

エコシステム

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地上の流れ 地下の水

水の流れは自然がいい
感謝とおそれを胸に

- | 水の流れは自然がいい
- | 森を再生し、水の流れを取り戻す ~水源地では~
- | 氾濫原は元の自然に戻す ~川や低い土地では~
- | 水循環に沿って土地を利用する ~まちや沿岸では~
- | 水は国民の財産

水は地上を流れ、地下を流れて、多くの生きものの命を育みます。私たちもその片隅にいます。天からの水を治めるとか、水は人のものだというおこがましいふるまいを、大きく見直す時代を迎えています。

Rainwater flows over the ground's surface and recharges the groundwater thereby nurturing a wide variety of wildlife. We humans also live in this water environment. A new era is dawning in which we must fundamentally reform our arrogant beliefs and behaviors that allow us to control water (which is a gift from the heavens) and to think that water belongs solely to humans.

Surface Water and Groundwater

The Best Water Flow is Natural Flow. We should Be Both Grateful for and Fearful of Water

In healthy watersheds where natural water cycles are maintained, we could utilize surface water and groundwater sustainably for our daily lives as well as for agricultural and industrial purposes. We could also harvest rich aquatic resources and enjoy eco-tourism and recreation in beautiful natural areas with water landscapes. But in Japan, we have been controlling water only for our generation's self-serving benefit by constructing artificial structures such as dams and levees which are causing tremendous damage to nature. As a result, we have lost many natural benefits.

Last year the 'Basic Act on Water Cycle' was enacted. We should use this law to achieve sustainable water use and management that covers entire watersheds (Watershed-based water management).

First of all, our primary focus for headwater areas should be protection and restoration of natural forests. A natural forest functions to reserve and supply water while it offers various products, beautiful scenery and opportunities for recreation. Also our policy for headwaters should be the removal of as many dams as is feasible. By removing dams, the water and the sediments and nutrients it carries can move downstream. Rivers can then begin to restore their natural environments by providing habitats for aquatic wildlife that migrate between the sea and river.

Secondly, policies for the mid-stream and downstream should be directed to restoration of meandering rivers that were straightened and to the recovery of floodplains. Consequently, we can regain healthy river functions that improve water quality, reduce flood damage and increase aquatic harvests. Also, policies for these lowland areas should limit encroachment of built environments such as human

habitation. As a result, we can expect to reduce both flood damage and economic loss. We can also use new natural spaces for recreational purposes.

Thirdly, policies for communities and households should be aimed at securing wetlands and green spaces that are pervious to water. This will help restore water functions that recharge groundwater and regulate water flow. We can also expect reduction of flooding and flood damage which will lead to an increase in real estate values. Policies for coastal areas should be directed to restoration of estuary and coastal wetlands. With these policies we can recover rich fishing grounds, improve water quality and reduce impacts from high tides.

Just like the European Union's 'Water Framework Directive' and the United States' 'Clean Water Act', Japan should establish 'Basic Plan on Water Cycle' based on our 'Basic Act on Water Cycle'. We should use it as an engine to regain healthy water cycles over the entire country. It is important to implement practical measures covering a whole watershed area that are based on land use plans that will not go against conditions of natural environments. It is also very important to establish a system in which all stakeholders can participate and work together.

Natural ecosystems that have multiple functions and benefits for us are the very foundation of human survival. Only this foundation can provide a healthy water cycle.

It is our generation's responsibility to actively protect and restore the water cycle and pass various benefits from healthy water cycles to future generation.



A natural forest can hold water and supply water through a watershed.



By removing dams that prevent water and sediment movements, we can restore natural rivers.



By restoring meandering natural rivers and floodplains, we can reduce flood damage and recover aquatic resources.



Planned green areas constructed throughout a city can absorb rainwater and help reduce flood damage and improve water quality.

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