



NATIONAL WATERWAYS
FOUNDATION



WATERWAYS: *Vital to the Nation*

*The benefits provided by America's waterways
spread far beyond commercial navigation.*



Who are the true beneficiaries of America's waterways?

From recreational enjoyment to flood control, the pools and channels of our national inland waterways system provide multiple benefits to the public at large.

A recent government study provides an overview:

*"A 2010 preliminary report concluded that a **wide range of consumers benefit** from the pools of water created and operated to facilitate commercial navigation and other uses, but **commercial navigation itself appears to be a relatively small beneficiary** of this system."**

*G.A.O. report, "Surface Freight Transportation: A Comparison of the Costs of Road, Rail, and Waterways Freight Shipments That Are Not Passed on to Consumers" (Jan. 2011).

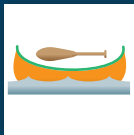
Who Benefits from the Waterways?



**Flood Control
Beneficiaries**



Shippers



**Recreational
Boaters**



Land Owners



**Hydropower
Generation**



**Industrial and
Municipal Water Users**

*University of Tennessee, Center for Transformation Research.
January 2011 Report: "Toward a Full Accounting of the Beneficiaries of Navigable Waterways."

The Beneficiaries of America's Inland Waterways

Without continued investment, our waterways benefits may be lost

Barge transport of commodities and equipment claims only a portion of the benefits our navigable waterways make available. Most benefits accrue to the general public; for example, people who enjoy recreational activities associated with our inland waterways; consumers of manufactured goods, electricity or water; avoidance of significant flood damage; or property owners having water views.

But at issue is the age of the dams and locks that form the foundation of our waterways system. Funding for operation and maintenance, as provided by the U.S. government, has declined in recent years, and funds for new construction have been limited as well. Clearly, the dilemma will impact the beneficiaries of our navigable waterways, many of whom are often overlooked.*



Extra Benefit: Irrigation

Using the drawdown from reservoirs, the effect of irrigation on farms in Oregon, Washington and Idaho was studied in 2008. Crop production on 182,000 acres of irrigated farmland was valued at \$2,263/acre. Without such irrigation, the net value of crops lost would equal \$6 billion annually with the loss of farm income \$462 million.

**A study done by the University of Tennessee, Center for Transportation Research, looks at the range of potential beneficiaries of America's inland waterway pools and channels. Two specific projects are examined: the Chickamauga and Kentucky Reservoirs. The report, published in January 2011, is titled "Toward a Full Accounting of the Beneficiaries of Navigable Waterways."*

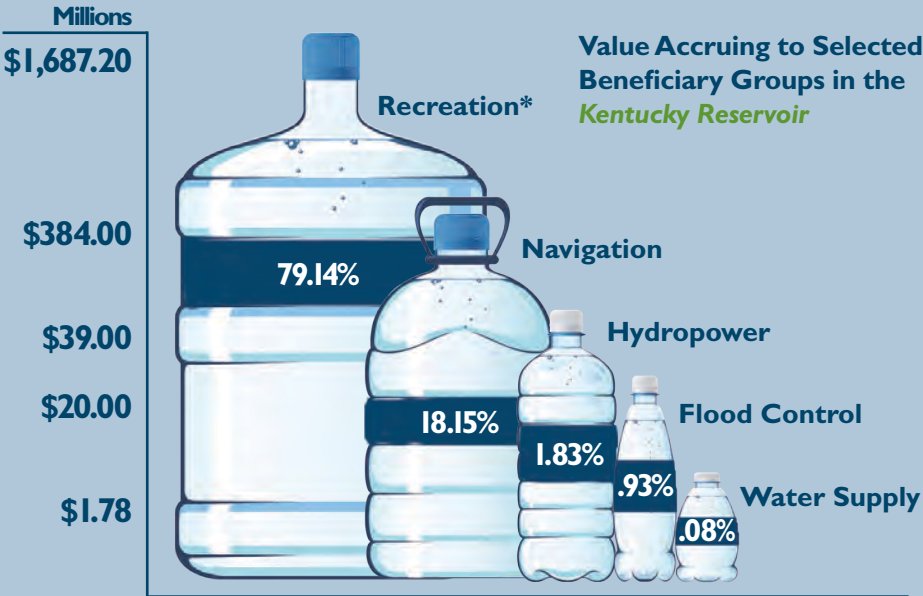
The Beneficiaries of America's Inland Waterways

Waterways provide jobs and recreational enjoyment



Jobs, Jobs, Jobs

America's inland waterways system provides thousands of well-paying jobs in many industries. Among the beneficiaries are shippers of the 624 million tons of waterborne cargo transported annually. But many others rely on jobs linked to our waterways, including farmers, utility and steel workers, port workers and tugboat crews.



Flood Control

The Corps of Engineers and the Tennessee Valley Authority (TVA) maintain data relative to flood control benefits, most of which occur in the headwaters of the Missouri and Tennessee Rivers. Additionally, dams in tributaries collect runoff, maintain their pools for recreational purposes and release stored water as needed to support navigation. Record-setting high waters on the Ohio, Mississippi and Missouri Rivers in 2011 demonstrate the value of the flood control system.



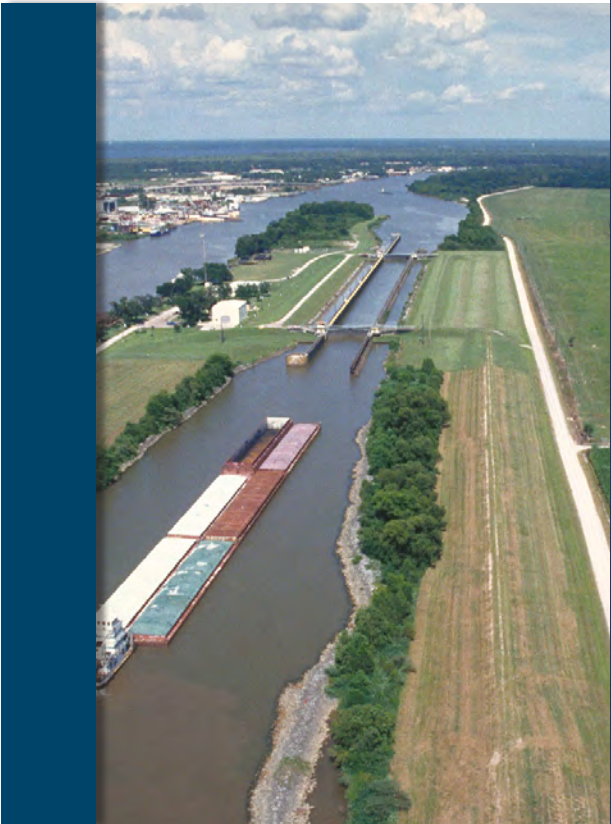
Recreation

In 2009, more than 382,000 recreational vessels passed through navigation locks on the nation's inland waterways. The Corps of Engineers, which is in charge of managing locks and dams, allows recreational boaters to transit the locks free of charge.



Hydropower Generation

The nation's hydropower plants, which generate billions of green, sustainable kilowatt hours (KWH) annually, are supported by our inland waterways navigational system. The facilities are serviced through barge-based maintenance, and through waterborne shipments of heavy replacement components.



Reservoirs and channels affect our lives in surprising ways



Waterways Navigation Shipper Savings

In 2006, under a contract for the U.S.Army Corps of Engineers (USACE), the TVA estimated the savings for shippers in the Ohio River Basin. That figure came to \$3.1 billion. The shipping and receiving companies included electric utilities, steel producers, chemical and petroleum companies, minerals shippers and many others. For the entire U.S. inland river system, the estimated national shipper savings was set at \$7.0 billion.



Property Values

In a TVA study of the impact that shifts in reservoir levels have on property values, Fort Loudoun Reservoir in Knoxville, TN, was among those analyzed. The findings indicate that a permanent elevation increase of 0.62 feet would yield a 2.3 percent increase in the value of riverfront property. Furthermore, by using the Regional Economic Model Inc. (REMI), it was found that lowering the navigation pool would significantly impact wealth, spending and total income for area residents.



Water Supply

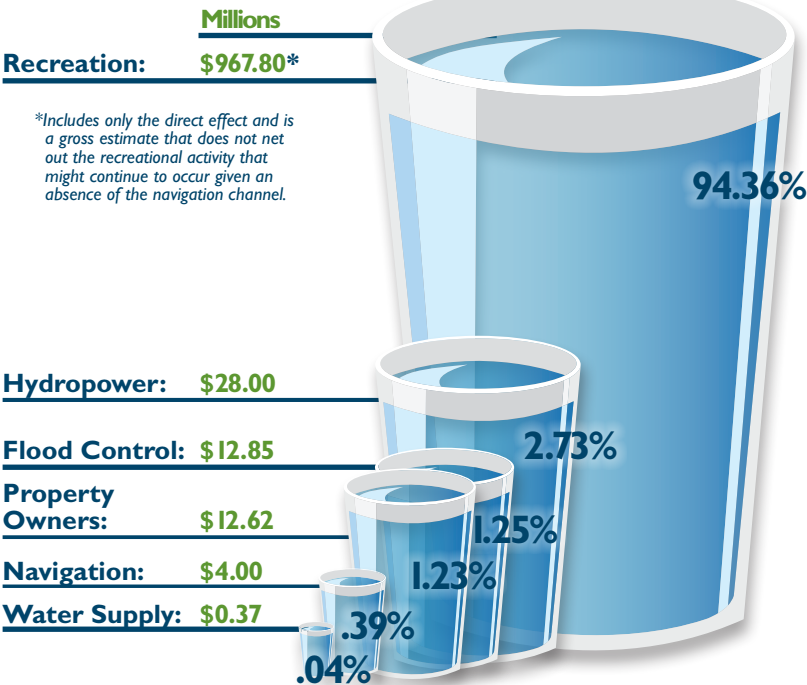
In the Ohio River System alone, 63 of the 72 federally owned locks and dams have pools with a total of 388 active water intakes. In 2008, municipal and industrial users withdrew a total of 23.3 billion gallons of water daily from these navigation pools, representing an estimated value of \$953.5 million per year.



Extra Benefit: Cleaner Air

Barges can move one ton of cargo 576 miles on one gallon of fuel. This is 100 miles per gallon better than transporting by rail and 400 miles better than hauling by truck. Barge transportation generates a lower carbon footprint and fewer carbon dioxide emissions than either of the other transportation modes.

Value Accruing to Selected Beneficiary Groups in the Tennessee River reservoir above Chattanooga



The Beneficiaries of America's Inland Waterways

Looking Into an Uncertain Future

When our inland waterways system began to take shape in the 1920s and '30s, the far-reaching benefits could not have been foreseen. Air quality impact, recreational usage and freight congestion mitigation were not part of the original design. But these and other important considerations – how regional income levels or property values are affected, for example – have become integral to modern waterways system management planning.

If portions of our waterways system were to fail, large numbers of people would be affected. Of the locks and dams that form the foundation of this system, 57% have exceeded their design life of approximately 50 years.

Funding overall began to decline in the 1990s, but the infusion of stimulus dollars provided a welcome boost in 2009. Still, there is a long way to go. The balance in the Trust Fund is small, yet construction and rehabilitation needs keep growing.

Keeping Our Waterways System Flowing

Maintaining our waterways, locks and dams will ensure that we can

- keep vital waterborne commerce moving
- preserve recreational opportunities
- continue to provide good, family-wage jobs
- use the system to support key services, and more

Our waterways system supplies us with multiple benefits in the here and now. But only proper investment and judicious care will keep the benefits flowing for generations to come.



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