1. Project Data

Summary project data			
GEF project ID		1750	
GEF Agency project ID		68239	
GEF Replenishment Phase		GEF - 3	
Lead GEF Agency (include all for joint projects)		World Bank	
Project name		Lake Dianchi Freshwater Biodiversity Restoration Project	
Country/Countries		Peoples' Republic of China	
Region		East Asia and Pacific Region	
Focal area		Biodiversity	
Operational Program or Strategic Priorities/Objectives		OP2 - Coastal, Marine and Freshwater Ecosystems	
Executing agencies involved		Kumming Institute of Zoology (KIZ)	
NGOs/CBOs involvement		Alliance for Religions and Conservation/Buddhist Association [Through consultation]	
Private sector involvement		No private sector involvement	
CEO Endorsement (FSP) /Approval date (MSP)		7/23/2002	
Effectiveness date / project start		03/23/2003	
Expected date of project completion (at start)		2/28/2007	
Actual date of project completion		6/30/2008	
Project Financing			
		At Endorsement (US $M)	**At Completion (US $M)**
Project Preparation Grant	GEF funding	0.022	U/A
	Co-financing	0.002	U/A
GEF Project Grant		0.975	0.975
Co-financing	IA/EA own		U/A
	Government	0.855	U/A
	Other*	0.005	U/A
Total GEF funding		0.997	0.975
Total Co-financing		0.860	1.531
Total project funding (GEF grant(s) + co-financing)		1.857	2.506
Terminal evaluation/review information			
TE completion date		October 28, 2008	
TE submission date			
Author of TE		Ross Hughes	
TER completion date		12/12/2013	
TER prepared by		Inela Weeks	
TER peer review by (if GEF EO review)		Joshua Schneck	

*Includes contributions mobilized for the project from other multilateral agencies, bilateral development, cooperation agencies, NGOs, the private sector, and beneficiaries.

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF EO Review
Project Outcomes	S	S	Not reviewed	MS
Sustainability of Outcomes	S	ML	Not reviewed	ML
M&E Design	N/A	Not rated	Not reviewed	MU
M&E Implementation	MS	Not rated	Not reviewed	MU
Quality of Implementation	N/A	S	Not reviewed	MS
Quality of Execution	S	S	Not reviewed	MS
Quality of the Terminal Evaluation Report	N/A	N/A	Not reviewed	MS

3. Project Objectives

3.1 Global Environmental Objectives of the project:

According to the Project Document approved by the CEO, the overall outcome of the project was to conserve and maintain and/or enhance the globally important biodiversity of Lake Dianchi. The Lake Dianchi basin is a 'hotspot' of freshwater biodiversity with 24 indigenous fish species, at least 11 of which are endemic, and dozens of endemic mollusc and crustacean species. Declining water quality, loss of natural habitats, competition from exotic species for food and living space, and possibly introduced diseases and parasites have combined to threaten the indigenous fauna and flora, resulting in the apparent extinction of at least some of the endemic species.

3.2 Development Objectives of the project:

The objective of the project was to restore and manage habitats around the lake in order to secure the conservation of the remaining endemic species of Lake Dianchi and its immediate tributaries. This was to be achieved by providing suitable breeding habitat, comprehensively surveying the biological environment of the Lake and its immediate tributaries, establishing a program to monitor lake quality improvements (using the presence/abundance of the endemic species as indicators of improved ecosystem health), and improving public awareness of the Lake region's unique biological environment. To achieve the overall objective of the project, the design included five goals:

1. The conservation of a community of internationally significant, threatened and severely range-restricted species;
2. A demonstration of the utility of restoration for freshwater biodiversity conservation;
3. The innovative use of biological indicator species for pollution bioremediation and monitoring;
4. A greater awareness locally, nationally and globally of threats, challenges and opportunities related to Lake Dianchi in particular and freshwater biodiversity in general; and
5. Increased capacity to survey and identify freshwater biodiversity in Yunnan and elsewhere in China.

The project outputs were to be generated through four integrated components, namely: Wetland Management and Restoration, Surveys and Monitoring and Species Conservation, Capacity Building and Training, and Public Awareness.

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

The ICM notes that there have been **no subsequent changes** to the project objective since the approval of the Medium Sized Project Brief approved by the GEF Focal Point in March 2002.

4. GEF EO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

4.1 **Relevance**	Rating: **Satisfactory**

The project addressed the GEF Biodiversity Operational Program #2: Marine, Coastal and Freshwaters (including wetlands). Additionally, the project addressed a number of international and national environmental improvement objectives. At the international level, the project sought to conserve biodiversity of international importance, including the conservation of endemic fish and gastropod species. The project was to assist PR China in meeting its obligations under international conventions such as the Convention on Biological Diversity and the Convention on Wetlands of International Importance (Ramsar, 1971).

At the national level, the project provided support for environmental improvements at Lake Dianchi, which is one of the lakes in the then-existing national multi-sectoral program known as "Three Lakes, Three Rivers" that had been approved by the State Council. Through this program, the project offered good prospects for influencing wetland restoration approaches at other degraded lakes in China. Both the Agenda 21 (approved by the State Council in 1994) and the China National Wetland Conservation Action Plan (endorsed by 17 ministries and agencies in 1995) listed Lake Dianchi as a priority site for action. The China Biodiversity Conservation Action Plan (approved by State Council in 1994) does not (in keeping with many similar documents of that time) give much attention to the threats to and conservation of freshwater biodiversity, but some of the endemic fishes of the Lake are listed as Priority Species. China now has a new policy to promote development in western China (including Yunnan), stressing early attention to environmental protection.

Finally, environmental improvements in Lake Dianchi and its watershed were a major national priority as demonstrated by the US$300 million Yunnan Environment Project (YEP) as part of which the World Bank was assisting the provincial government in addressing some of the water quality problems (some $200

million of this project was estimated to provide water quality benefits to the lake). The YEP project has sought to improve water quality conditions in the lake, and applying a biodiversity 'overlay' to its infrastructural, policy and regulatory measures by restoring natural habitats and other activities which will conserve a number of highly range-restricted endemic species.

4.2 **Effectiveness**	Rating: **Moderately Satisfactory**

The assessment of individual project components was made by the ICM, rating the first three components as satisfactory and the last component (public awareness) as highly satisfactory. The ICM also stated that the project did not attempt systematically to monitor its progress in achieving the outcome indicators included in the Project Brief, with the exception of a review of the impact of the Public Awareness component on attitudes and behaviors.

Upon reviewing the evidence contained in the ICM, it seems that the ratings for the first two components are not justified. Overall, given the shortcomings in the first two project components, the general lack of project outcomes monitoring, and the lack of substantive data to evaluate actual progress towards achieving project outcomes, this TER suggests that the effectiveness be rated as moderately satisfactory.

Early on in the project it became evident that a significant fault in the project design would seriously impact the attainment of project outcomes, particularly those relevant to wetland restoration. A major original component, the shoreline re-profiling, had to be abandoned due to the existence of the Dianchi Protection Regulation, issued in 1988, that prevented the Dianchi Management Bureau from authorizing shoreline re-profiling, thus narrowing the range of options for wetland restoration. This effectively made three out of the planned five sub-components relevant to wetland restoration difficult to implement. This set-back did not result in an official project restructuring, but according to the ICM it seems that the project proceeded with a "re-think of approaches available for wetland restoration" piloting different restoration models of macrophytes that were mainly experimental in nature. Three models were tested, out of which only one, 'the broken dyke model', shows good potential for scale up and replication (the Yunnan Environmental Protection Bureau [YEPB] will finance the expansion of the Xialiangwang restoration work to 230 ha). Monitoring indicates that around 13.8 ha of macrophyte beds have been re-established successfully at the pilot sites, but the ICM assessed that it was too early to state if they will have any effect. The ICM also claimed that this expansion of the Xialiangwang site is an "encouraging measure of progress and one that fulfills one of the two key outcome indicators for this component, albeit on a more limited scope than might have been envisaged at design". Regarding the second outcome indicator for this component, the ICM notes that shoreline changes were not monitored by the project and that because of the Dianchi Protection Regulation this indicator will not be achieved, i.e., shoreline figures will remain similar to pre-project situation.

As part of Component I, bio-filtration using bivalves was also piloted which, according the ICM, is an innovative approach with real potential to provide a highly cost-effective and sustainable means for lowering suspended plankton loads, thus creating better conditions for the restoration of macrophyte

communities. Over 17,000 Anodonta have been re-stocked in the pilot sites and survivorship was reported to be high (over 80% percent in suitable habitats). But, again the ICM notes that it is too early to expect conclusive results from this research. Additionally, the project introduced integrated *Ottelia* (a macrophyte) - fish farming models.

Some of the piloted activities do show promise. However, the ICM noted that even though the final monitoring report (which was not made available to this TER) provides a useful framework for future monitoring, its time series data only go back to 2006 (for pH, conductivity, temperature) and 2007 (for chlorophyll and, as such, it is too early to develop even preliminary conclusions as to whether restoration activities are having impacts on water quality. It is also notes that "data is not presented on broader impacts, for example on bivalve survivorship, the presence of alien species, wintering water bird populations, so drawing evidence-based conclusions on the actual impacts of restoration is not yet possible."

The project made significant progress when it comes to collecting biodiversity information on Lake Diachi, translating some of this information into practical management recommendations for local fisheries management authorities and others. It carried out a program of surveys, a key outcome of which was the re-discovery of 12 endemic species of fish and 19 species of indigenous fish that were not previously known to exist in the system. The project also prepared submissions for the 'Red Listing' for 13 species of endemic fish of lake Dianchi that have been approved for inclusion on the IUCN Red List 2008. The 'ex situ' breeding of indigenous species was carried out through establishing of a fish-breeding center, funded by Yunnan Province. Success has been achieved in breeding the endemic Golden Line Fish. The project also played an important role in drawing attention to the threat posed by various invasive species.

The project's Component 3 on Capacity Building and Training and Component 4 on Public Awareness were largely completed successfully. Completed outputs include: study tours; training workshops on specific wetland management issues; stakeholder workshops focusing on specific wetland management challenges; provision of technical assistance to staff and students of the KIZ in experimental and practical opportunities for wetland restoration and research; a wide range of public awareness activities; and issuing of reports and publications, e.g., 13 scientific papers and books. The evaluation of the impact of the Public Awareness component on attitudes and behavior showed that this component had success in improving awareness of environmental problems and helped changed attitudes and behavior.

In addition to shortcomings already identified above, several other weaknesses were noted, such as:

- One of the wetland restoration models, "in-lake embayment" piloted at Baiyukou, shows "signs of success", but it is also noted that the techniques used at Baiyukou are too costly and labor intensive for practical application on a larger scale within the lake, and that the multi-layered fences are not thought likely to resist wind and wave action in the longer term.
- The second, the "floating breakwater" model proved unsuccessful after the structure was destroyed by strong storm waves due to, in part, technically bad design.
- Further work is needed to put in place a comprehensive monitoring framework that covers

existing water quality monitoring and broader indicators of wetland restoration progress.

- Survey data remains incomplete, as the project was unable to survey the Songhuaba Reservoir as thoroughly as was initially hoped (due to initial problems with obtaining survey permission and the subsequent denial of the use of boats for the survey).
- Even though management and monitoring recommendations were developed and submitted formerly to the Fisheries Department of the Yunnan Agriculture Bureau and the National Ministry of Agriculture, there does not appear to be an overall management plan that brings together the management recommendations for the individual sites.
- Supervision missions highlighted concerns that monitoring was not being undertaken in a sufficiently systematic manner and was insufficiently targeted at delivering results of practical benefit for supporting management decisions and planning. Efforts to present monitoring information were criticized for weak statistical analysis and inappropriate use of graphs.
- The monitoring database was established, but it has had technical difficulties and the field information was only available in Chinese.
- Most training was delivered to University staff and students and to local farmers. Even though local government officials participated in study tours there was no systematic training program for them (even though this was planned in the Project Document).

4.3 **Efficiency**	Rating: **Moderately Satisfactory**

The project appears to have had good financial management, procurement and disbursement efficiency, based on the 2006 procurement review findings and the 2008 project audit of accounts (audit dated June 23, 2008). A final audit of project accounts was still to be undertaken for the period January to June 2008 as part of standard project closure procedures.

The project has disbursed 100 percent of the grant funds allocated by GEF to the project, and the project team reports that co-financing contributions have been made in full compliance with the grant agreement. In fact, it seems that co-financing was higher than anticipated (the actual cost was US$ 1,531,834 Vs. the planned US$860,420), although the ICM does not elaborate on why this was so.

This project suffered implementation delays between 2003 and 2005 and the closing date was extended, i.e., the expected closing date was 2/28/2007 and the actual closing date was 06/30/2008.

Project management inefficiency: The early stages of the project were characterized by difficulties in adapting to Bank procedures for financial management, work planning, reporting and procurement. During this period, progress was poor, inefficient, and required higher-than-normal levels of supervisory input from the Bank. However, the ICM states that these management problems were effectively addressed by the project in 2005, since which time the project has been implemented with increasing levels of efficiency.

Not all outputs have been achieved and the progress towards achieving project outcomes and objectives is difficult to measure given the fact the project did not measure progress towards outcomes and that

for many of the outputs piloted in the project it was still early to tell if they will lead to results. This makes it difficult to fully assess the project's cost-efficiency. In two areas the project was, arguably, inefficient:

(1) Project design related to Component 1 on wetland restoration – the original design intended for shorelines to be re-modeled and re-profiled to allow for restoration of shoreline and wetlands. But, the existence of the Dinachi Management Regulation regulations that prevent shoreline re-profiling (introduced in 1988 to limit the expansion of fish-ponds into the lake) posed a major early challenge to the project. This constraint should have been identified during project design. The project responded adaptively to this challenge by building artificial structures (fences, pontoons and 'islands') to create the environment needed for re-establishment of macrophytes. Nonetheless, the ICM concludes that this issue meant that experience gained relied to a greater extent on structures that would, inevitably, prove economically unsustainable if scaled-up.

(2) The choice of the Kunming Institute of Zoology to act an executing agency had strengths and weakness. On one hand, the ICM claims that the executing agency's "passion and drive for conserving fish biodiversity and finding solutions to the resource degradation problems at Lake Dianchi was clearly a crucial factor in driving progress in the face of substantial technical, financial and management challenges." KIZ have shown, according to the ICM, a very motivated and adaptive approach without which the project might well have failed. On the other hand, given the institutional mandate of KIZ and the time-scales involved, the ICM notes that "it is not surprising that the focus of project efforts has been on identifying scientific and technical advances rather than on 'mainstreaming' and 'scaling-up'. According to the ICM greater efficiency might have been achieved had the project been integrated into the Yunnan Environmental Protection Bureau (YEPB), the management authority for the Bank-supported YEP. The YEPB had considerable existing management experience from the YEP and this could have been harnessed for efficient management of the project at an earlier stage of implementation. This would have enabled greater integration and post-project continuity with the YEP and would have offered improved prospects for developing awareness of ecological restoration approaches within provincial administration, and thus for better 'mainstreaming' of findings into planning and decision-making – an aspect of the project that has not been particularly effective, according to the ICM. However, during project preparation and during the early stages of implementation YEPB was not especially interested in the subject and the project may never have taken off.

4.4 **Sustainability**	Rating: **Moderately Likely**

The likelihood of continuation of this project's benefits after completion is rated moderately likely with two key areas of concern identified. The first area of concern comprises institutional risks, as there has been no mainstreaming of the project's findings and recommendations into overall lake management

strategies. The second area of concern involves environmental risks, primarily the continued development pressure, and the enduring presence of an invasive species of fish that will continue to undermine wetland restoration efforts.

Financial resources - likely: wetland restoration will likely continue around the lake as there are other efforts to clean the lake system. One of the piloted wetland restoration models, the broken dyke, has received funding from the YEPB, which is managing an expansion of the Xialiangwang pilot site to 230 ha and was seeking additional support from other public and private sources. The Dianchi Management Bureau (DMB) has agreed to manage the Baiyukou pilot site after project completion – but, as per the ICM, the techniques used at Baiyukou are too costly and labour intensive for practical application on a larger scale within the lake. The World Bank's Development Marketplace provided a grant to support the '*Musselling in on Pollution*' project that continued to support bivalve bio-filtration work at Lake Dianchi and expand this to six other plateau lakes. The Yunnan Science and Technology Bureau supported the KIZ with approximately US$1.2 million to continue and scale-up wetland restoration activities at Xialiangwang pilot site. The PIU has requested about $175,000 from the Yunnan Science and Technology Department for continuing and broadening the work of the fish breeding center including commercialization of the endemic species.

Socio-political – moderately likely: ICM notes that there are moderate risks to public support for, and interest in, the biodiversity of Lake Dianchi. The project made tangible progress in raising public support for (improved) biodiversity management in the Lake system. The KIZ remains committed to helping ensure that the high profile raised for these issues will be maintained to the extent possible after project completion. Involvement of the Buddhist Association of Kunming and the Kunming Zoological Park will likely contribute to longer-term public support for biodiversity conservation, even after the project is completed. However, the extent to which these efforts will continue after project completion will depend largely on continued commitment by Yunnan provincial authorities and Kunming Municipality. For example, the display boards about Lake Dianchi's freshwater biodiversity at Kunming Zoological Park will remain in place for the foreseeable future and will therefore continue to perform their role in public awareness-raising.

Institutional framework and governance – moderately likely: the Dianchi Protetion Regulation will continue to affect what can be done regarding shoreline re-profiling and consequently wetland restoration. Formalized integration of plans for management and restoration interventions into provincial and local plans had not taken place by project closure. Institutional weaknesses are likely to limit the extent to which project findings and recommendations are taken-up and mainstreamed into overall lake management strategies. YEPB appears enthusiastic and committed to scaling-up restoration approaches as this supports provincial wetland restoration policy.

Even though local government officials participated in study tours there was no systematic training program. Continuation and scaling-up of training for local officials will be a key ingredient for post-project 'success', but will only happen if State, provincial or municipal authorities allocate resources for this.

Environmental – moderately likely: Other efforts to clean the lake system were underway, including the installation of sewage treatment facilities and dredging work. The project generated a wealth of information on the ecology of the lake and its tributaries, and this will inform and improve development planning throughout the watershed. The KIZ, with support from provincial sources and the Chinese Academy of Sciences, remains committed to continuing its work in and around the lake on restoration ecology. The KIZ have committed to continue to manage the database for monitoring purposes after project ends. The ICM suggests that it is highly likely that wetland restoration efforts will continue post-project, for example through scaling-up and replication of the 'broken dyke' model approach and through *Ottelia* establishment in fishponds around the lake's shores, which should help reduce non-point source pollution from reaching the lake. The bivalve and biotic indexing work will be expanded to cover six other plateau lakes. The Wetland Restoration Manual will provide an important means for providing technical guidance for subsequent restoration work and is based on project experience during implementation (but the Manual was not yet completed at the time of ICM writing).

However, further work is needed to identify other sites where the 'broken-dyke' model could be applied. Socio- economic conditions, local authority 'buy-in' (some potential areas are under local authority management) and economic realities (e.g., compensation costs) will constrain the extent to which this approach can be scaled-up. The KIZ estimates that this approach could be applied to some 10 percent of the lake's perimeter. The long-term success of macrophyte restoration will only be achieved if accompanied by tangible efforts by provincial authorities to eliminate Grass Carp from the open water fishery, since this species consumes macrophytes with voracious efficiency and, if it persists, would quickly undermine any progress on macrophyte restoration. Only limited progress has so far been made with local authorities exhibiting general reluctance to introduce restrictions on Grass Carp, which is widely consumed in Yunnan. The YEPB reported that they were developing regulations to control invasive species but the ICM estimates that these would likely to stop short of prohibiting the use of Grass Carp until alternatives are available. Other post-project risks exist as a result of development pressure, including rapid infrastructure development to serve a rapidly expanding provincial economy.

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

> Unable to determine the extent to which the reported co-financing was essential to the achievement of GEF objectives, as the ICM only reported the final sum without providing additional details. The actual co-financing appears to have been substantially higher than the total anticipated in the project document. The 2007 PIR notes that there were changes in the structure of co-financing (without saying what these were), but that despite those changes, the overall amount of co-financing and the ongoing interest of local government were impressive.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The early stages of the project were characterized by difficulties in adapting to Bank procedures for financial management, work planning, reporting and procurement. During this period, progress was poor and generally inefficient and required higher-than-normal levels of supervisory inputs from the Bank. Employment of a professional Project Manager has successfully managed to get the project back on track.

The project had to be extended by a year and four months, but the ICM does not elaborate on the reasons for the extension. The 2007 PIR notes that "the request for extending the project was signed on November 8, 2006 and so the new Closing Date is June 30, 2008", but does not give reasons for this extension. It could be inferred from the ICM that some of the early setbacks (including management issues and wetland restoration challenges) would have delayed the project implementation, thus necessitating the extension of the project closure date.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links

The ICM notes that the local government ownership of the project was high, as demonstrated through higher than expected co-financing and various other contribution to the project. The ICM references the good support from local government, such as for instance space for the project implementation center being provided free by the Zoo and running costs of the new exhibits being covered by the Kunming Environmental Protection Bureau. Officials from the National (State) level have visited the project and pilot sites with a view to replicating project experience elsewhere in China and the Province.

In the early stages of the project there was a general lack of active engagement by various institutions with a key stake in lake management, including YEPB, the Dianchi Management Bureau (DMB) and the local authorities of the three counties around the lake shoreline – Chenggong, Jinning and Xishan. The ICM attributes this to the fact that detailed institutional and implementation arrangements were not articulated in depth in the Project Brief. In the case of the YEPB and the DMB, their involvement and interest in the project appears to have grown during implementation although it seems that, overall, institutional benefits to them of the activities were limited. At the end of the project the YEPB expressed the view that the project holds useful lessons for the other eight plateau lakes of Yunnan province.

At times, government concerns hindered some aspects of project implementation, such as surveying by boats, which as a result remained incomplete. The general reluctance on behalf of the local government to restrict the use of Grass Carp also poses risks to project long-term sustainability.

6. Assessment of project's Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 **M&E Design at entry**	Rating: **Moderately Unsatisfactory**

The M&E Plan outlined in the Project Document mainly details the specific arrangements for environmental monitoring (of habitats and species) without paying much attention to project monitoring. The effects of different project activities were to be assessed "at least annually" with the growth and development of the restoration areas to be monitored through the use of fixed-point photography in addition to periodic quantitative measurements. On page 14 of the Project Document Doc it is stated that the Component 2 (surveys, monitoring and species conservation) will "provide fundamental information on habitats and species, give recommendations on protected areas and management, feed into the awareness component, as well as collect the monitoring data to provide feedback on project impact and recommendations for adapting plans and for expanding and/or fine tuning of interventions". The M&E specified how the project objectives were to be measured for the public awareness in Component 4. The knowledge of and the increased awareness of the biodiversity in Lake Dianchi among the general public and of certain target groups (such as municipal government staff) was to be assessed at the beginning, middle and end of the project.

Based on the information presented in section 7 of the Project Document there appears to have been no dedicated budget for project's M&E. The M&E section of the Project Document doesn't make any reference to project evaluation activities. Many of the outcomes indicators were not SMART, e.g., " environmental degradation of the lakeshore and tributary ecosystems slowed down and reversed in at least three areas". It could be argued that these types of outcome indicators are too broad to effectively assess project performance.

6.2 **M&E Implementation**	Rating: **Moderately Unsatisfactory**

According to the ICM, the project did not attempt to systematically monitor its progress in achieving the outcome indicators included in the Project Brief, with the exception of a review of the impact of the Public Awareness component on attitudes and behaviors. The ICM made an effort to provide a 'summary of progress' towards achieving the project's outcomes indicators as outlined on page 17 of the report. While this attempt to systematize the data is helpful, it cannot be viewed as comprehensive reporting of outcome indicators, especially as some of the statements in this 'summary of progress' are

very broad qualitative statements. It appears that at least some of the information on outcome indicators was collected and did exist somewhere in the project's system. For instance, the ICM notes on page 10 that "…monitoring indicates that around 13.8 ha of macrophyte beds have been re-established successfully at the pilot sites". This information on wetland restoration could have been reported against the outcome indicator of 'incidence of native species increases in the restoration area'. Therefore, given that, at least some, of these data were being collected, it is not clear why the project failed to systematically collect and report on outcome indicators as agreed in the Project Document.

The ICM noted inconsistencies in how the project used logical frameworks, stating that there were four sets of outputs, outcomes and indicators in existence: (1) the first is included in the Project Brief agreed and approved by GEF; (2) a second set included in a log frame prepared for the project; (3) a third set is included in a 'Results Framework' prepared in May 2007 (prepared with WB support to replace the logframe as this was "considered unworkable by the project team"); and (4) a fourth set that was included in the draft final report. According to the ICM each set of outcomes and indicators differs markedly in terms of scope and content, and there is an inconsistent use in terminology between documents. Moreover, the ICM notes that "changes to project design were not formally recognized by the Bank during the project" and that ICM used the outcomes and indicators included in the Project Brief as a framework for its assessment. It is unclear why the project used four different versions of the log-frame during implementation, especially as these were not approved by the World Bank.

On the other hand the project did successfully measure progress in Component 4 (public awareness) as specified in the Project Document. Additionally, the project clearly implemented various environmental monitoring activities. These efforts focused on monitoring a range of biological parameters including water quality and biodiversity and habitat indicators, which was a reflection of the KIZ's academic and technical mandate. The project: carried out surveys; prepared a Biotic index for Danchi Lake; and established a monitoring database (even though this database was only available in Chinese and the ICM could not evaluate its usefulness for presenting key data and trends). Several shortcomings related to environmental monitoring were noted, namely: (1) supervisory missions highlighted concerns that monitoring was not being undertaken in a sufficiently systematic manner and that it was insufficiently targeted at delivering results of practical benefit for supporting management decisions and planning; (2) efforts to present monitoring information were criticized for weak statistical analysis and inappropriate use of graphs; and (3) the final monitoring report provides a useful framework for future monitoring but since time series data only go back to 2006 and 2007 it is too early to develop even preliminary conclusions as to whether restoration activities are having impacts on water quality. Moreover, data was not presented on broader impacts, for example on bivalve survivorship, the presence of alien species, wintering water bird populations, so drawing evidence-based conclusions on the actual impacts of restoration was not possible.

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in

performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 **Quality of Project Implementation**	Rating: **Moderately Satisfactory**

The ICM rates the quality of project implementation as satisfactory. This is justified by stating that the recipient expressed the view that the World Bank's performance had been "firm but fair and was highly regarded by the KIZ". It was further noted that the World Bank support throughout implementation has been delivered to a high standard. The World Bank provided the KIZ with support in persuading local authorities to provide access for survey teams at the Songhuaba Reservoir, previously restricted on the grounds of protecting water supply security, and to encourage provincial authorities to undertake steps to control Grass Carp in the lake system (which was partially successful).

Although the World Bank seem to have provided satisfactory support to the project during implementation, significant shortcomings were present in the project design that have caused problems during implementation and that may ultimately significantly negatively affect the achievement of outcomes. The most notable of these is the Bank's failure to identify the 1998 Dianchi Protection Regulation, which then posed a major early challenge to the project. This constraint should have been identified during project design. This oversight will also have long-term impact on sustainability. The Bank could have also evaluated better its choice of the Kunming Institute of Zoology as the executing agency. Although the KIZ had considerable strengths, the selection of KIZ, rather than YEPB, might have had negative implications for mainstreaming and scaling up of project results. Lastly, the project design called for the project Steering Committee to be used as a formal mechanism for inter-agency cooperation. However, a few early meetings where held, but these ceased early on in the project leaving no formal mechanisms in place (although the project compensated quite will with *informal* mechanisms, such as stakeholder meetings which have helped to develop engagement and to share learning and information on technical aspects).

Even thought the ICM applauds the project for exhibiting good adaptive management approach to wetland restoration in view of issues that arose as a result of "design constraints" and even though it claims that this adaptive approach transformed early setbacks into opportunities for further leaning and innovation it must be noted that these design issues were foreseeable and should have been addressed at project design. Based on this the rating given to implementing agency is moderately satisfactory.

7.2 **Quality of Project Execution**	Rating: **Moderately Satisfactory**

The ICM rated the EA's performance as satisfactory noting that throughout implementation, the project team implemented the project with enthusiasm and energy, and showed great ability to respond

adaptively to emerging research priorities and unforeseen setbacks. It also stated that project work had a high degree of technical and scientific rigor and was often highly innovative. Moreover, the ICM claims that KIZ's passion and drive for conserving fish biodiversity and finding solutions to the resource degradation problems at Lake Dianchi was clearly a crucial factor in driving progress in the face of substantial technical, financial and management challenges.

However, this 'satisfactory' rating ignores the problems that were present in the first years of the project. During the first two years, the project experienced management difficulties, which constrained early progress and, according to the ICM, threatened to derail the project entirely. The ICM attributes these problems to a lack of experience in managing grant-supported projects of this kind despite the World Bank project staff providing training in financial management and procurement at the beginning of the project. As a result, the project was rated as 'partially unsatisfactory' in early 2005. The project overcame management problems in mid-2005 by seconding dedicated management expertise to the project, from the YEPB, which allowed the KIZ to focus its support on the scientific, technical and public awareness work of the project.

It must also be noted that the project did not have an M&E system in place to monitor progress towards achieving outcomes. Given these shortcomings, a moderately satisfactory rating is given here.

8. Lessons and recommendations

8.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

(a) Demonstration value: The project showed the considerable potential of ecological restoration approaches for addressing the problems of China's highly degraded freshwater lake systems. Whilst it remains too early to draw firm conclusions, initial project results are promising, and indicate that cost-effective and sustainable results are achievable if management interventions are based on a sound scientific and technical platform and are phased and integrated carefully.

(b) Changing attitudes and behavior is possible. The project has shown that it is possible to achieve positive changes on attitudes and behavior to environmental degradation and biodiversity management at a large scale, but to do this requires a diversity of approaches, including mass media, working with schools, local authorities and faith groups and working at the farmer level. The interpretational facilities established at the Yunnan Minorities Village, and then moved to the Kunming Zoological Park, were viewed by over 1.1 million people in just six months of 2007.

(c) The importance of an early focus on management capabilities. Projects of this scale, whilst small by Bank standards, pose a major management challenge to institutions that lack prior experience of Bank systems for planning, reporting, financial management and procurement. A clear lesson to emerge from this project is the need for systematic and thorough institutional assessment and broad-based management training for project staff. This was provided by the Bank at the beginning of the project but it seems these new skills

did not pervade the project team sufficiently. Ensuring that project teams are established with sufficient and dedicated management expertise is critical. This was not the case in the early stages of the project where management functions were delegated to junior and inexperienced staff.

8.2 Briefly describe the recommendations given in the terminal evaluation.

No specific recommendations were provided in the ICM.

9. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF EO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The ICM presents a comprehensive assessment of the project's achievements when it comes to individual project Components. The report is weaker when it comes to assessing the project's overall outcomes and objectives.	**S**
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is well substantiated, provides convincing evidence and is internally consistent. However, the assigned ratings were, in the view of this TER, overly generous. For instance, the individual project components were all rated satisfactory (with one rated highly satisfactory). These ratings do not appear to take into account the project's obvious under-achievements. Additionally, even though the report notes that the project failed to measure progress towards project outcomes and details various management issues during implementation, it still rated both implementation and execution as satisfactory. The clarity of the report could have been improved by including the full list of planned outputs and outcomes for each project Component and for the project as a whole, as approved in the Project Document. This would have made for an easier comparison of the project's actual achievements with the planned ones.	**MS**
To what extent does the report properly assess project sustainability and/or project exit strategy?	There is no specific section on sustainability as such and the information about sustainability is not presented along its institutional, financial, environmental and socio-political dimensions. Nonetheless, sustainability is addressed, in table D that specifies the risks to development outcomes. The report also has a section that elaborates on the viability of the wetland restoration models piloted in the project, which is realistic and comprehensive. Another section of the report provides information on various follow-on investment activities. Information relevant to sustainability can be found in the report, but in several different sections. A separate section that brings together this dispersed information would have been helpful.	**MS**
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	Lessons learnt and recommendations are combined and presented in a joint section with most of the section focusing on lessons learnt. The evidence presented in the main body of the report supports these lessons. The report does not provide any substantial recommendations.	**MS**
Does the report include the actual project costs (total and per activity)	Data presented on project costs is very limited. Only one table is included in the ICM on project costs. This table	**MU**

and actual co-financing used?	shows the project's original and actual costs - split into two funding sources (GEF and other). The actual project costs are not shown per activity. Based on the data in this table it appears that the actual co-financing was significantly higher than expected, but the ICM does not elaborate on why this was the case.	
Assess the quality of the report's evaluation of project M&E systems:	This is one of the weakest parts of the report. The ICM does not separately evaluate the quality of the project's M&E systems. Rather, it only notes that the project did not attempt to systematically monitor its progress in achieving the outcome indicators. It also notes that four different log frames were used. No explanation was provided in either case as to why this transpired. The ICM describes adequately how the project carried out environmental monitoring.	**MU**
Overall TE Rating		**MS**

10. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

1. World Bank, *Completion Implementation Memorandum* for Lake Dianchi Freshwater Biodiversity Restoration Project, October 28, 2008.
2. Global Environment Facility, *Medium Size Project Brief* "Lake Dianchi Freshwater Biodiversity Restoration Project", No date. Retrieved from the GEF PMIS on 12/10/2013.
3. World Bank, *Progress Report (Grant Reporting and Monitoring [GRM] Report)* for Lake Dianchi Freshwater Biodiversity Restoration Project, November 26, 2007. Retrieved from the GEF PMIS on 12/11/2013.