

HYDRO - GRAPHICS

FRESH WATER MATTERS

WE FORGET THAT THE
WATER CYCLE
AND THE **LIFE** CYCLE
ARE ONE.

JACQUES COUSTEAU

Lake Turkana, Kenya
Omo River Basin

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NO WATER NO LIFE



HYDRO - GRAPHICS

FRESH WATER MATTERS

HYDRO - GRAPHICS DESIGNED BY JENNA PETRONE
PHOTOGRAPHS BY ALISON M. JONES

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An Introduction to NWNL HYDRO-GRAPHICS

Noting the impact of info-graphics used during the 2015 State of the Union Address, No Water No Life® [NWNL] decided to adopt this educational strategy. Combining our photographs with scientific data and environmental stewards' observations, our "hydro-graphics" address the values and vulnerability of our freshwater resources .

NWNL posts its hydro-graphics on our website and our social media as a means to introduce NWNL followers to the importance of water. Our NWNL hydro-graphic, featuring Jacques Cousteau's quote, "We forget that the water cycle and the life cycle are one," has reached over 36,000 people on Facebook. This proves how easily one image with a bit of information can quickly connect thousands of people to current watershed issues and solutions.

Our hydro-graphics are available to all for educational purposes. Just download and print them from our website's "Educational Tools" page. NWNL hopes you will share these to raise awareness of the values and vulnerability of our watersheds. Combining the powers of photography and science can make a significant impact.

If you do incorporate our hydro-graphics into your educational process, we would like to hear about it! Share your stories with us on our Facebook page or email us at info@nowater-nolife.org.

We hope these hydrographic lead you outdoors to enjoy your watersheds.

A photograph of a wooden cabin on a lake. The cabin is a simple, rectangular structure with a dark roof and a small window. It is situated on a calm body of water, and its reflection is clearly visible in the still surface. In the foreground, the interior of a wooden canoe is visible, showing its curved hull and several black seats. The background consists of a dense line of trees along the shore, and the sky is a pale, hazy blue. The overall scene is peaceful and serene.

NATURE CANNOT BE REGARDED AS SOMETHING
SEPARATE FROM OURSELVES OR AS A MERE
SETTING IN WHICH WE LIVE.

POPE FRANCIS, *LAUDATO SI'*

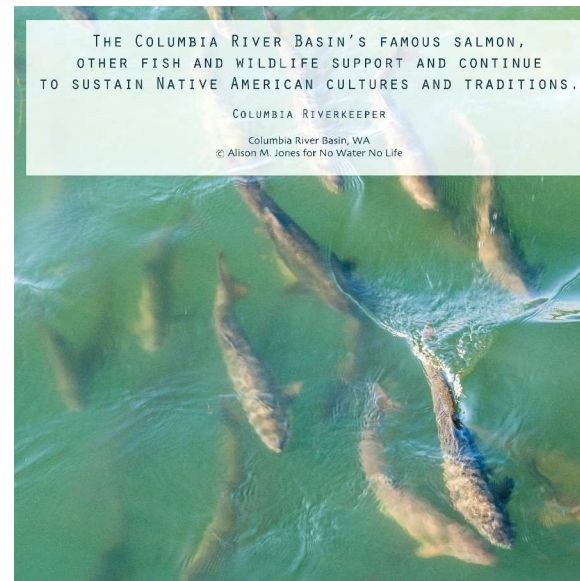
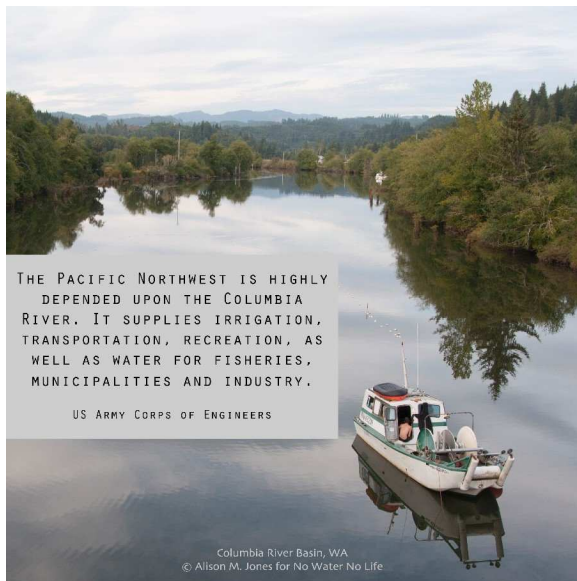
Natchez, MI
Mississippi River Basin

© Alison M. Jones for No Water No Life

Columbia River Basin

THE COLUMBIA RIVER BASIN spans 1 Canadian province, 7 U.S. states and 11 tribal nations. Over 11 million people rely on this river, now threatened by climate change, infrastructure, pollution and resource extraction. Receding glaciers and diminishing snow pack is reducing water supply. There are over 400 dams impacting habitats, impeding fish migration and restricting traditional river usage. Industrial, nuclear, mining and agricultural waste threaten water quality and habitat. Extraction of timber, water and fish weakens ecosystems and strains relations between Canada, U.S. and Tribal Nations.

Today public and private transboundary efforts are fostering sustainable solutions, and the viability of many dams is being reassessed. Current Columbia Basin Treaty renegotiations could become a model of responsible transboundary management.

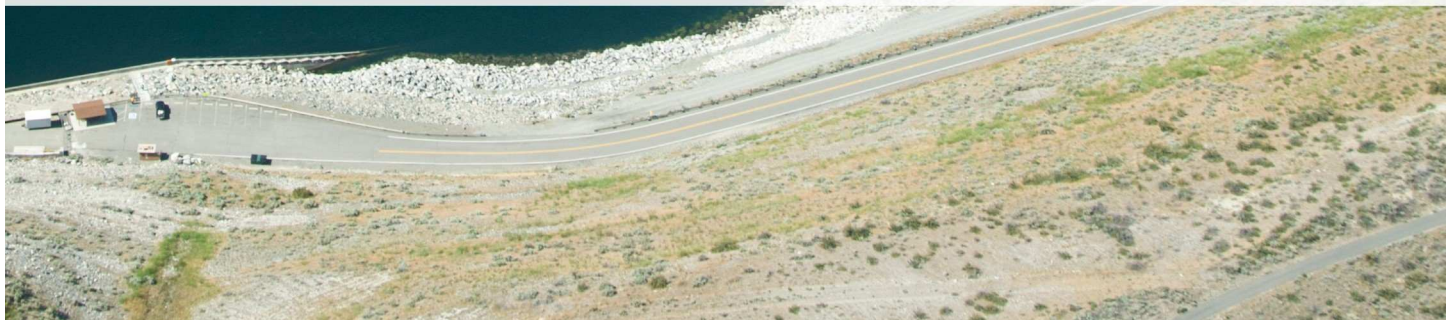




PACIFIC NORTHWEST **HYDROPOWER** COMES FROM 14 DAMS
ON THE COLUMBIA AND OVER 450 DAMS ON ITS TRIBUTARIES.
THESE DAMS SIGNIFICANTLY ALTER WATER FLOW,
WATER QUALITY AND SALMON RUNS.

COLUMBIA RIVERKEEPER

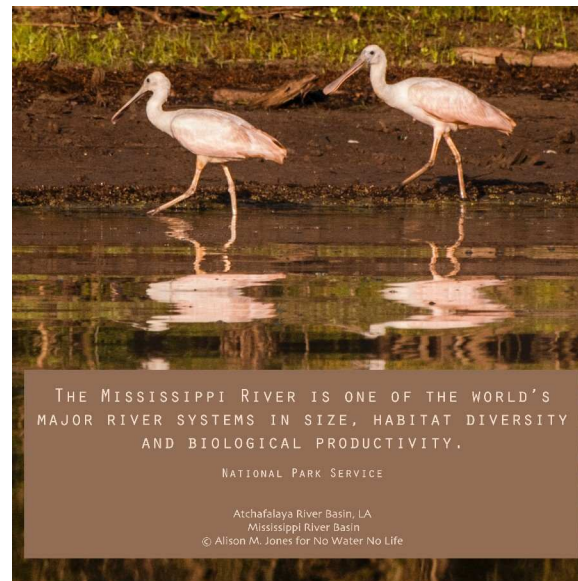
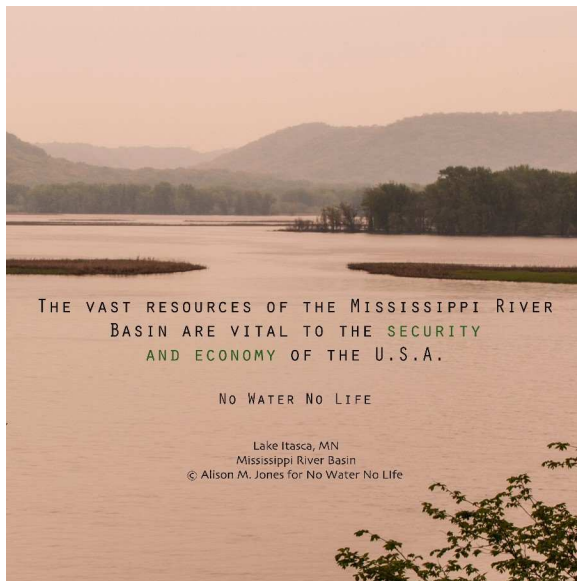
Columbia River Basin, WA
© Alison M. Jones for No Water No Life



Mississippi River Basin

THE MISSISSIPPI RIVER BASIN, drained by the Mississippi-Missouri River, is the world's 4th largest watershed and 4th longest river. This waterway is vital to the security and economy of the U.S. Water flowing across 41% of the Lower 48 States into this basin's tributaries provides a major U.S. commercial waterway, as well as water for industry, farming and human consumption.

Glaciers, earthquakes and the U.S. Army Corps of Engineers have set and reset the course of the Mississippi, its tributaries, deltaic channels and distributaries. Cotton and other agriculture have flourished, often helped by irrigation levees and canals. Yet this channelization by levees, industry and intense floodplain development has exacerbated the devastation by 1927, 1993 and 2008 floods and a 1988 record-low level. Today's managers are focusing on the impacts of climate change, infrastructure, agricultural and other runoff pollution, loss of forests and biodiversity, from its headwater to the Gulf of Mexico.





AGRICULTURE HAS BEEN THE
DOMINANT LAND USE FOR NEARLY
200 YEARS IN THE MISSISSIPPI
BASIN, AND HAS ALTERED THE
HYDROLOGIC CYCLE AND ENERGY
BUDGET OF THE REGION.

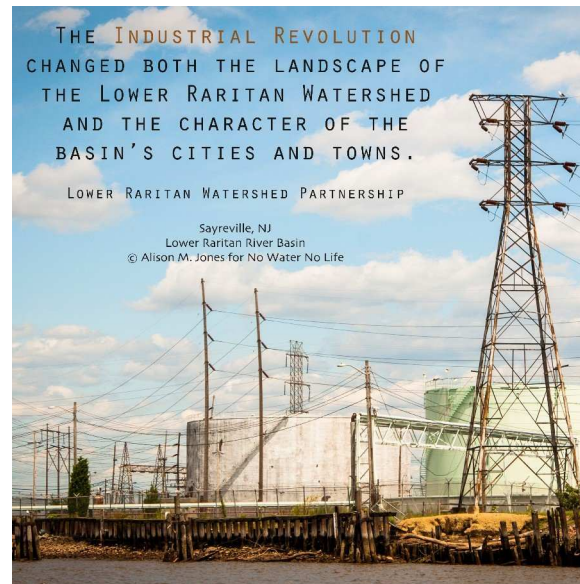
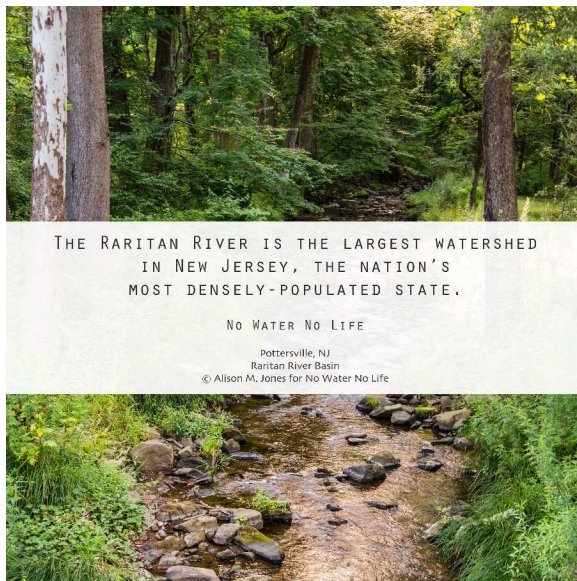
NATIONAL PARK SERVICE

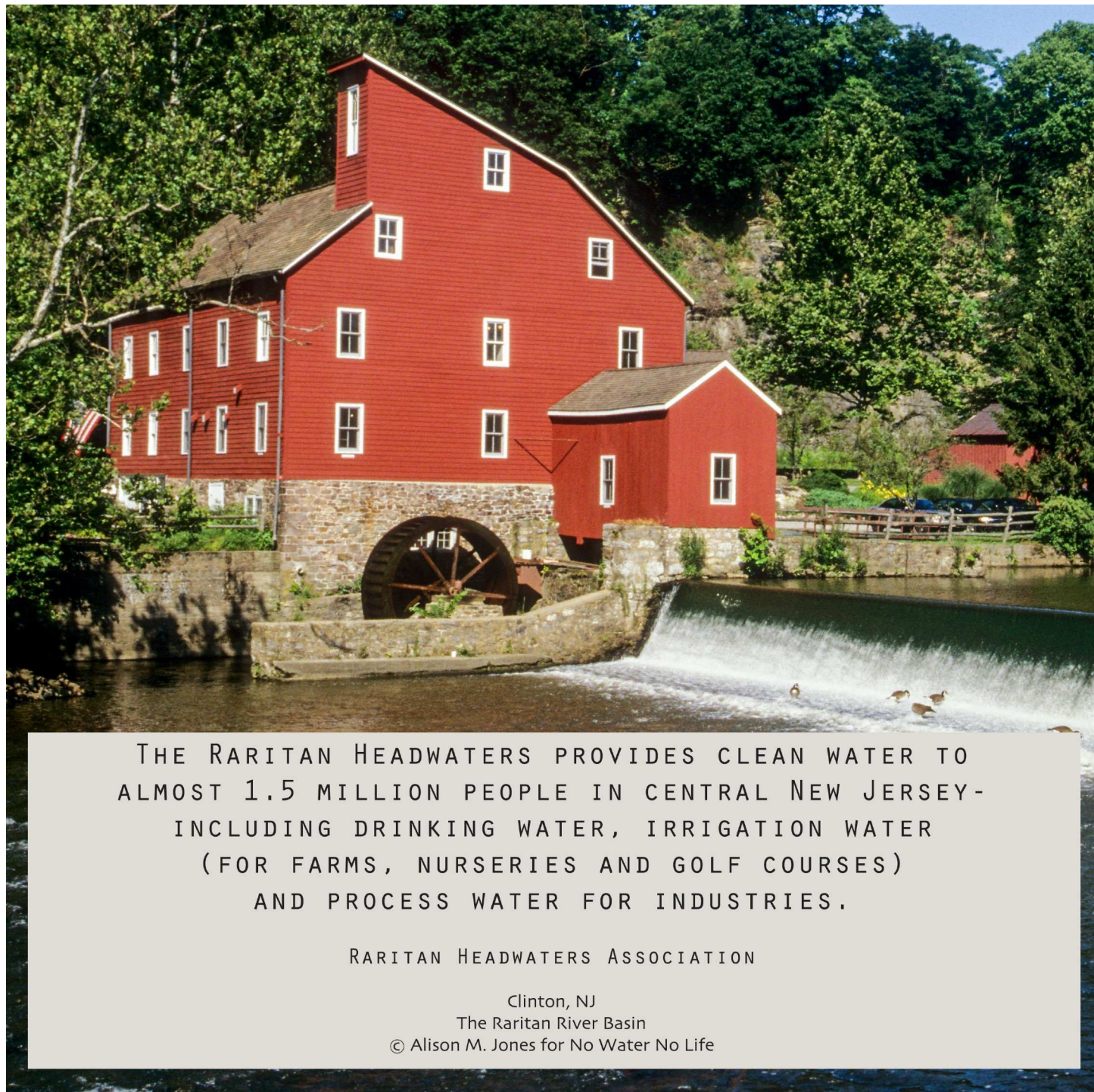
Rock Falls, IL
Mississippi River Basin
© Alison M. Jones for No Water No Life

Raritan River Basin

THE RARITAN RIVER BASIN drains water from 7 New Jersey counties into 70-mile river. Here Dutch settlers built gristmills on the Lenape Nation's "Forked River." While its highlands produce clear trout streams, a densely-populated, urban downstream fights a 200-years of industrial pollution. With an 1830's canal the Raritan connected New York City to Philadelphia and nearby coal resources. Today the Raritan Bay is part of the NY NJ Hudson Estuary.

The rural Upper Raritan struggles to preserve farms and open space and to control deer that threaten forest renewal. The Lower Raritan, one of the most polluted U.S. rivers, fights ongoing industrial and storm runoff. Flooding has increased due to urban development, impervious coverage of land, and more intense storms attributed to climate change. Together, upstream and downstream stewards and Rutgers University scientists are addressing the Raritan's wide range of challenges.





THE RARITAN HEADWATERS PROVIDES CLEAN WATER TO
ALMOST 1.5 MILLION PEOPLE IN CENTRAL NEW JERSEY-
INCLUDING DRINKING WATER, IRRIGATION WATER
(FOR FARMS, NURSERIES AND GOLF COURSES)
AND PROCESS WATER FOR INDUSTRIES.

RARITAN HEADWATERS ASSOCIATION

Clinton, NJ

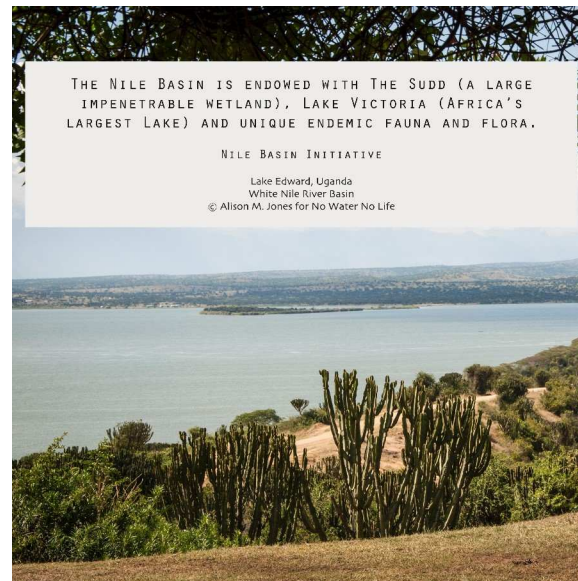
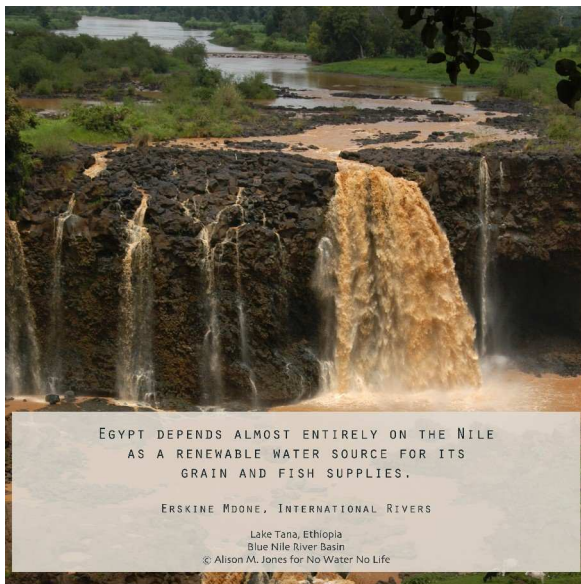
The Raritan River Basin

© Alison M. Jones for No Water No Life

Nile River Basin

THE NILE RIVER BASIN spans a tenth of Africa and is the world's longest river. Eighty million people depend on the Nile, yet river overuse portends desertification and transboundary conflicts for 11 Nile Basin countries. Deforestation is increasing desertification and water loss. Community wells are desperately needed for irrigation, drinking, cooking and sanitation, as shorter wet seasons and longer droughts add to food scarcity.

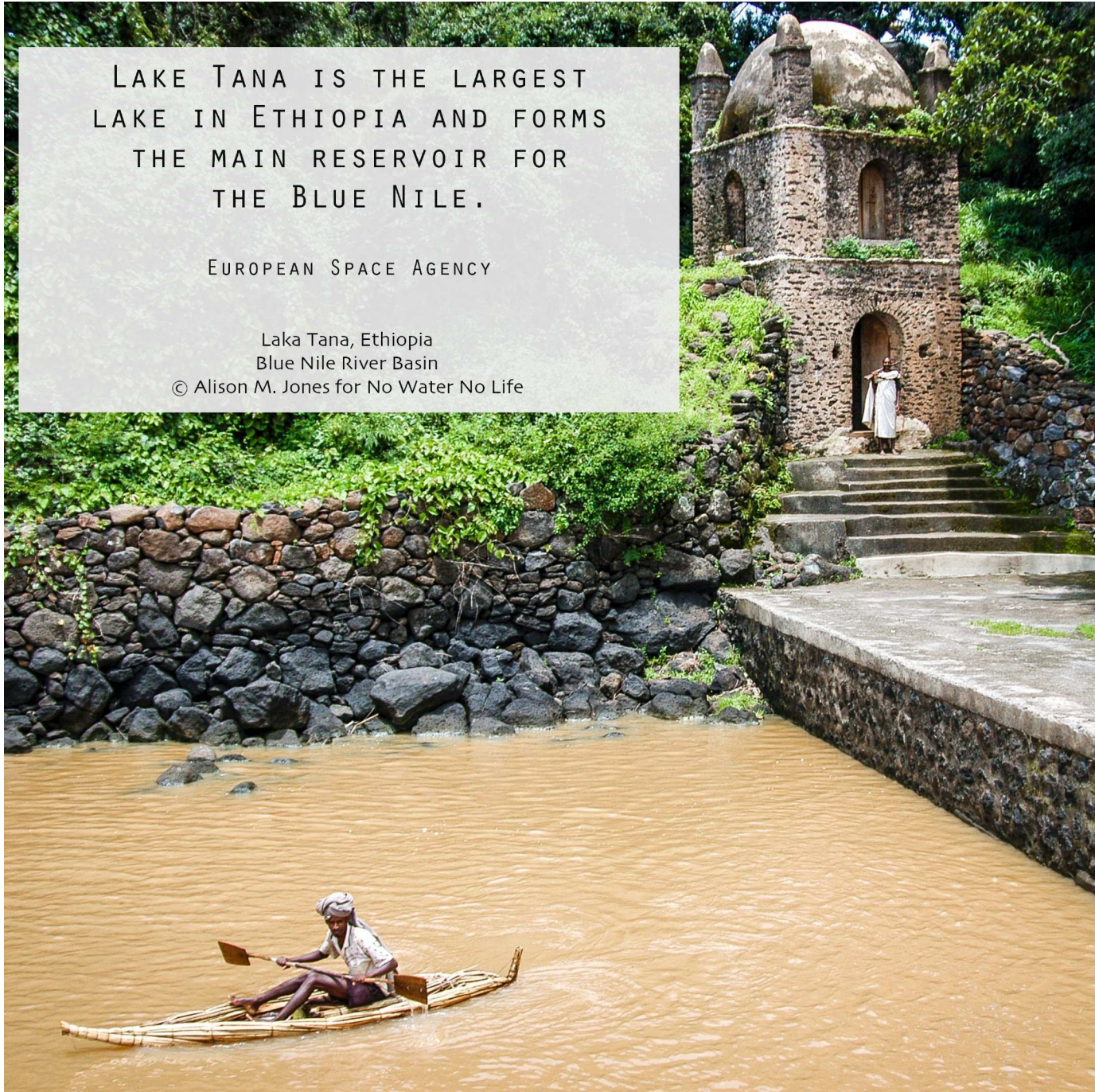
The 1959 Nile Treaty granted 87% of Nile water usage solely to Egypt and 13% to Sudan, while denying water rights to Ethiopia, whose Blue Nile supplies 86% of the Nile's volume. The Nile Basin Initiative is focusing on these water-right limitations and their effect on food security. With millions of its people starving and lacking electricity, Ethiopia is has turned to building Africa's largest hydro-dam on the Blue Nile, despite threats of retaliation by Egypt. Meanwhile Egypt irrigates crops in the desert for export to Europe.



LAKE TANA IS THE LARGEST
LAKE IN ETHIOPIA AND FORMS
THE MAIN RESERVOIR FOR
THE BLUE NILE.

EUROPEAN SPACE AGENCY

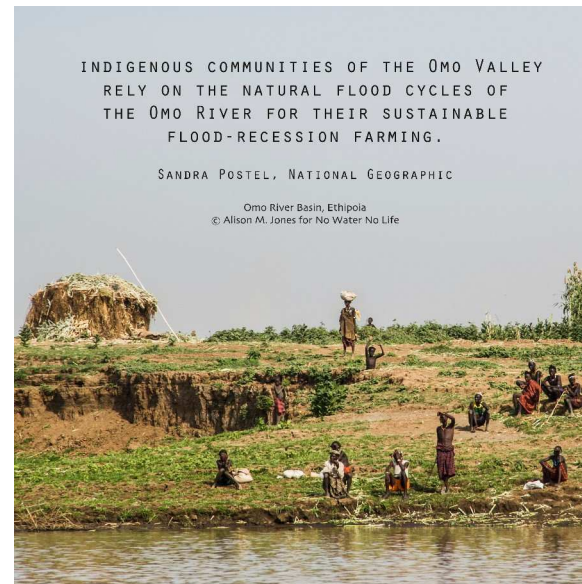
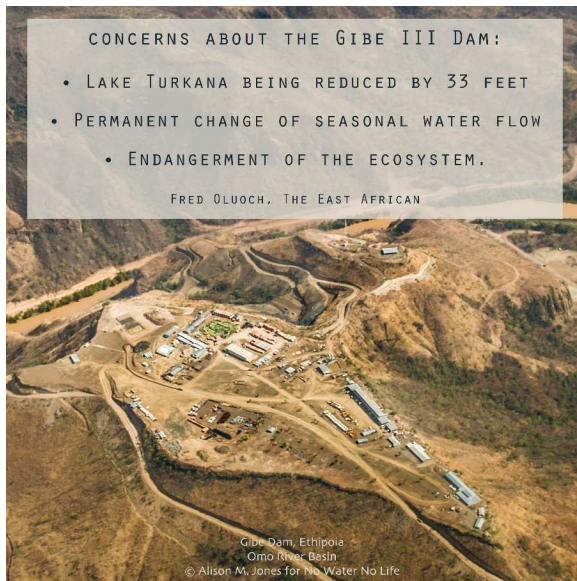
Laka Tana, Ethiopia
Blue Nile River Basin
© Alison M. Jones for No Water No Life



Omo River Basin

THE OMO RIVER BASIN cradles a 621-mile river tumbling from Ethiopia's monsoonal highlands to a desert lake mostly within Kenya. Indigenous Omo cultures, self-sustaining for 6,000 years, now struggle with droughts, famine, racism and a lack of clean water and sanitation. Large new dams upstream and climate change are devastating these communities, dependent on their traditional flood-recession agriculture. Kenya's Lake Turkana suffers from Ethiopia's upstream irrigation projects predicted to reduce the lake's volume by 70%.

Dams and large-scale agriculture along the Omo may bring food security, flood control and hydropower. Proposed roads, markets and water/food storage facilities may alleviate the instability of rain-dependent subsistence farming. Yet an influx of foreigners, water extraction for commercial irrigation, villagers' displacement and loss of fisheries critical to national protein supplies may destroy this Cradle of Humankind, its cultures and its ecosystems.



THE DISAPPEARANCE OF **CULTURE** CAN
BE JUST AS SERIOUS, OR EVEN MORE
SERIOUS, THAN THE DISAPPEARANCE
OF A PLANT AND ANIMAL SPECIES.

POPE FRANCIS, *LAUDATO SI'*

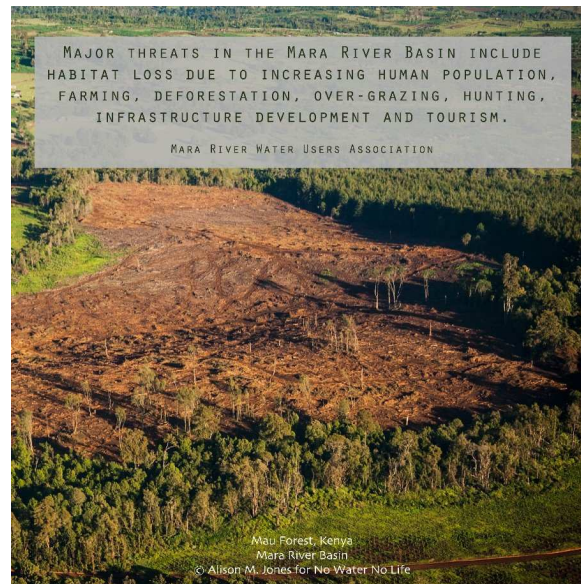
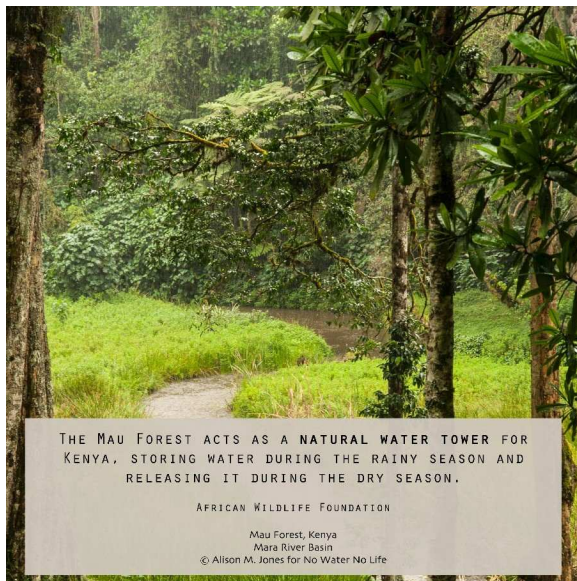
Omo River Valley, Ethiopia
© Alison M. Jones for No Water No Life

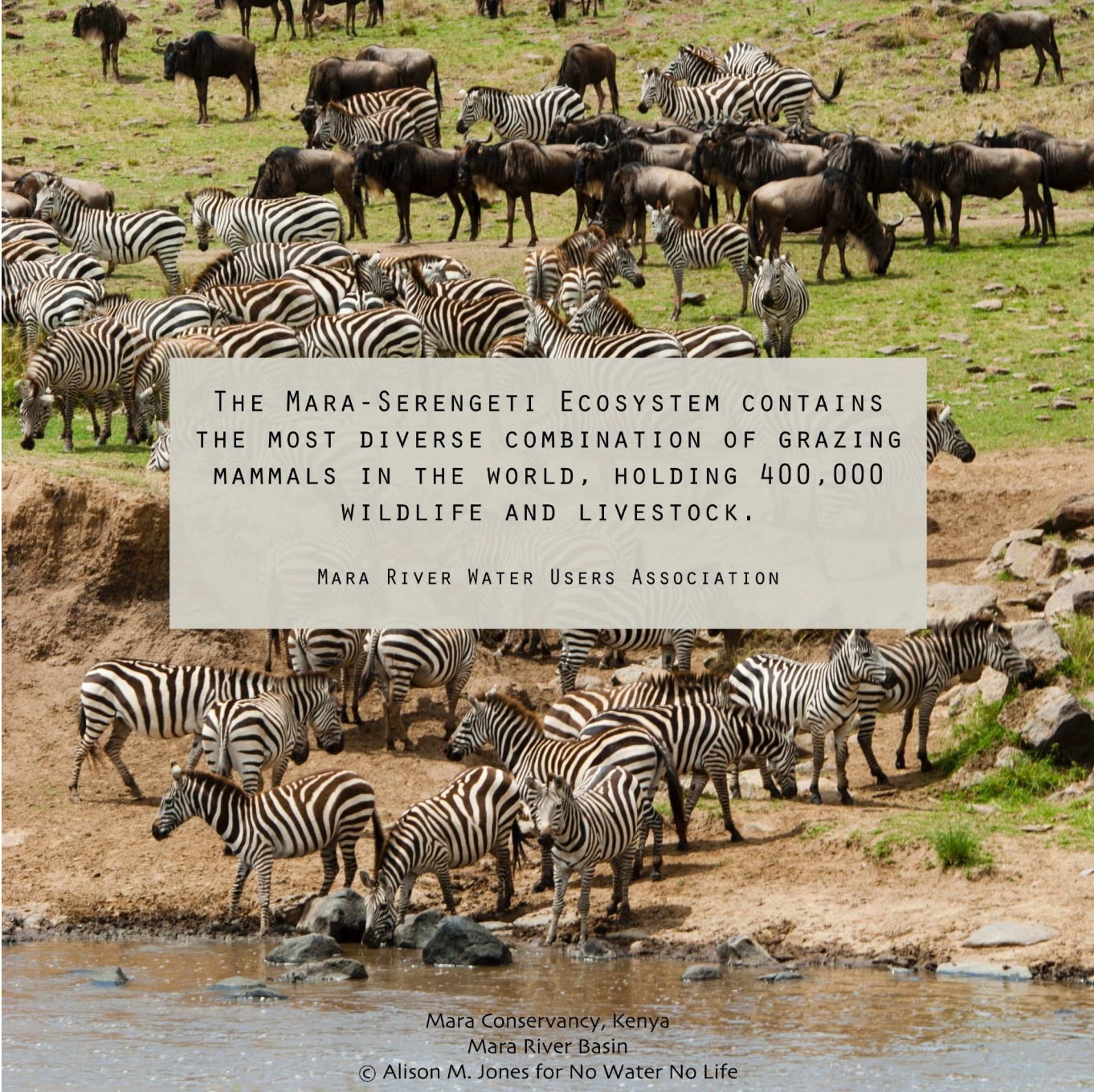


Mara River Basin

THE MARA RIVER BASIN is renowned for its 2 million wildebeest and zebra that famously cross the Mara River annually for water. Recent community-based efforts within the Maasai Mara Game Reserve are successfully helping to protect this 8th Wonder of the World. The one-million-acre Mau Forest Complex, Kenya's largest water catchment, provides water to the Mara River and millions of people in Kenya, Tanzania and the Lake Victoria Basin.

Yet illegal deforestation and encroachment have destroyed 25% of the Mau Forest. Further downstream, a proposed Serengeti Highway would bisect Serengeti NP, threaten migrating wildlife and disrupt the Mara River Basin's World Heritage Site ecosystems. Gold mine and farm run-off, as well as invasive species, clog Lake Victoria's shores with algae blooms. Reforestation, limits on tourism growth and family planning are now regional priorities to be faced in efforts to protect the Mara's rivers, lakes, migratory species and ecosystems in the Rift Valley, Western Kenya and greater Nile River Basin.





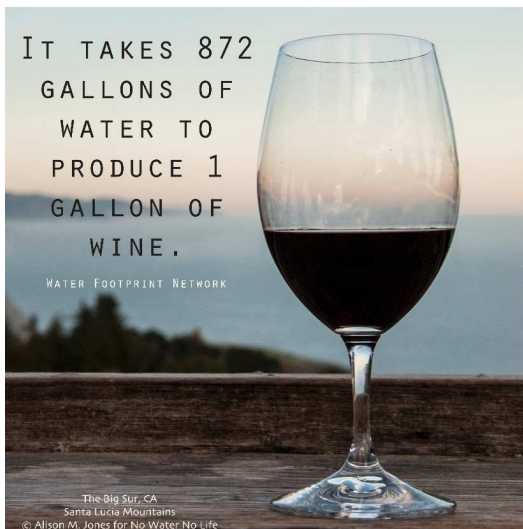
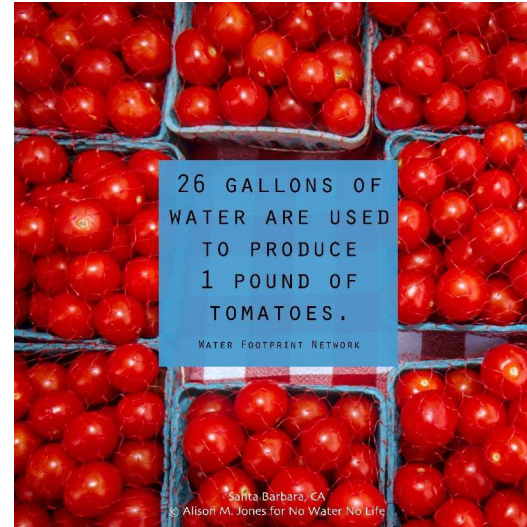
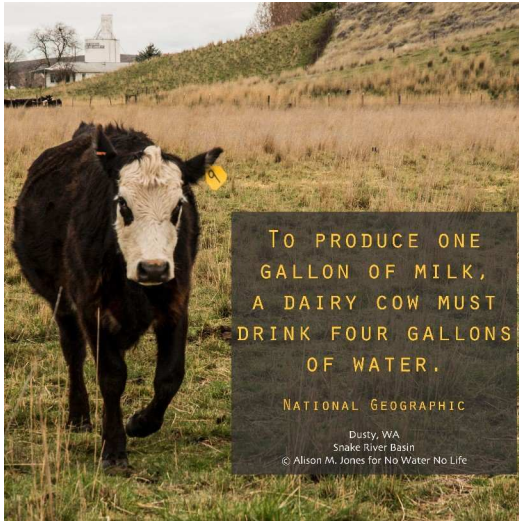
THE MARA-SERENGETI ECOSYSTEM CONTAINS
THE MOST DIVERSE COMBINATION OF GRAZING
MAMMALS IN THE WORLD, HOLDING 400,000
WILDLIFE AND LIVESTOCK.

MARA RIVER WATER USERS ASSOCIATION

Mara Conservancy, Kenya
Mara River Basin
© Alison M. Jones for No Water No Life

Virtual Water Content

The amount of water embedded in food or other commodities during growth and processing.





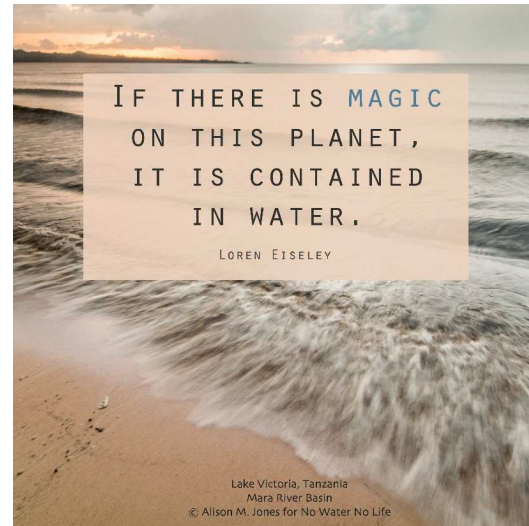
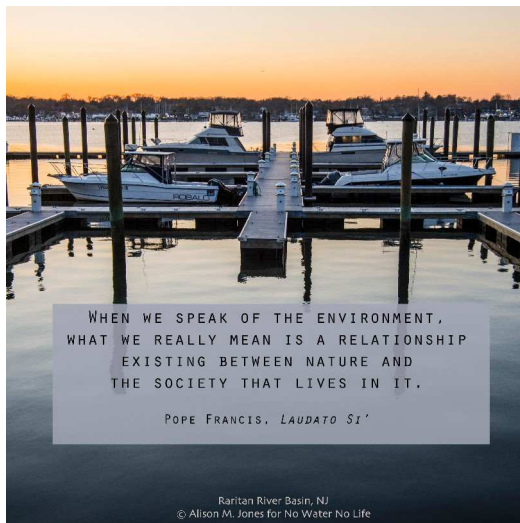
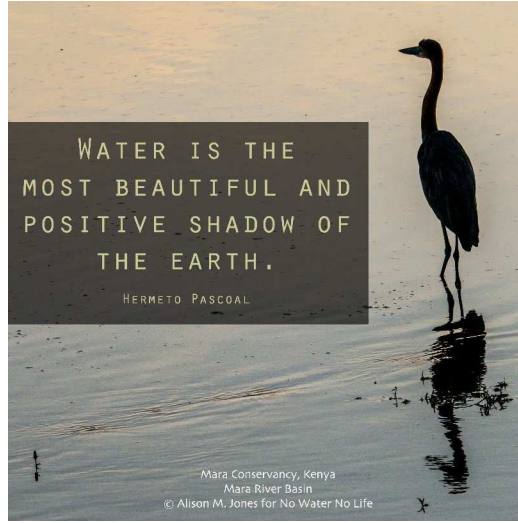
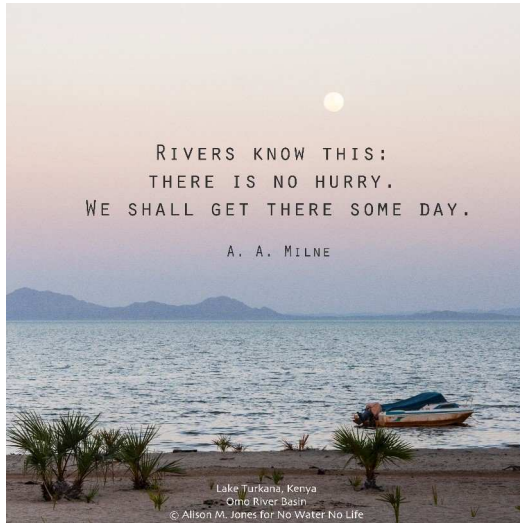
IT TAKES **400** GALLONS
OF WATER TO PRODUCE
1 CHICKEN.

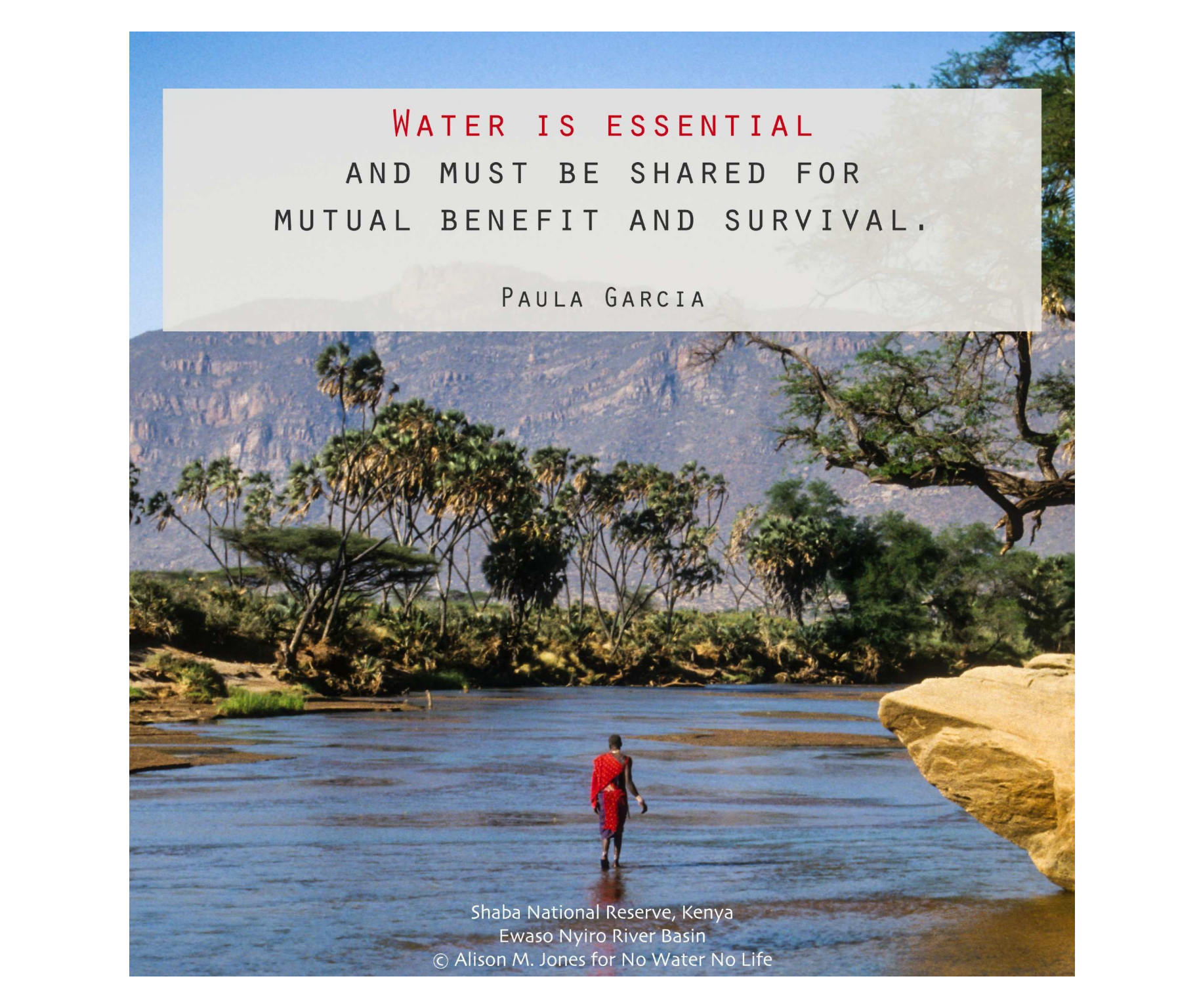
AMERICAN WATER

Dusty, WA
Snake River Basin

© Alison M. Jones for No Water No Life

Stewardship and Values



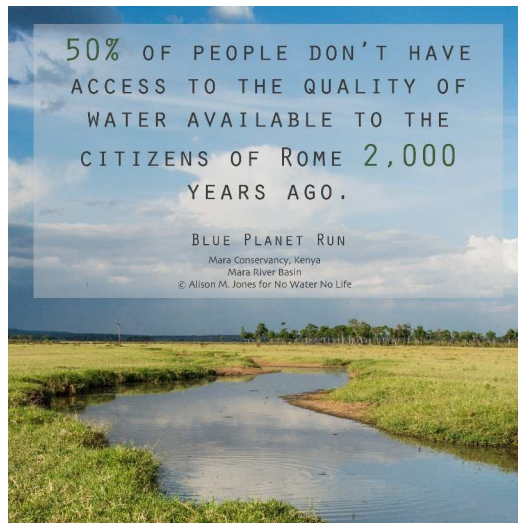
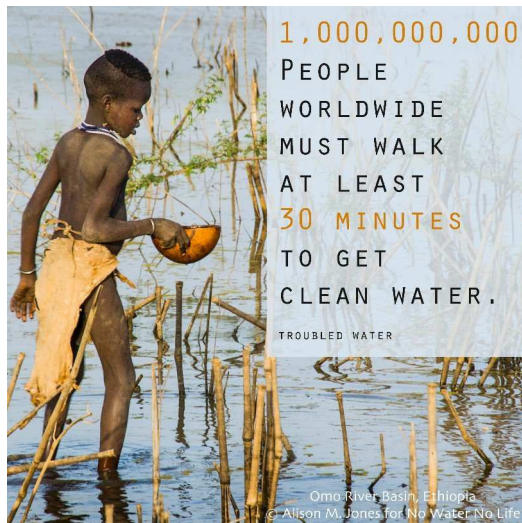
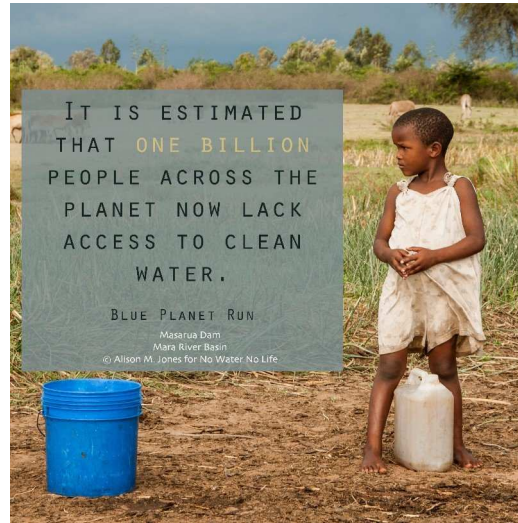
A photograph of a person in a red shuka walking through a river in a savanna landscape. The person is seen from behind, walking away from the camera. The river is wide and shallow, with a sandy and rocky bed. The background features a line of acacia trees and a large, rugged mountain range under a clear blue sky. The text is overlaid on a semi-transparent white box in the upper half of the image.

WATER IS ESSENTIAL
AND MUST BE SHARED FOR
MUTUAL BENEFIT AND SURVIVAL.

PAULA GARCIA

Shaba National Reserve, Kenya
Ewaso Nyiro River Basin
© Alison M. Jones for No Water No Life

Water, Sanitation and Hygiene

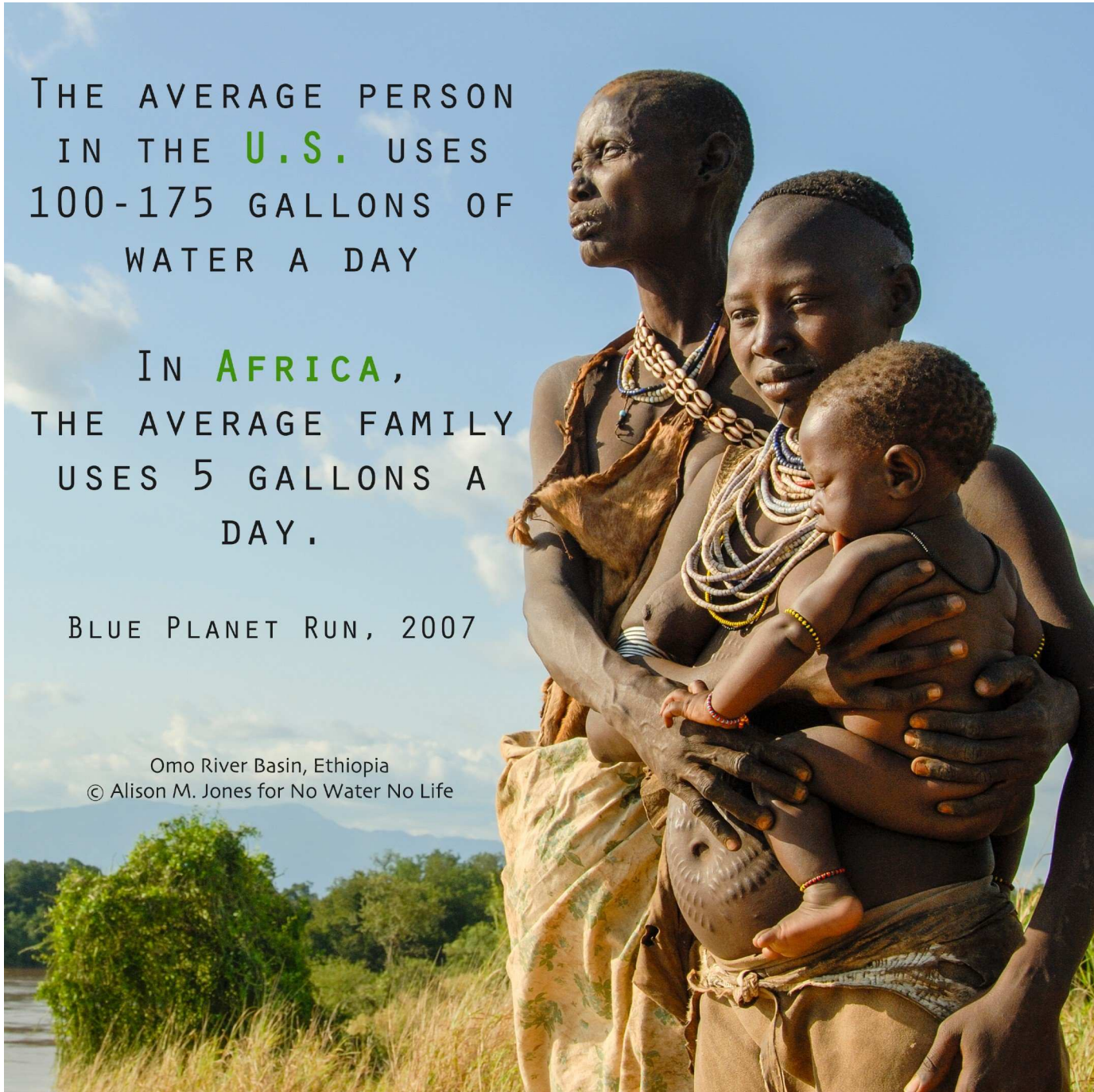


THE AVERAGE PERSON
IN THE **U.S.** USES
100-175 GALLONS OF
WATER A DAY

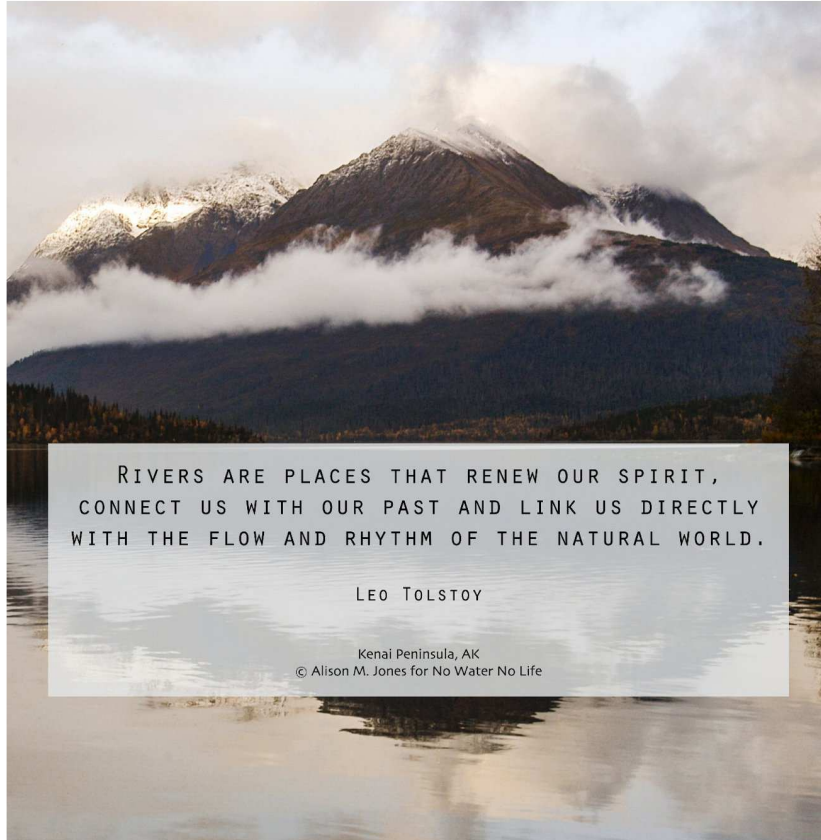
IN **AFRICA**,
THE AVERAGE FAMILY
USES 5 GALLONS A
DAY.

BLUE PLANET RUN, 2007

Omo River Basin, Ethiopia
© Alison M. Jones for No Water No Life







RIVERS ARE PLACES THAT RENEW OUR SPIRIT,
CONNECT US WITH OUR PAST AND LINK US DIRECTLY
WITH THE FLOW AND RHYTHM OF THE NATURAL WORLD.

LEO TOLSTOY

Kenai Peninsula, AK
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