successfully adopted in Romania.

More attention to involvement of local stakeholders in the management of the reserve might have reduced the perceptions that the reserve staff is a fairly elitist group who are not concerned with the local economic interests. Because this was not done, the MOT found local communities willing to support their proposal to cut the reserve in two because it potentially better served the locals' economic interest. The prosecutions brought against the reserve authority were based on allegations brought by local citizens that the Reserve Authority was misappropriating revenues generated by activities in the Biosphere Reserve. These allegations are strongly denied by the reserve staff who allege political intimidation, and the matter is still *sub judice*.

Participation of stakeholders in project design and implementation was a new practice in the early 1990s when this project was being designed and it took several years to understand what works best. Comprehensive evaluation of participatory experience only started to emerge in 1997 following a number of studies by the Bank, GEF and OED's thematic study *Participation Process Review* (2001.)<sup>25</sup> More recently, UNDP/GEF produced guidelines to improve the design

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25. The World Bank. 1997. A Review of Participation in the World Bank's GEF Portfolio. Environmental Department Dissemination Notes. No.52. March 1997.

The World Bank. 2002. Biological Resource Management – Integrating Biodiversity Concerns in Rural Development Projects and Programs. Robin Grimble and Martyn Laidlaw. Environment Department Papers. Paper No. 85. January 2002.

The World Bank. 2004. Participatory Conservation for Protected Areas – An Annotated Bibliography of Selected Sources (1996-2001). Nancy Diamond, Elisabeth Nkrumah and Alan Isaac. Environment Department Papers. Paper No. 95. January 2004.

of small business development strategies in biodiversity projects, recognizing that sustaining benefit streams for local stakeholders is a key development challenge.<sup>26</sup> Many of their findings resonate with the lessons derived from this evaluation. These are to build participation as soon as possible and recognize that significant project resources may be needed for local capacity building; use neutral parties to engender participation; seek ways to increase income potential from ecosystems targeted for conservation; provide alternatives to biodiversity-damaging activities; and generate sufficient income at the boundary of protected areas to reduce encroachment.

The Bustroy Canal, which splits the strict reserve area into two, raises two questions. First, how big should a protected area be to remain viable for biodiversity conservation? Second, what should be the scope of an EIA of infrastructure development affecting protected areas?

More research may be needed to correctly size the Danube delta biodiversity conservation area in Ukraine - the strictly protected area at almost 15,000 ha forms about a third of the biodiversity conservation reserve. Conversely, in the almost identical landscape in the Romanian portion of the delta, their 15 strictly protected areas in total cover less than ten percent of the total reserve area, ranging from 50 ha to 21,410 ha.<sup>27</sup> It is unclear how far the size of these various areas meets the criteria for well-designed conservation landscapes. Are there with representative systems of conservation areas of sufficient size, condition and connectivity to maintain even the most sensitive species and ecological process?<sup>28</sup> Part of the MOT's argument in favor of the Canal is that the Romania delta reserve is bisected by the Sulima Canal with few ill effects and that their apparently viable strictly reserved subareas are on average smaller and widely dispersed. Thus a first step in making a decision about the environmental impacts of the Canal on biodiversity would be to identify the critical delta ecosystems that need protection and directing scientific research to scale the area of contiguous habitat needed to maintain them.

A whole series of regional development issues may also affect the future viability of the Danube Biosphere Reserve. Many of the objections to the canal proposal are based on lack of due process and the very narrow scope of the environmental impact assessment that only looked at the local economy rather than looking at a more regional level that is necessary to fully understand the dynamics of the Black Sea – Danube navigational system.

### **The Future – Should the Bank Get Involved?**

The Bustroy controversy raises four issues that are germane to the Bank's mission in Ukraine:

- The Canal has potentially adverse effects on the sustainability of a completed GEF/Bank investment.
- It is important that Ukraine abides by the international agreements and conventions it has signed.

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26. UNDP/GEF. 2003. Local Business for Biodiversity Conservation. Andrew Bovanick and Ajay Gupta (Authors). August 2003.

27. Strictly protected area Nos. 8 (Arinişul Erenciuc) and 10 (Sacalin-Zătoane).

28. Olsen, David M., E. Dinnerstein, G.V.N. Powell and E.D. Wickramanayake. 2002. Conservation Biology for the Biodiversity Crises. Conservation Biology Editorial. Vol. 16, No. 1, pages 1-3, February 2002.

- Fighting corruption, ensuring good governance and promoting the rule of law are key to the sustainability of the Bank's investments.
- Important investment decisions should be made only after sound economic, environmental, and social appraisal to ensure the best use of resources and stakeholder buy-in. Failing to ensure that Ukraine applies the highest standards to investment decisions affecting a GEF/Bank financed project would send the wrong signal to government.

### **WHAT VALUE WOULD THE BANK ADD?**

The Bustroy Canal is a reaction to inadequate economic development in the Pridunajskogo region of southwest Ukraine, motivated by frustration that Romania is getting the lion's share of the Danube navigation and transit benefits, a sense that Ukraine must secure its frontier against the incursion of the expanded EU, and anger at having to pay an estimated US\$1 million/year in transit fees to Romania. In reality, however, the Bustroy Canal may become irrelevant as the Black Sea-Danube regional navigation system continues to evolve. The Bank is uniquely placed to bring cross-sectoral perspective to the table and an integrated approach to a transboundary problem.

### **WHAT SHOULD BE CONSIDERED?**

**Put the Bustroy Canal in context.** The real issue is not environmental but one of regional economic development and trade. Navigation is just a means to achieving these broader objectives and the investment decision should be based on the benefits and costs of navigation, taking environmental aspects into account. The demand for local navigation via the Danube river in the Ukraine, Moldova, and northeastern Romania needs to be carefully appraised. The MOT is arguing that towns along the Ukrainian part of the Danube (Izmail and Reni) are in economic decline because of silting of the "Ochakivsky Rukuv" waterway and the Porva Canal, and the high cost of using the Selima Canal in Romania to reach these towns. In practice, it could be that navigation has declined because of falling production in the region. It is, of course, possible that production will increase in the future, but this needs to be assessed based on likely regional development scenarios. Few foreign ships use the Ukrainian access to the Danube because transaction costs are high and there is little economic activity. Even so, MOTC believes the Bustroy Canal is needed because (according to them) Danube transportation tonnage will increase 300 percent by 2015, attracting foreign ships to Ukrainian navigation from the Romanian Danube transport system.

**The Bustroy Canal is unlikely to be competitive for regional cargoes.** The Black Sea-Danube navigation system will be upgraded in the medium term and this will make the Danube Delta portion redundant except for local shipping. The Danube flows easterly along the southern border of Romania and at Cernovoda in Romania, 65 kilometers from the Black Sea, it turns north to flow another 300 kilometers before discharging through the Danube Delta. The Constanta Canal, 7 to 8.5 meters deep and capable of taking 5.5-meter draft ships, connects Cernovoda via a single set of lock gates to Constanta, Romania's biggest port in the western Black Sea. Thus the Constanta Canal saves 300 kilometers of slow river navigation and avoids time-consuming Ukrainian customs and immigration checkpoints. There are discussion in

Romania about upgrading the Constanta Canal by improving the lock and increasing the draft would enable it to cater for all potential users of the canal except those wanting to dock in Ukraine and Moldova.

**Determine the true costs of the canal proposal and realistic alternatives.** Current cost estimates for the Bustroy Canal are confined to engineering the canal and do not include operation and maintenance or other costs (e.g., environmental). Given that some cargoes will need to be transferred from deeper-draft ships, a transfer port facility plus support infrastructure would also be needed and this would probably be located in the reserve area. Thus the cost base needs comprehensive appraisal. Determining the likely environmental impacts (and benefits) will require transboundary analysis not just of the impacts on the biosphere reserves, but on the region as a whole. This would include modeling the effect of deepening the Bustroy channel on the regional flow patterns and water quality in the Danube distributaries. Changed flow regimes would also affect the delta and near-shore sedimentation patterns and may affect navigation in Romania. Changed water quality could affect seasonal fish-spawning patterns, fish stocks, aquatic flora, and bird migration and breeding patterns.

## LESSONS

Experience with this project confirms a number of OED lessons:

- Biodiversity conservation cannot be carried out in isolation. It has to be integrated within the economic interests of local and regional communities. Resentment is created when financing of nature conservation appears to have preference over unmet local needs, be it delivery of basic services or employment. Failure to integrate local interests in the conservation and management strategy of a biosphere reserve can endanger its longer-term sustainability.
- Conservation areas will be sustainable only if there is good management and sufficient funding to maintain it. Thus it is incumbent upon GEF project designers to facilitate establishment of sound management and governance arrangements that include local stakeholders and promote income-generating activities that will provide sustainable income for management.
- Biodiversity conservation may require trade-offs, particularly on the size of the restricted area in which all economic and human activities are banned. Too large an area creates very high overheads on policing and regulation and possibly strong local opposition that may undermine longer-term sustainability. The size of the area depends on the conservation objectives. Thus there should be sufficient funding and time to facilitate agreement on the species and/or landscape that are the targets of conservation, and for research to determine required minimum viable habitats/landscapes and their connectivity to larger-scale ecosystems.
- When establishing biodiversity reserves it is important to promote networking of the reserve staff with the national and international NGOs and promote recognition by international conventions. By doing so, a supportive network can be created that can quickly mobilized to support the objectives of conservation management should these be threatened by political, financial, or disaster-related events.

## Annex A: Basic Data Sheet

### UKRAINE DANUBE DELTA BIODIVERSITY PROJECT (GET GRANT 28654)

#### Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	1.54	1.74	113
Loan amount			
Cofinancing	--	--	--
Cancellation	--	0.01	--

#### Cumulative Estimated and Actual Disbursements

	<i>FY93</i>	<i>FY94</i>	<i>FY95</i>	<i>FY96</i>	<i>FY97</i>	<i>FY98</i>	<i>FY99</i>	<i>FY00</i>
Appraisal estimate (US\$M)	0	0.2	0.6	1.1	1.4	1.6	1.6	1.6
Actual (US\$M)	0	0.1	0.4	0.7	0.9	1.4	1.6	1.6
Actual as % of appraisal	-	50	66	64	64	87	100	100
Date of final disbursement:	June 4, 1999							

#### Project Dates

	<i>Original</i>	<i>Actual</i>
Initiating memorandum	11/01	11/91
Appraisal	9/93	9/93
Negotiations	4/94	5/94
Board approval	4/94	07/19/1994
Signing	4/94	7/94
Effectiveness	4/94	8/94
Closing date	12/98	6/99

#### Staff Inputs (staff weeks)

	<i>Planned</i>		<i>Actual</i>	
	Weeks	US\$	Weeks	US\$
Preparation to appraisal	Na	Na	12.5	37100
Appraisal	Na	Na	0.3	6000
Negotiations thru board	Na	Na	0.6	2000
Supervision	Na	Ba	61.7	209800
Completion	8.7	28100	8.0	29800
Total	--	--	84.1	284700

## Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Staff days in field</i>	<i>Specializations represented</i>	<i>Impelem. status</i>	<i>Dev Oectives</i>	<i>Types of problems</i>
Identification/ Preparation	Na	Na	Na	E, B			
Appraisal	Na	Na	na	E, B			
Supervision	9/94	6	8	E, B, P	S	S	P
	12/94	1	6	B	S	S	P
	6/95	2	3	B, E	S	S	P
	6/96	1	7	B	S	S	
	2/97	2	8	B	S	S	P
	5/97	2	8	B	Na	Na	
	6/97	4	11	B, C	S	S	
	2/98	3	12	B	S	S	
	7/98	2	7	B	S	S	
	9/98	1	1	B	S	S	
Completion	4/99	2	7	B	S	S	

E= Economist, B=Biodiversity/Wetlands Specialist, p= Procurement Specialist, C = Construction Specialist,  
S = Satisfactory, P = Procurement

## Other Project Data

Borrower/Executing Agency:

### *FOLLOW-ON OPERATIONS*

<i>Operation</i>	<i>Credit no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
Donetsk Environment Project	na	na	na
Biodiversity Conservation in the Azov-Black Sea Cooridor	TF28267	32.5	1/22/2002

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