

Japan will contribute to the conservation of the world's lake environments through promoting **ILBM**

Lake Basin Management Initiative

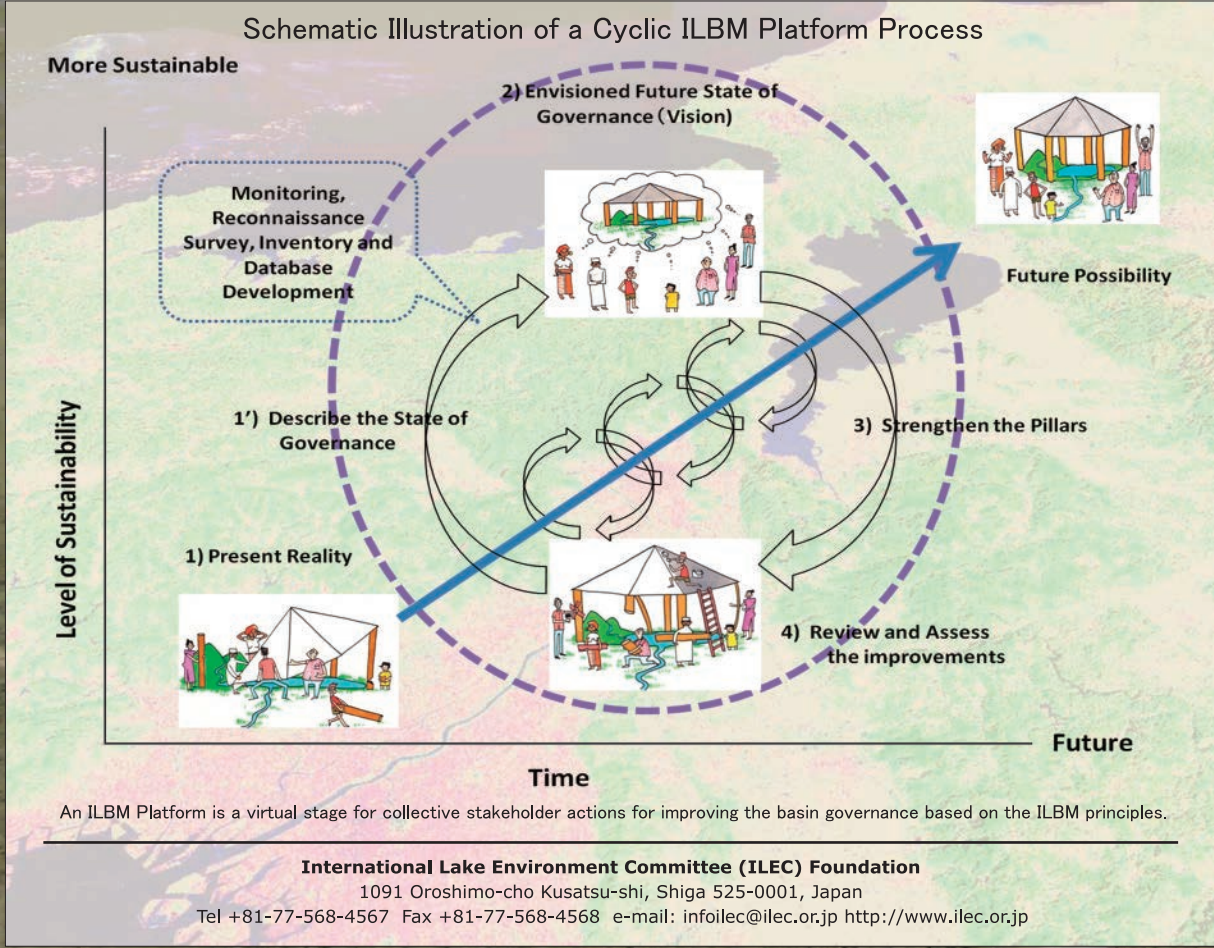


"Managing Lakes And their Basins For Sustainable Use," highlighting Management Experiences and Lessons Learned from 28 Lakes Globally

Download from <http://www.ilec.or.jp/en/pubs/p2/lbmi>

Integrated Lake Basin Management

Threats to world lakes

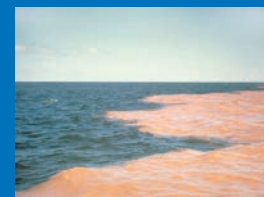


▲ Damage by acid rain

Proposal for Integrated Lake Basin Management for the Sustainable Use of Lakes in Response to the World's Growing Water Resources Crisis

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Why Focus on Lakes and Why Now?

Degradation of the World’s Lakes is a Serious Global Water Resource Issue

Lakes Contain More than 90% of the Readily-Available Freshwater on the Earth’s Surface

Water is essential for human survival.

Only 2% of the freshwater on the Earth’s surface globe is in a readily-usable form, with more than 90% of it being in lakes and reservoirs. Provision of adequate supplies of safe drinking water to an ever-increasing global population is becoming a critical issue today. Thus, the protection of lakes and reservoirs for sustainable use, not only as a drinking water supply, but also for a variety of other uses, is an extremely important challenge facing humanity.

Unsustainable Resource Development Must be Transformed to Sustainable Resource Use

A lack of awareness that lakes and reservoirs are extremely vulnerable to unsustainable resource development has lead to serious degradation of the world’s lakes. If this vulnerability is ignored, the resource values of lakes and reservoirs will continue to decline, making it very difficult for future generations to achieve sustainable resource use.

- Some Resource Values of Lakes and Reservoirs**
- [Resource Provision Services]
 - Drinking Water
 - Irrigation Water
 - Navigation
 - Fisheries
 - Tourism
 - [Regulating Services]
 - Flood and Drought Management
 - Climate Mediation
 - [Cultural Services]
 - Religious and Historic Values



What are the Essential Considerations for Sustainable Use of Lake Basin Resources?

A Lake and its Basin Must be Managed as a Single, Indivisible Unit.

Lakes and their Basins are a Single, Mutually Interacting Management Unit

Lakes are extremely sensitive to human activities within their surrounding basins. Excessive environmental stresses from its basin can easily damage a lake’s natural capacity to restore itself. Thus,lakes and their basins must be managed as a single unit to achieve sustainable resource use and conservation.

Examples of Degradation Threats to Lake Environments		
[Inside the Lake]	[Around the Lake]	[Beyond the Lake]
① Exploitative fish harvesting	⑦ Erosion and siltation	⑬ Airborne transport and deposition of acidic pollutants
② Introduction of alien species of fish	⑧ Inflow of nonpoint sources of pollution	⑭ Airborne transport and deposition of hazardous chemicals
③ Change in salinity	⑨ Release of agro-chemicals	⑮ Climate change
④ Invasion of invasive flora and fauna	⑩ Excessive withdrawal and diversion	
⑤ Release of nutrients from cultural fisheries	⑪ Intrusion of sewerage and drainage wastewaters	
⑥ Destruction of shoreline ecosystem and habitats	⑫ Industrial discharges	

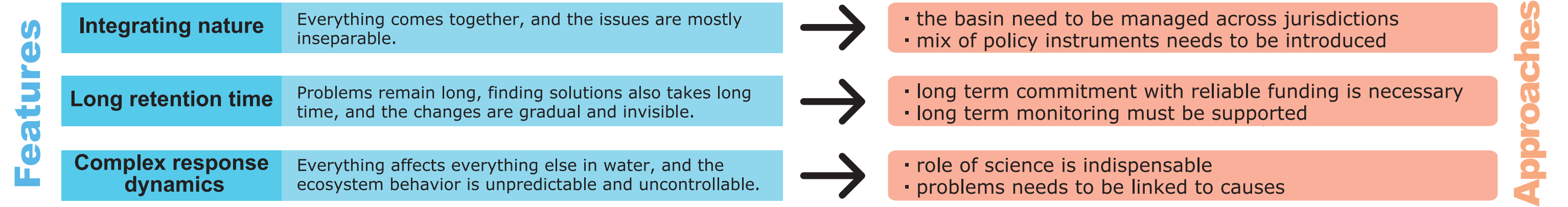


What is Good Lake Basin Management for Sustainable Resource Use?

Integrated Lake Basin Management (ILBM) with Due Consideration for Their Lentic Water Properties



Management Implications of Lake Characteristics

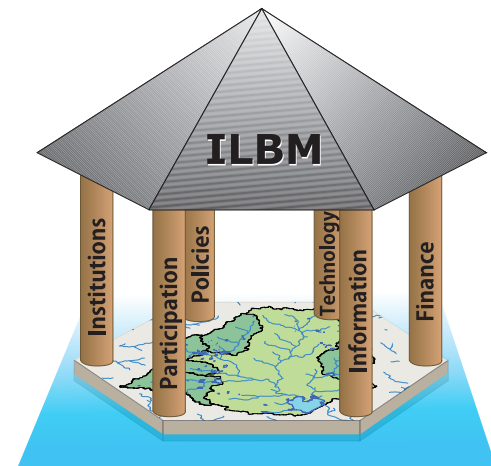


Integrated Lake Basin Management (ILBM)

ILBM is a way of thinking that assists lake basin managers and stakeholders in achieving sustainable management of lakes and their basins. It takes into account that lakes have a great variety of resource values whose sustainable development and use require special management considerations for their lentic (static) water properties. Good basin management of a lake can be realized only through ILBM, or continuous improvement of lake basin governance that integrates institution, policy, participation, science, technology and funding. Improvement of the state of world’s lakes can be realized by promoting ILBM globally, with long-term and strong political commitment.

ILBM needs Improved “Lake Basin Governance” by integrating;

- Institutions:** A management system with an appropriate organizational setup that will help ensure sustainable benefits to lake basin resource users.
- Policies - “Rules of the Game”.** Policy tools must be developed to facilitate concerted societal actions for sustainable lake basin management.
- Participation:** All lake basin stakeholders must have an appropriate role in the management decision-making process. Everyone should be a participant in striving for the strive for sustainable management.



- Technologies:** Physical interventions, such as shoreline and wetland restoration, provision of sewerage and industrial wastewater treatment systems, afforestation, mitigation measures to control siltation, etc., can help dramatically improve lake environments, although sometimes with only localized and short-term effects.
- Knowledge and Information:** The scientific and the public perceptions about lake basin management can differ. Without the generation and sharing of knowledge, therefore, the human and financial resources mobilized in lake basin management efforts may be expended in futile.
- Finance:** Financial resources should be derived from all basin stakeholders benefiting from the resource values of direct and indirect uses of a lake. Efforts should be made, therefore, to develop innovative approaches to generate locally-usable funds.