U.S. Fish & Wildlife Service

Net Worth

The Economic Value of Fisheries Conservation

Fall 2011

This report is based on "Conserving America's Fisheries, An Assessment of Economic Contributions from Fisheries and Aquatic Resource Conservation," a 41-page peer-reviewed report prepared by Joseph Charbonneau, Ph.D., and James Caudill, Ph.D. and published by the U.S. Fish and Wildlife Service's Division of Economics.

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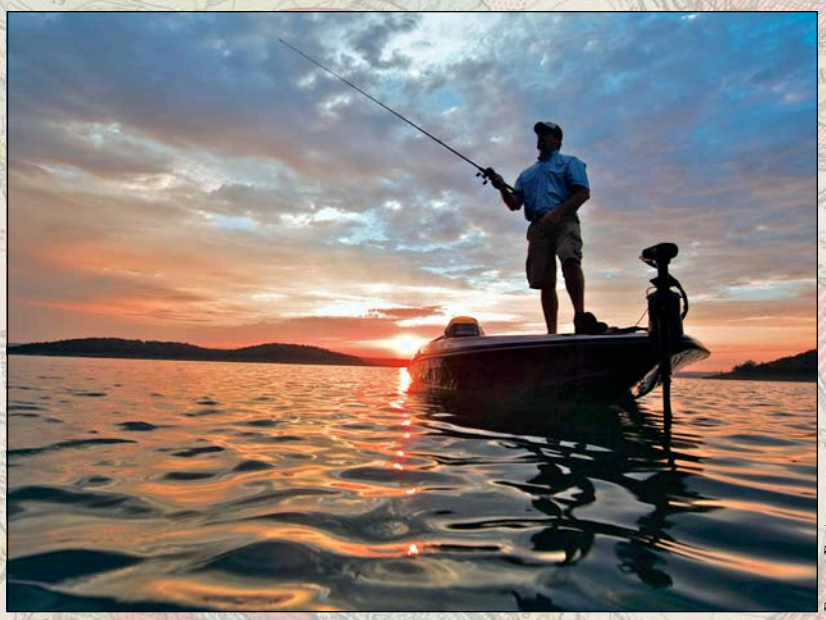
ON THE COVER: The "net worth" of the Gila trout is measured in myriad ways—by scientists, anglers, and economists. This fish was an endangered species, closed to angling for over 50 years. Dedicated conservationists brought it back from the brink in 2006. Once staring into the dark abyss of extinction, the fish is now sought by a following of anglers. Through conservation, the Gila trout now contributes to the economy, generating time on the water, and the spending associated with it, in Arizona and New Mexico.



Ranger Boats

AMERICA'S AQUATIC GOODS AND SERVICES

By Bryan Arroyo

Since 1871, the Fisheries Program of the U.S. Fish and Wildlife Service has been a leader in managing species, conserving habitat and sustaining the biological health of America's aquatic resources. These resources—the richest and most diverse on Earth—are inextricably tied to the health and wealth of our Nation. Benefits include ecological, scientific, aesthetic, recreational, commercial, subsistence, social, cultural—and economic.

This report highlights $3.6 billion in annual contributions to the U.S. economy by the Fisheries Program and many partners: states, tribes, NGOs and private organizations.

How big is $3.6 billion?

A company with $3.6 billion in annual profits would rank No. 41 on the Fortune 500 List of America's Most Profitable Corporations. That's just behind retailer CVS Pharmacies and Verizon, but ahead of the grocery brand Kraft.

Conservation stimulates commerce. Money changing hands translates to industry; $903 million in industrial output results from angling for fish originating in the National Fish Hatchery System. Habitat and fisheries conservation create more than 68,000 jobs in a multitude of businesses. Money invested today pays dividends tomorrow. That is the essence of conservation, looking out on the long-horizon. This economic report lends a well-documented perspective that conservation is a commodity good for fish and for people.

Think about it—the Total Economic Contribution of the National Fisheries Program: $3.6 billion annually. That's $70 million a week—$10 million a day.

The return on investment is tremendous.

Bryan Arroyo is the Assistant Director for Fisheries and Habitat Conservation in Washington, DC.

Imagine a business investment that annually returns 28 times its initial investment.

America's National Fisheries Program does.

MAJOR PAYOFFS

Each taxpayer dollar budgeted for the program generates $28 in economic returns.

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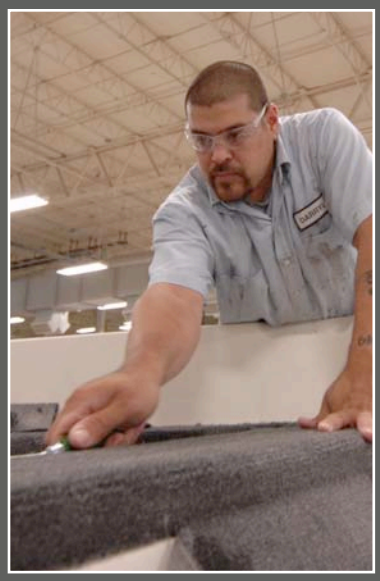
The revenue generated can be seen at sporting goods stores, marinas, boat dealerships, guides and outfitter services; bait shops, gas stations, cafes, hotels, wildlife watching tour businesses and many other enterprises that exist for, or benefit from, the National Fisheries Program and its many partners.



Ranger Boats

Supporting 68,000 Jobs

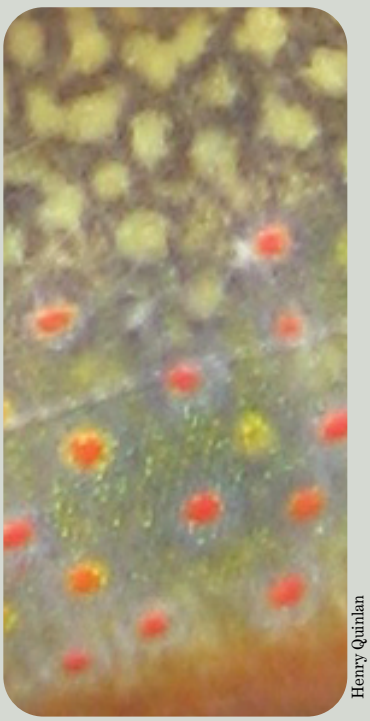
A total of 68,000 American jobs are attributable to the economic contribution of the National Fisheries Program. If all 68,000 of these jobs were part of a single company, its workforce numbers would closely match that of these large U.S. companies: Merck; State Farm Insurance; Whirlpool; Comcast; and Boeing.

Ranger Boats

Recreational Angling Resulting from National Fish Hatchery Stocking Programs Generates:

- **13.5 million** angler-days
- **$554 million** in retail sales
- **$903 million** in industrial output
- **8,000** jobs
- **$256 million** in wages/salaries
- **$37 million** in federal tax revenues
- **$35 million** in local tax revenues

Henry Quinlan



Henry Quinlan

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MAKING IT HAPPEN

Fisheries Program professionals, facilities and partners work together in five core areas:

Habitat Conservation

Types of Projects: Restore, enhance and protect habitat; restore in-stream flows and fish migration, monitor habitat quality.

Example: Worked with Eglin Air Force Base in Florida to remove dams and other barriers to restore critical passage for the Okaloosa darter. Fisheries Program dollars were matched almost 5:1 with funding from partners.

Species Conservation

Types of Projects: Recover threatened and endangered species, develop and implement fishery management plans, restore native species, control nuisance species.

Example: Worked with state, federal and Tribal resource agencies to recover once-endangered Apache trout in Arizona. The species is now abundant enough to support recreational fishing.

Cooperation with States

Types of Projects: Develop recreational fishing opportunities, mitigation of federal water developments, stocking fish in conjunction with state DNRs.

Example: Stocked 9 million rainbow trout; each taxpayer dollar spent generated $32.20 in angler retail sales.

Cooperation with Tribes

Types of Projects: Provide technical assistance, training, job opportunities for Tribal members and fish for stocking on Tribal lands.

Example: Restore coho salmon in the Waatch River for subsistence fishing on the Makah Reservation in Washington. Nationally, fish populations managed for subsistence have a minimum replacement value of $301 million.

Science and Technology

Types of Projects: Conduct Wild Fish Health Surveys, lead advancements in diagnostics, nutrition, genetics, propagation and marking.

Example: Work with aquaculture industry and agencies to monitor, manage and contain pathogens that could have detrimental impacts on fish populations and associated economic benefits.

Species in Peril

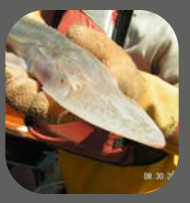
Despite efforts to conserve fish and other aquatic resources, a growing number of species are declining. The Endangered Species List includes 139 fish, 70 mussel, 25 amphibian and 22 crustacean species. Here's a sample of relevant Fisheries Program initiatives:

Maintaining broodstock populations of imperiled species at national fish hatcheries. Rare species held in refugia are valued by the public at $456 million.

Propagating and restocking the razorback sucker to indigenous rivers in Colorado, New Mexico, Arizona and Utah.

Assessing non-point source pollution that threatens six rare mussel populations in the Chipola River Basin in Florida.

Restoring fish passage for pallid sturgeon migrating between critical secondary channels and the navigation channel of the lower Mississippi River.



Healthy Habitat, Healthy Economy

Restoring or enhancing habitat is an essential function of the Fisheries Program. Healthy habitats ensure good fishing, and protect homes, businesses, and roads from damaging floods. The National Fish Passage Program and National Fish Habitat Action Plan are key components in habitat management.

Working with partners, an annual average of 890 miles of river habitat re-opened to fish passage has a value of $483 million when in full productivity, and with it an estimated 11,000 jobs. That exceeds a value of $542,000 per stream mile.

MAKING AN IMPACT

The Fisheries Program generates major economic benefits nationally and in your backyard.

Alaska
Removed passage barriers to conserve habitat and help sustain salmon runs in south-central **Alaska**. Local anglers spent $989 million and generated $91 million in state and local taxes.

Central U.S.
Provided public fishing access at Desoto National Wildlife Refuge. Desoto Lake receives 26,000 angling visits per year, generating $1.3 million in annual economic benefit for western **Iowa** and eastern **Nebraska**.

New England
Helped restore recreational angling for Atlantic salmon and other species by removing a dam and restoring fish passage in Souhegan River in **New Hampshire**.

Southeast
Utilized national fish hatcheries in **Arkansas**, **Florida**, **Georgia**, **Kentucky**, **Mississippi**, **North Carolina**, **South Carolina**, **Tennessee** and **Louisiana** to rear and release 22.3 million sport fish in 12 southeastern states. Anglers responded with 3.2 million days of fishing, generating $239 million in economic output and supporting 3,100 jobs.

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Hometown Benefits

Aside from its $3.6 billion total economic impact and associated 68,000 jobs on a national scale, the Fisheries Program brings direct benefits to Main Street, America.

With dozens of conservation offices, hatcheries, labs, health, and technology centers and more that 800 dedicated professionals the program's facilities and its employees are a significant economic force themselves, where they live and work. The Fisheries Program's local economic impact translates to 5,692 jobs that stem from wages, supplies, and services rendered at Fisheries facilities, making a difference in hometowns across the country.

Reared and released Gulf Coast striped bass to help restore a commercial and recreational fishery in **Louisiana**. This effort generated 3,000 angler days and $425,000 in local economic benefits.

Great Lakes
Controlled non-native sea lamprey populations to help minimize impacts on sport species. This effort provided economic contributions of $556 million and 13,200 jobs.

Improved spawning habitat for lake sturgeon, walleye and other sportfish by providing fish passage to reconnect habitats on both sides of Heiberg Dam in **Minnesota**.

Western U.S.
Reared and released 12 million Chinook salmon to support commercial and recreational fisheries in northern **California**. In the Sacramento River alone, salmon fishing is valued at over $100 million annually.

Hold in refugia a unique strain of Lahontan cutthroat trout extirpated from Lake Tahoe in the 1930s. This trout will be the centerpiece of a reintroduction program in several fisheries in **Nevada**.

THE POTENTIAL FOR MORE

"The nation behaves well if it treats natural resources as assets which it must turn over to the next generation increased, and not impaired in value."

Theodore Roosevelt

Previous pages of this report have highlighted the monetary value of Fisheries Program work to maintain and improve America's aquatic assets. Statistics show strong economic performance — every $1 invested by taxpayers translates to $28 in economic impact. Facts, figures and examples illustrate the program's $3.6 billion in annual contributions to the U.S. economy.

But the Fisheries Program also contributes value in ways that can't be computed.

What's the real worth of a parent's joy in introducing their son or daughter to fishing? Or a youngster's thrill as a bobber plunges beneath the water?

What's the real worth of citizens' satisfaction in knowing local waters are clean enough to support sensitive species?

America has always been socially and culturally tied to its lands and waters, its wildlife and fish. Even in today's modern world, with so many distractions from traditional outdoor lifestyles, surveys show most Americans still care deeply about the health and wellbeing of nature.

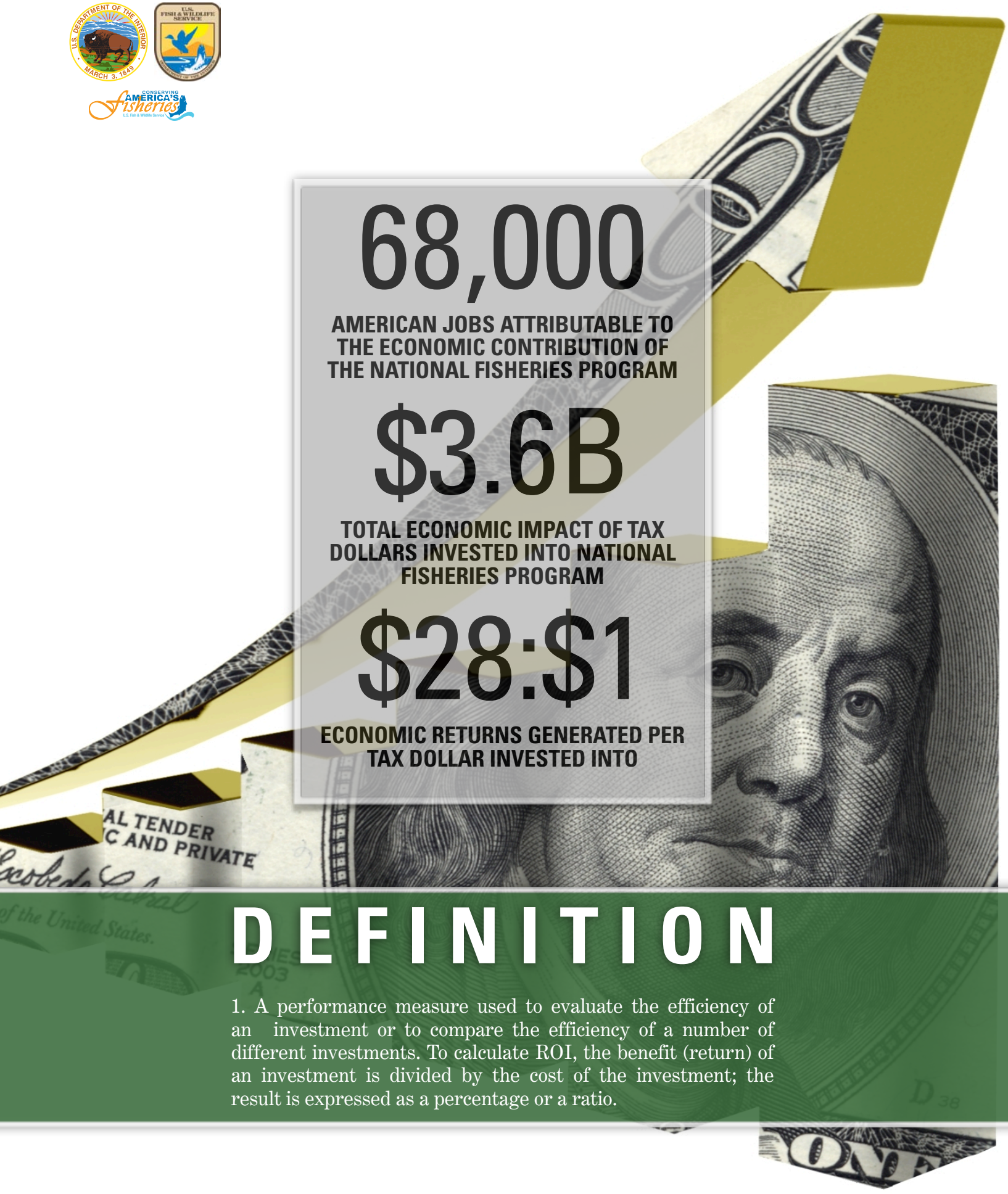
Since 1871 — 30 years before Roosevelt became President — the Fisheries Program of the U.S. Fish and Wildlife Service has been working to turn over our nation's aquatic resources to the next generation increased, and not impaired, in value.

With adequate funding, this stewardship can grow to fit the needs of America's future.

Inflation takes a toll

Budget increases for the Fisheries Program have not kept pace with inflation. In fact, in constant dollars, the nominally higher appropriation in 2008 was actually lower than the 2004 appropriation.

YEAR	ACTUAL APPROPRIATION	ADJUSTED APPROPRIATION
2004	$114,321,000	$131,872,000
2005	$114,569,000	$127,827,000
	88,000	$125,906,000
		$123,775,000
		3,025,000



68,000

AMERICAN JOBS ATTRIBUTABLE TO THE ECONOMIC CONTRIBUTION OF THE NATIONAL FISHERIES PROGRAM

$3.6B

TOTAL ECONOMIC IMPACT OF TAX DOLLARS INVESTED INTO NATIONAL FISHERIES PROGRAM

$28:$1

ECONOMIC RETURNS GENERATED PER TAX DOLLAR INVESTED INTO

DEFINITION

1. A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio.