



for a living planet

GLOBAL
FRESHWATER
PROGRAMME

Water Scorecard



***Unlike energy, there is no
alternative source of water***

World Business Council for
Sustainable Development



June 2007



Cover images

*A caboclo boy with fish in the
WWF supported Lago Mamiraua
Ecological Station with one of the over
2000 fish species that migrate to the
Varzea (flooded forests) in order to breed.
Varzea, Amazonas, Brazil.*

© WWF-Canon / Edward PARKER

*Tujia boatmen steering sampans (long
dugout canoes) through the smallest of
the Yangtze's three gorges. Yangtze River,
Hubei Province, China.*

© WWF-Canon / Claire DOOLE

*The Snowy egret (Egretta thula) inhabits
shores of lakes or ponds, marshes,
swamps, and tidal areas. It forages
mostly in shallow water, eating primarily
crustaceans, fish, insects, and small
vertebrates. French Guiana.*

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*Picking cotton for about \$3/ day.
Near Piura, Peru.*

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Water Scorecard

WWF often measures governments against their word and reports on the state of the environment. This scorecard tallies some of WWF's results in stemming the water crisis, and adds to a legacy of water-saving approaches for a living planet.

3%

of all water
on earth is
freshwater

**50%
DECLINE**

in species
populations
since 1970

Can't live without it! Freshwater

systems are rivers, streams, lakes, ponds, groundwater, springs, floodplains, and wetlands that include bogs, marshes, and swamps. These freshwater habitats for plants and animals also provide water for drinking, sanitation, agriculture, fisheries, transport, electricity, and recreation.

Striking figure: 70% of the planet's surface is covered by ocean but only 3% of all water on earth is freshwater, and less than 1% of this is in rivers and lakes.

Stark truth: In 2005, 1.6 million children under age 5 (average of 4500 every day) died from illness caused by unsafe water and inadequate hygiene; dams and other infrastructure have displaced more than 40 million people so far and caused 60% of large rivers to become fragmented and ecologically less productive; by 2025 1.8 billion people will live in countries or regions of absolute water scarcity.

Can we do it? The challenges are great; so is our hope. Hand in hand with local communities and in dialogue with decision makers, WWF is working for healthy rivers, wetlands and unseen, underground water reservoirs – all sources of water, building blocks of life.

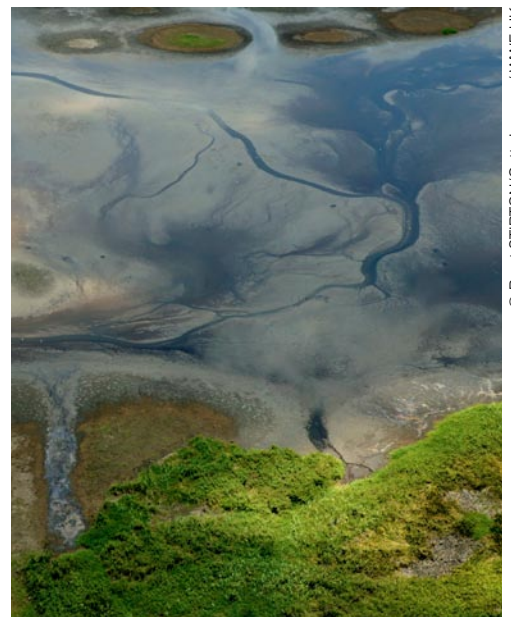
**2.6
BILLION**

people lack
adequate
sanitation services

**1.1
BILLION**

people lack
access to
freshwater

A dry river basin in the East Sepik province of Papua New Guinea. WWF is developing a model for river basin management across PNG and for other rivers worldwide.



© Brent STIRTON/Getty Images / WWF-UK

River basin management

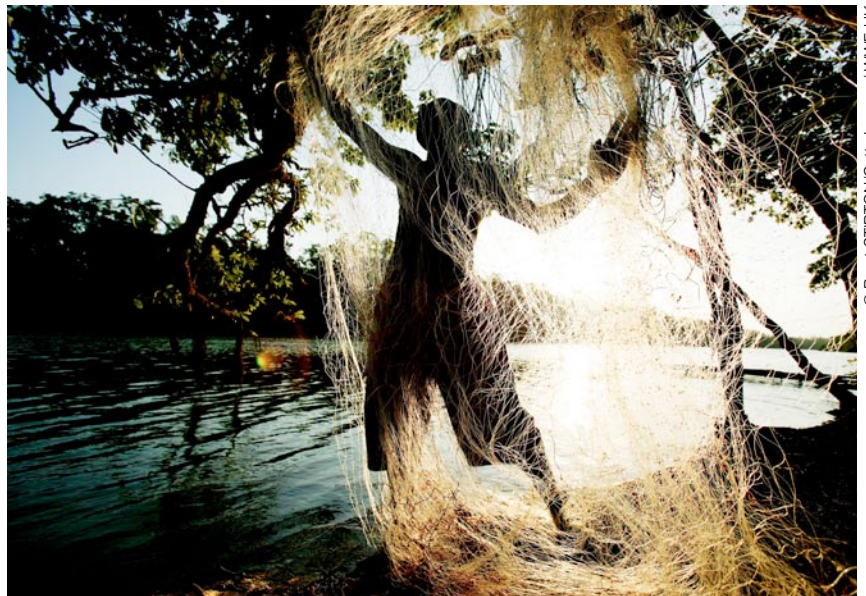
“What makes a river so restless to people is that it doesn’t have any doubt - it is sure to get where it is going, and it doesn’t want to go anywhere else.”

(Hal Boyle, prize-winning journalist)

Sadly, this is less and less true as more and more rivers fail to reach the sea, among them icons such as the Rio Grande/Rio Bravo, the Indus, the Nile, and the Colorado rivers. WWF set out to inspire the world to make or keep rivers healthy and set itself the task of conserving and restoring 25 priority river basins or ecoregions by 2007 after having successfully intervened in 16 cases from 2001-2004. WWF now has 42 river conservation initiatives and policies involving local communities, provincial and national governments, and in 11 of these has achieved significant agreements to conserve rivers so far. Some promising achievements among them:

- WWF was a key initiator and supporter of the first (2005) and second (2007) Yangtze Forum, an unprecedented event bringing together key players of the Chinese water management scene that paves the way for dialogue to conserve this threatened river.
- In an historic move in January 2006, Brazil's National Water Council – supported by WWF – approved a National Water Resources Plan to implement its 1997 national water law, becoming the first country in Latin America to do so. An innovative aspect of the plan is that it promises to make conservation of freshwater values an important part of any future infrastructure projects and water policy. The first river basin commissions are being established, and involving WWF, such as the Sao Joao River basin. They are resulting in practical action such as increasing treatment facilities for waste water and restoring degraded habitats.
- The EU Water Framework Directive (WFD), a vital piece of European legislation advocated by WWF, and adopted in 2001, obliges 29 European governments to establish river basin management programmes and to “prevent further deterioration” by meeting a series of targets that are intended to achieve “good ecological and chemical” condition in all European waters by 2015.

- Sizeable partnerships have been formed, such as the Global Water for Sustainability Program (GLOWS) with the Florida International University and other NGOs. The GLOWS partnership, backed by USAID, is providing technical support and aid funding for river conservation work, initially in the Mara and Pastaza rivers.
- Partnership agreements with Coca-Cola and HSBC are setting new environmental standards for the beverages and finance sectors and providing significant funding for better management of at least 10 river basins.



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Fisherman on a river shore hanging nets up to dry in the late sun. Morehead district, Western Province, Papua New Guinea.

**MORE
and
MORE
rivers fail to
reach the sea**

Sustainable water use

Sustainable water use has been WWF's second target for keeping rivers healthy. This means holding accountable the direct users of water - the biggest among them agriculture and business – as well as stopping dams that choke rivers, divert their life-giving waters, and separate wildlife from their breeding grounds. Changing mindsets and behaviour is a labour of many years to come as we set out to influence water use.

Changing mindsets and behaviour

Dams enjoyed their engineering heyday in the last century and have grown to be both a blessing and curse. To meet the objective of water storage and power generation, their heavy concrete and steel structures sink into rivers, fragmenting populations of freshwater plants and animals, changing water and sediment flows vital for ecosystem health, and damaging their ability to provide food and water in the long term. The number and locations of dams, the ability of wildlife to get past and the way the dams are operated, make a difference in the damage they spell. Better use of existing dams and siting any new structures off a river's main stem are almost always a better option for providing water.

WWF set out to mitigate the environmental impacts of 20 major water infrastructure schemes by 2007, after having successfully intervened in 13 cases between 2001 and 2004. WWF offices are following up, working on 38 cases of damaging infrastructure and have achieved major successes with 11 of these thus far. Recent progress includes:

◆ **SNHP** – WWF helped stop the Ebro Transfer of the Spanish National Hydrological Plan (SNHP) aimed at redistributing water from the Ebro River in the north, to the southern regions of the country hundreds of kilometres away. The plan involved up to 900 infrastructure projects including 120 new dams and threatened habitats of about 60% of all Europe's bird species. WWF demonstrated the illegality and harmful consequences of the transfer and prevented European Union support for the plan. When the new Spanish Government was elected in 2004, one of its first acts was to repeal the SNHP and replace it with a programme of water demand management, opening the door to practices in recycling, waste reduction, and fixing leaky pipes.

◆ **Better water resources in Godavari basin, India:** By working on de-silting and restoring village-based 11th century water management structures known as tanks, food production, employment and the health of ecosystems increased. WWF planned the restoration work using GIS mapping and assessment to significantly improve water availability for thousands of poor farmers and for ecosystems, at a fraction of the cost of government- proposed water infrastructure developments in the same region.

◆ **HSBC Guidelines** - In 2005, under the "Investing in Nature" Partnership with WWF, HSBC published new guidelines for freshwater infrastructure in order to direct investment and manage risks, becoming the first global commercial bank to do so. The Guidelines include measures that recognize the global importance of protecting freshwater resources, applying the World Commission on Dams framework to finance good practice in proposed water infrastructure developments while also conserving internationally important wetlands such as "Ramsar" sites.



© WWF-Canon / WWF-Spain

Protest against the SNHP painted on the wall of an abandoned house in the Ebro delta.

Thirsty crops deal with agriculture's 70% drawdown and fixing the deficit. Without substantial improvements in efficiency and productivity, the amount of water needed for agriculture, industries and households is forecast to increase by 60-90% by 2050. The breakdown of water withdrawals by sector on global average is agriculture at 70%, industry at 20% and households at 10% with significant regional differences. WWF is active on three of the world's "thirstiest" crops – cotton, rice and sugarcane. We are working with leading multi-national companies, that use these crops in their products, to address key issues such as water use and pollution in their growing.

In the past 3 years, WWF took action on several market-based frameworks that could drive more sustainable production of thirsty crops. Transforming markets for these crops takes time obviously, however, short-term achievements worth noting include:

- ◆ Draft global principles and criteria for cotton growing: Better Cotton Initiative (BCI), a form of "roundtable" set-up with multinational companies and NGOs, has started industry and grower consultations in South Asia and Brazil that build towards an agreed global definition of 'Better Cotton'.
- ◆ Draft global principles and criteria for sugarcane growing and milling: Better Sugar Initiative (BSI), also established with multinational companies, NGOs and



© WWF-Canon / Jamie PITTOCK

Crushing sugar cane for the production of jaggery (or gur), a solid raw sugar. Irrigation for the production of this sugar cane is one reason why only 5% of the Ganga River's water reaches the sea, threatening species like the Ganga River dolphin and habitats like the Sundarbans.

producers is working to produce a similar market understanding of "Better Sugar". The recent explosion of interest in bio-fuels, produced from crops including sugarcane, is helping to accelerate progress on the BSI.

- ◆ Thirsty crops in South Asia: WWF has obtained an EC grant for a 4 year programme in India and Pakistan to demonstrate and spread better farm practices on cotton, sugarcane and rice. As well as contributing to solutions in the countries themselves,

Average global water use

70%
AGRICULTURE

20%
INDUSTRY

10%
HOUSEHOLD



© WWF-Canon / Mauri RAUTKARI

Cotton market, Rawalpindi, Pakistan.



© WWF-Canon/Vin J. TOLEDO

*Varieties of rice grains.
International Rice Research
Institute (IRRI), Manila,
Philippines.*

The cotton project
in Pakistan was able
to demonstrate a

35%
increase in farmers
making profits of
**15-20,000
Rupees**

these projects also provide a test bed for the roundtables on cotton and sugarcane. In 2006, the WWF cotton project in Pakistan was able to demonstrate a 35% increase in numbers of farmers making profits of 15-20,000 Rupees, while reducing irrigation by 3-4 and chemicals by 5-6 applications.

◆ **Changes to the EU sugar regime:** Subsidies for sugar growing in the European Union cause a range of problems in developing countries, including making it harder for farmers to apply practices that would reduce key environmental impacts. WWF campaigned with other NGOs in 2004/05 for a whole-scale reform of EU subsidies on sugar, action which in part led to an eventual agreement by European Governments to cut subsidies by 36% over 4 years.

◆ **More rice, less water:** Irrigation for crop growing drives major new water infrastructure that withdraws more and more water from rivers and aquifers; water that is increasingly not there. More than 70% of that irrigation is for just one crop in Asia – rice. In India, WWF is working with farmers and agricultural agencies to promote the System of Rice Intensification (SRI) which is a way of growing rice that significantly reduces water use while improving yields by 20% or more. WWF is now working to promote large-scale adoption of SRI and other water-efficient rice production techniques in partnership with leading international food and research institutes. Ultimately this should help secure food supplies for growing populations in developing countries while impacting less the health of rivers and other wetlands.

◆ **Bioenergy:** WWF is campaigning for global sustainability criteria to be applied concerning greenhouse gas savings, biodiversity, water and chemical use, and soil health to the growing of bioenergy crops; sugarcane, palm oil, soy, corn and, more recently, jatropha and wood products. WWF is involved in the set-up of a global “roundtable” on Bioenergy that is hosted by the Ecole Polytechnique de Lausanne (EPFL). In June this year, the UK Government announced that it would make key sustainability criteria mandatory by 2011 – a first.

◆ **Global indicators for agriculture:** To help understand and measure the key impacts farming, WWF is developing of a set of global indicators for use at all levels from farm to consumers. These indicators address the following key impacts:

- Climate change – GHG release with drivers being N₂O and CH₄
- Water pollution – nitrates, phosphates, pesticides, silt
- Water use – where or when water is scarce
- Toxicity – total toxicity of pesticides applied
- Biodiversity loss – on farm and by conversion
- Soil deterioration and loss.

The UN Millennium Development Goals (MDGs) aim to halve those living in poverty by 2015 and to “reduce by half the proportion of people living without sustainable access to safe drinking water”. Discussions around dams and food security are central to any aspirations to reduce poverty in an environmentally sustainable way.

◆ WWF has documented at least four cases where both freshwater ecosystems and livelihoods of communities dependent on them have benefited from our conservation work, for example:

- Working for Wetlands, South Africa: unemployment reduced; among the newly employed, at least 40% of women
- Around Lake La Cocha in Colombia: improved health
- The Yangtze: threefold income increase from alternative farming
- Brazilian Varzea and lake fisheries management work: conflicts over shared resources mitigated and markets and yield being secured.

Wetlands conservation

Not always the belle of the ball but the key to life, wetlands clean, store and regulate water for our use. Wetlands are among the world's most spectacular sites, but sadly are sometimes seen as swamps that take up space and let pesky mosquitoes breed. WWF's ambition for the world to conserve and restore 250 million hectares of wetlands by 2010 has underpinned our vision for a living planet, and inspired the world's governments to adopt this target through the Convention on Biological Diversity & Ramsar Convention on Wetlands. Wetlands come in all shapes and sizes: lakes, marshes, rivers, estuaries, and desert oases. These are lands sometimes wet, sometimes dry depending on the season, not an accident but a wonder of the natural cycle. The vast Pantanal across Brazil, Bolivia and Paraguay, is three times the size of Ireland; like hands across the land, its streams give raw materials that feed, clothe and house millions of people.

WWF set itself the ambitious objective of instigating conservation and wise management of 100 million hectares between 1999 and 2007. In this work we are promoting the implementation of the Ramsar Convention on Wetlands, a treaty WWF help found in 1971. Since 1999 WWF has helped safeguard nearly 83 million hectares of wetlands – more than twice the size of Japan – for generations to come in places, and through initiatives, such as:

◆ The “Green Heart of Africa” where four wetlands covering nearly 6.5 million hectares of the Congo River basin in the Republic of Congo will be designated for protection under the Ramsar Convention. The largest of these four sites, the “Grands Affluents” at 5,908,074 hectares, touches the Réserve Communautaire du Lac Télé/Likouala-aux-Herbes (438,960 hectares designated in 1998), so together these two wetlands alone make up the largest area ever designated for protection from unsustainable use under the Ramsar Convention on Wetlands.

◆ A popular feature of WWF's protection and management of wetlands are initiatives that are widely inclusive - blending local field work with national and global policy implementation, engaging multiple stakeholders to cooperate and strengthening sustainable management systems, and attracting the attention of donor giants. One example is the NigerWet Initiative that involved the Niger Basin Authority, Wetlands International, Nigerian Conservation Foundation, and WWF. Based on a common vision for conservation of priority habitats developed by these partners, sixteen Ramsar sites comprising 15 million hectares were conserved, and a partnership between the Niger Basin Authority and the Ramsar Convention was formalized in 2002. WWF assisted the basin governments to secure

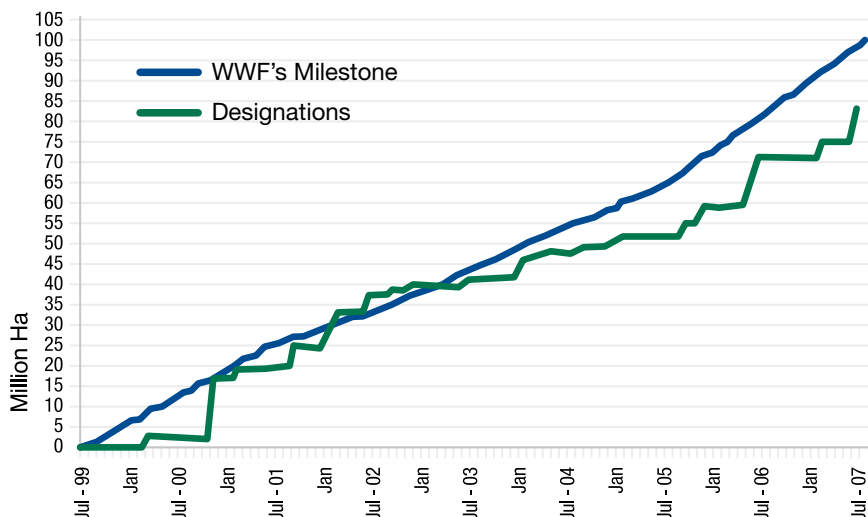
Global Environment Facility (GEF) funding of CHF 3 million for implementation of pilot wetland management projects and undertake wetlands management training for local staff. The Council of Ministers of the Congo River Basin Commission subsequently has resolved to initiate a similar a ‘CongoWet’ initiative.

◆ WWF freshwater protected area investments of CHF 900,000 over eight years in six ecoregions in Africa and Asia have resulted in reservation of nearly 41 million hectares of key habitats and have leveraged 34 times more investment in management. Common characteristics of work to conserve wetlands included consistent engagement with governments and local leaders for six or more years to develop a shared vision; provision of small grants to local WWF offices and governments; partnering with or establishing regional organizations such as river basin organizations; publicly thanking the people and organisations who have made important decisions for conservation, and linking these regional initiatives to international aid and corporate donors.

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83
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than twice the size
of Japan

Area of newly protected sites





© WWF-Canon / Juan PRATGINESTOS

*Aerial view of the Paraguay
River Pantanal Mato Grosso,
Brazil.*

Where we do it

Working with diverse partners, nearly 300 WWF projects are actively addressing freshwater issues in more than 150 countries, many of which bear the brunt of overuse, mismanagement and water scarcity.

Every drop counts

Water is the one essential element binding people and nature. Nearly everyone lives in a water catchment and everyone is part of the solution: conserving the environment as the source of water for people and nature. WWF is committed to sustaining rivers, conserving wetlands, protecting the few free-flowing rivers that remain, promoting more sustainable use of dams, and growing crops that bring in revenue without taking all the water. We work with farmers, suppliers and retailers on thirsty crops, implementing policies that promote healthy rivers and keeping wetlands away from the would-be development and pollution that compromise their ability to give us clean, abundant water.

“In wine there is wisdom. In beer there is strength. In water there is bacteria.”

(German proverb)

“Whiskey is for drinking. Water is for fighting over.”

(attributed to Mark Twain)

“We never know the worth of water till the well is dry.”

(Thomas Fuller, Gnomologia, 1732)

The mission of WWF is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable resources is sustainable
- promoting the reduction of pollution and wasteful consumption

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