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Benefits of Wildlife and Sport Fish Restoration Funds

Produced by the

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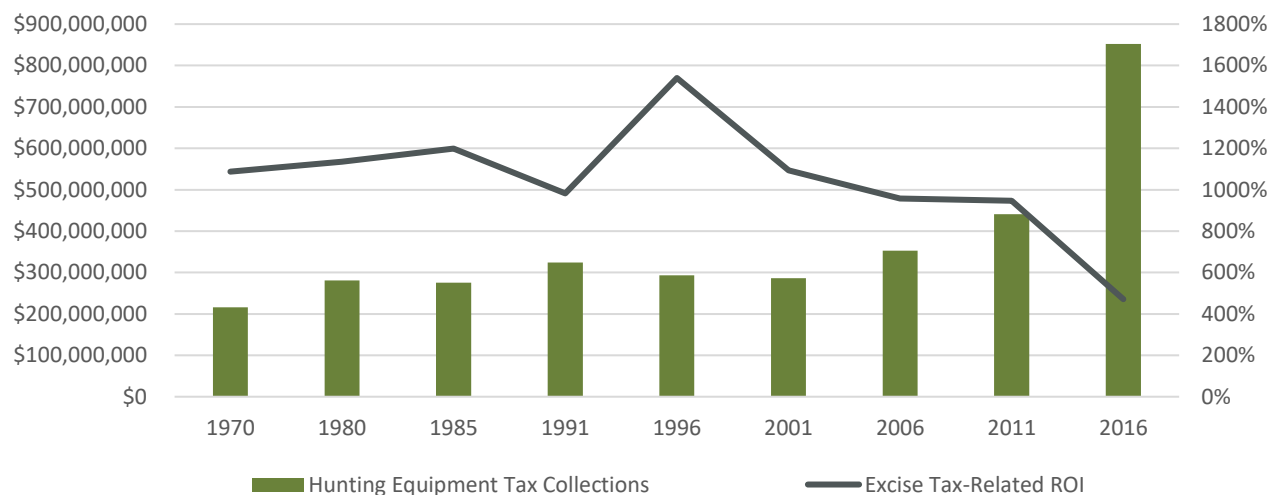
The authors also wish to thank the many others who generously volunteered other case studies and assistance, but the necessary data ultimately were not available. Despite the contributions of many, Southwick Associates remains solely responsible for all content herein.

Executive Summary

Over the years, millions of dollars have been invested in wildlife conservation from the Wildlife and Sport Fish Restoration (WSFR) Program. This investment created recreational hunting, shooting, and angling opportunities, which in turn, generated billions of dollars in purchases of hunting, shooting, and fishing equipment. Although industry has been a long-term partner in the development and continued success of these programs, today's competitive business climate presents tough challenges to companies. Traditional communications over the years have described the "success" of the excise tax in terms of how much money was spent, not how much was returned. While this approach is valuable, it is only mildly effective from a business perspective since companies measure success in earnings.

Comparing Wildlife Restoration excise tax collections and hunter purchases of tax-related equipment items for the last eight cycles of the National Survey (conducted every five years between 1955 and 2016), the estimated annual Excise Tax-Related ROI to the Wildlife Restoration Program ranges between 1,540% and 471%. Recognizing that reporting benefits to these companies using primarily hunting-related measures is limiting, as many companies paying Wildlife Restoration excise taxes do not sell to hunters alone. Hunting-related measures are currently the best method for tracking returns to industry.

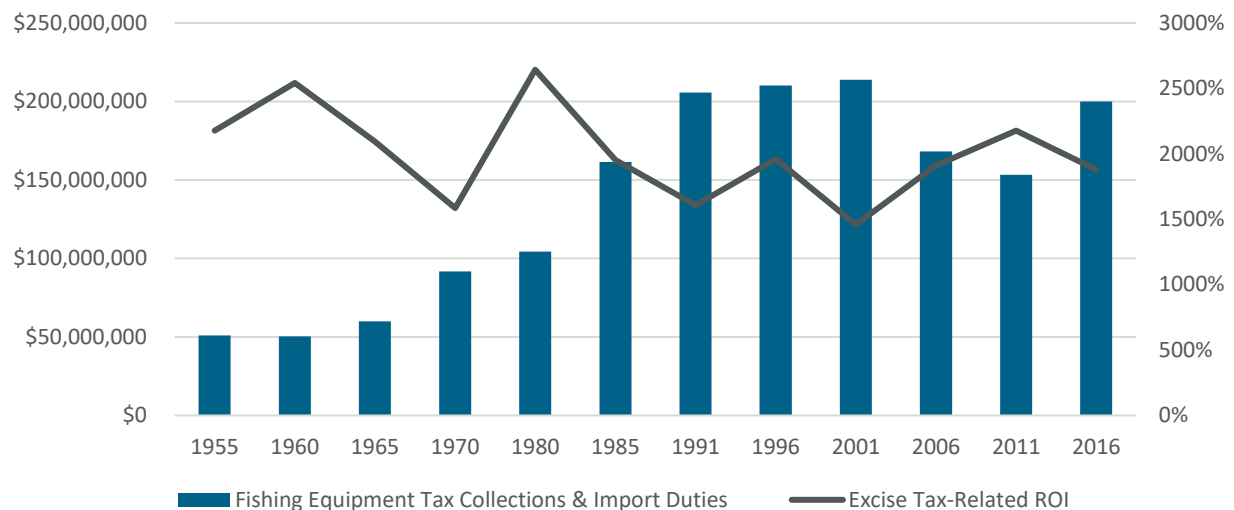
Figure E1. Hunting and Shooting Equipment Excise Tax Collections and Return on Investment (1970-2016)



Similarly, comparing Sport Fish Restoration excise tax collections and angler purchases of tax-related equipment items for the last twelve cycles of the National Survey (conducted every five

years between 1955 and 2016), the estimated Excise Tax-Related ROI to the Sport Fish Restoration Program ranges between a low of 1,459% in 2001 to a high of 2,643% in 1980.

Figure E2. Fishing Equipment Excise Tax Collections and Return on Investment (1955-2016)



While it is not possible to assess the returns on investment for all state-level projects funded in part by Program funds, these following summaries are examples of how investments have helped boost fishing participation and sales.

- ❖ Idaho's Black's Creek Shooting Range (BCR) is located approximately 25 miles from downtown Boise and is one of the largest and most visited ranges in Idaho. Established in 1976, the range has grown to offer more than 40 benches, many of them under a covered area, a wide variety of shooting distances, and handicap accessible public facilities. Visits to the range have grown steadily from 4,800 to 6,700 days annually, between 2014 and 2018 respectively. A 38% increase over the period, with the largest proportional increase taking place between 2017 and 2018, following a period of significant investment in target shooter support. Total estimated target shooter spending on excise tax related items is an estimated \$1.3 million. Investments allocated to the range improvements is estimated to total \$784,000, providing industry a 62% return.
- ❖ With more than three-quarters of the state's land under private ownership, access to those lands is critical to the for South Dakota's hunting community. More than 180,000 days of recreational hunting days are spent on Walk-In Access lands each year. Over recent years past, the focus has been recruiting landowners and acres in the

southeastern part of the state where roughly 50% of the population reside to provide close-to-home hunting opportunities. These recruitment efforts are teamed with outreach efforts to raise awareness of the program along with user-friendly geospatial navigational tools enabling hunters to easily access up-to-date information about lands open for public use. Total annual hunter spending on taxable hunting items in 2019 was an estimated \$4.2 million. Investments allocated to the Walk-In Area Program in 2019 was \$1.6 million, providing industry a 165% return.

- ❖ The shooting range located within Oklahoma's Lexington Wildlife Management Area (WMA) is about an hour south of Oklahoma City and offers thousands of visitors the opportunity for outdoor sporting activities. Total estimated spending by target shooters on excise tax related items is an estimated \$1.7 million. WSFR investments allocated to the range improvements is estimated to total \$307,000, which provides industry a 358% return.
- ❖ In 2011, the three-acre pond was added to the Edson Fichter Nature Area, the first urban community fishing pond in Pocatello, Idaho. The pond is stocked with rainbow trout annually and managed by IDFG as a put-and-take fishery. Between 2011 and 2019, total investment in pond construction was approximately \$270,000, of which roughly 25% came from private donations and the remainder from SFR investments. Angler spending between 2011 and 2019 has accrued to an estimated \$1.8 million, generating a positive return to industry of just over 860%.
- ❖ Roughly 1 in 4 of Georgia's licensed anglers spin, bait, or fly fish for trout. Their activity generating an estimated \$3.6 million in spending on taxable fishing items alone. Relying heavily on hatcheries, more than 1 million reared trout of harvestable length are released in waterbodies across the state each year. Nearly two-thirds of a million dollars of SFR funds supported this work, providing industry with a 471% return on the investment.

Many shooting sports and sportfishing manufacturers are not aware of the benefits generated by the excise tax they pay and how the decades of investment have created huge business opportunities and supports our industry. The major goal of this project is to move current and upcoming executives and business owners from positions of opposition or neutrality towards WSFR excise taxes to being ardent supporters of the program, championing its continuation and helping to prevent any changes that might diminish the program's ability to create and maintain new opportunities to sell taxable hunting, shooting and fishing equipment. This report provides insights conveying these benefits. Visual summaries are available on www.NSSF.org and www.ASAfishing.org.

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Introduction

Needless to say, times have changed. There remains excellent hunting and fishing opportunities around the country, but it's been many years since we've been able to take our hunting and angling success for granted or assume that quality wildlife and fish are still there just for the taking.

Many North American native wildlife species faced a bleak and uncertain future as far back as the early 1900s due to habitat loss or unsustainable harvests. Issues like pollution, agricultural runoff, siltation – along with invasive fish and aquatic plants – are among the challenges currently impacting sportfishing in our inland and coastal waters. Now a days, demographic changes challenge us to develop sustainable habitat solutions for wildlife and fish closer to our growing population centers to provide or even improve hunting and angling access.

Through the funds paid into the Wildlife and Sport Fish Restoration Program (referred to as WSFR in the balance of this report), sportfishing businesses industry, along with their state and federal fisheries partners, have built a strong industry and brighter future for recreational hunting and fishing in America.

Every wildland, field or marsh that has been maintained or restored, every hunting site that has been “opened,” and every range that has been developed using WSFR investments provides another opportunity for more hunting, shooting sports, and archery enthusiasts to enjoy their passion. And that translates into more equipment sales.

Similarly, every lake or stream that has been restored, every fish that has been stocked and every ramp that has been built using WSFR investments provides another opportunity for more anglers to fish more often – and encourages greater fishing tackle sales. The formula could not be simpler: invest in the resource, improve your bottom line.

However, many shooting sports and sportfishing manufacturers are not aware of the benefits generated by the excise tax they pay and how the decades of investment have created huge business opportunities and supports our industry. This report provides insights conveying these benefits. Visual summaries are available on www.NSSF.org and www.ASAfishing.org.

Methodology

Developing an evaluation standard for the WSFR where money flows between the private sector, the federal government, more than 50 state/territorial governments, anglers & hunters, and back to industry is complex for a number of reasons.

First, the WSFR requires that state fish and wildlife agencies contribute additional funds to match industry's contributions. Plus, states commonly build significantly greater project budgets by leveraging other state, federal, and private funding sources. Even though WSFR's final contribution may be only a fraction of a project's budget, WSFR is often the irreplaceable catalysts for these projects that support and grow the shooting sports and sportfishing industries, often multiplying the tax dollars paid by industry to its benefit.

Secondly, there are built-in time lags between when a product is manufactured, the time of first sale and tax collection, the time when the tax is appropriated to the state agencies, when the funds are budgeted for a project and work begins, and finally when the project is fully operational. As a result, it can be years between the manufacture of a product and the implementation of a new conservation project.

Perhaps most importantly, investments into conservation projects are often long-term investments and difficult to assess. Rebuilding depleted wildlife and fish populations or conducting comprehensive habitat improvements can take years or decades to pay dividends in the form of improved populations.

Despite these complexities, a multi-tiered approach has been developed to estimate returns to industry from the WSFR Program and state-level projects it supports. This approach relies on two levels of data analysis: 1) a macro-level analysis of the growth of the hunting and sport fishing industry since the initiation of both the Wildlife and Sport Fish Restoration Programs and 2) a fine-scale or micro review of selected case studies (specific projects) that have utilized WSFR funding.

The "return on investment measure" compares net benefits from the investment to the costs of the investment. The metric is very flexible and can be modified by adjusting the definition of benefits and costs. This approach applies the measure at a targeted scale, which is the return to the tax-paying companies from their investment of the excise tax. It is represented by the following equation:

$$\text{Excise-Tax-Related ROI} = \frac{[(\text{Wholesale-adjusted spending by hunters or anglers on tax-related equipment items}) - (\text{Excise-tax-related investments})]}{(\text{Excise-tax-related investments})}$$

The benefit to industry is defined as the retail sales of tax-related equipment adjusted to account for the mark-up between manufacturers to wholesalers and/or retailers. An average mark-up of 30% to 100% is assumed for hunting and sport fishing tax-related items, respectively.¹ Investments are defined as the amount of excise tax and import duties collected (macro analysis) or invested into a specific project (micro analysis).

The estimated ratio can be either positive or negative. A negative ROI indicates that the project generated benefits less than the funds invested. It is important to note that positive ROI estimates are expressed in terms reflecting that the initial investment, at a minimum, is returned.

Typical angler tax-related purchases, per day and annual, were derived from the 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation ("National Survey"). All purchase data reflect only those associated with hunting or fishing recreation. Tax-related purchases reflect only those items that are taxed. These surveys are conducted on a five-to-six year basis, yet many of the case studies presented here span multiple years and in some cases multiple decades. As a result, angler purchases were interpolated, when necessary, to estimate spending during intervening years. A simple linear interpolation method was applied.

In 2016, National Survey data are reported at only the national level. Using these data, Southwick Associates also developed hunter and angler spending profiles by Census Division to estimate the economic contributions of hunting and sport fishing. Whenever possible, estimates are most closely related to the data for a particular region and water or game-type.

WSFR funds work to improve wildlife and sport fish habitat and populations directly. Many indirect effects also accrue as a result of these investments, such as land preservation, species biodiversity, and water quality to name just a few. These benefits go well beyond retail sales generated on tax-related items, but are outside of the realm of this investigation.

The investment portion of the estimated return, again, is defined as the actual WSFR funds (for excise tax-related ROI) applied to cover project costs. Overhead costs are not included at the case study level. Recording and accounting practices in place do not enable us to accurately capture project-related overhead costs at the case study level. At the national or macro-level, overhead costs are implicitly included in the excise tax-related ROI estimation. With the exception of the macro-level analysis, all project investments, including WSFR tax-related investment funds, are reported directly from the states in which the project exists.

¹ *National Sports Shooting Foundation: Annual Retail Survey*. Southwick Associates. 2009.

All costs and purchases are inflated to current-day purchasing power using an appropriate CPI provided by the Bureau of Labor Statistics.

It is important to note two caveats with respect to interpretation of the return-on-investment measure. First, the excise tax-related ROI *excludes* leveraged dollars from the definition of investments and therefore from the calculation. Although the benefits of a project may be a result of investments from a variety of funding sources, it is assumed in each case that the excise tax funding was vital to the conduct of the projects. The result is that, in most but not all instances, some may consider the estimated return upwardly biased from the industry perspective. However, this is a valid approach since, without the investment of excise-tax dollars as a base, most projects would not be able to leverage additional matching contributions and therefore would not be conducted. Thus, the impact of the leveraged dollars is an implicit “return” to the industry on their excise-tax investments. Second, return-on-investment estimates can, and will, change during the life of a project, and different types of projects will likely have different ratio estimates. The case studies selected represent a cross section of types of projects supported by excise tax funds.

Case Study Selection

The vast majority of projects funded by WSFR investments simply do not have the necessary data to calculate an ROI. These projects should not be judged as being less important to fisheries conservation because of these data shortcomings. With few projects available to choose from and based on the need to show case studies from across the spectrum of funded fisheries projects, the case studies presented here were hand selected and do not represent a random sampling of all projects.

Case studies presented here were identified state fish and wildlife departments nationwide, who were asked to identify projects that met budget and participation data requirements.

Follow-up contact was made with each project manager to discuss the project as well as investigate the availability of required data. While a number of projects initially nominated are included as case studies, the breadth of projects identified was not viewed to be fully representative of the variety of projects across the nation receiving WSFR funds. Some project types by themselves do not lend themselves to a quantitative ROI analysis (e.g., fish health research, angler education centers) even though they ultimately contribute to continued industry growth. In other cases, investments have not been made to collect the necessary data (e.g., participation before and after the project) or the accounting mechanisms in place at the state level are not suited for breaking out the investment data as needed for an ROI analysis.

None of the cases presented should be seen as an affirmation of any one particular project over another. All projects were explored in depth to determine the level of data available to analyze a return on investment. Those studies presented here are those that offered a rich level of data, as well as representing a diverse array of funded projects.

Wildlife Restoration

Evolution of the Wildlife Restoration Program

The Federal Aid in Wildlife Restoration program is commonly known as the Pittman-Robertson Act (or PR) in honor of its two prime sponsors, Senators Key Pittman (NV) and A. Willis Robertson (VA). The bill was signed into law on September 2, 1937 by President Franklin Roosevelt. It redirected the existing excise tax on sporting arms and ammunition from general tax revenue to fund conservation programs. This Act, along with the Sport Fish Restoration Act, serve as the foundation of the “user-play, user-pay” approach to management and conservation, revolutionary for the time period.

This law has been amended several times since then. The funds were put into a "permanent and indefinite" account in 1951, which took them out of the annual appropriations process. In 1969, Congressman John Dingle (MI) and Senator Hugh Scott (PA) sponsored legislation that redirected an *existing* excise tax on handguns and handgun ammunition into the fund. In 1972, Congressman George Goodling (PA) and Senator Frank Moss (UT) sponsored amendments to *levy* an excise tax on archery equipment. Hunter education and shooting-range construction were added to the allowable projects for funding when handgun and archery excise taxes were added to the fund. Over the years, millions of dollars have been invested in wildlife conservation from this fund. This investment created recreational hunting and shooting opportunities, which in turn, generated billions of dollars in purchases of hunting and shooting equipment.

Figure 1. Wildlife Restoration Excise Tax Collections 1951-2019

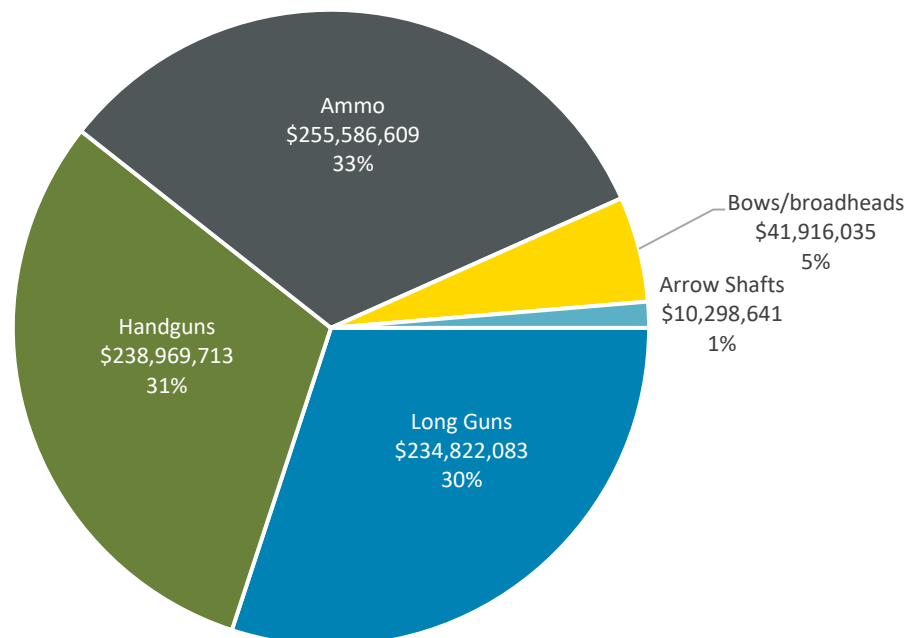


Source: U.S. Fish and Wildlife Service WSFR Program Excise Tax Receipts

Current Program Status

Over the last five years (2015-2019), industry contributed an annual average of \$781.6 million into the Wildlife Restoration account. Of this, \$239.0 (31%) came from the excise taxes on pistols and revolvers; \$234.8 (30%) from long-guns; \$255.6 (33%) from ammunition; and \$52.2 (6%) from archery equipment (Figure 1).

Figure 2: Average Annual Contributions to Wildlife Restoration Account (2015-2019)



Source: U.S. Fish and Wildlife Service WSFR Program Excise Tax Receipts

Excise taxes are paid by the shooting sports equipment manufacturers to the U.S. Treasury on a quarterly basis. As with all sources of revenue destined for the WSFR Program, they are transferred to the dedicated Wildlife Trust Fund (Figure 9). The main portion of this fund is distributed to states through the WSFR Program for hunting and shooting enhancement programs by a formula that takes into account each state's size (land area) and number of certified hunters. Funds are only paid to states on a reimbursable basis (after work is completed) for approved projects.

Figure 3. Wildlife Restoration Program Funding Mechanism



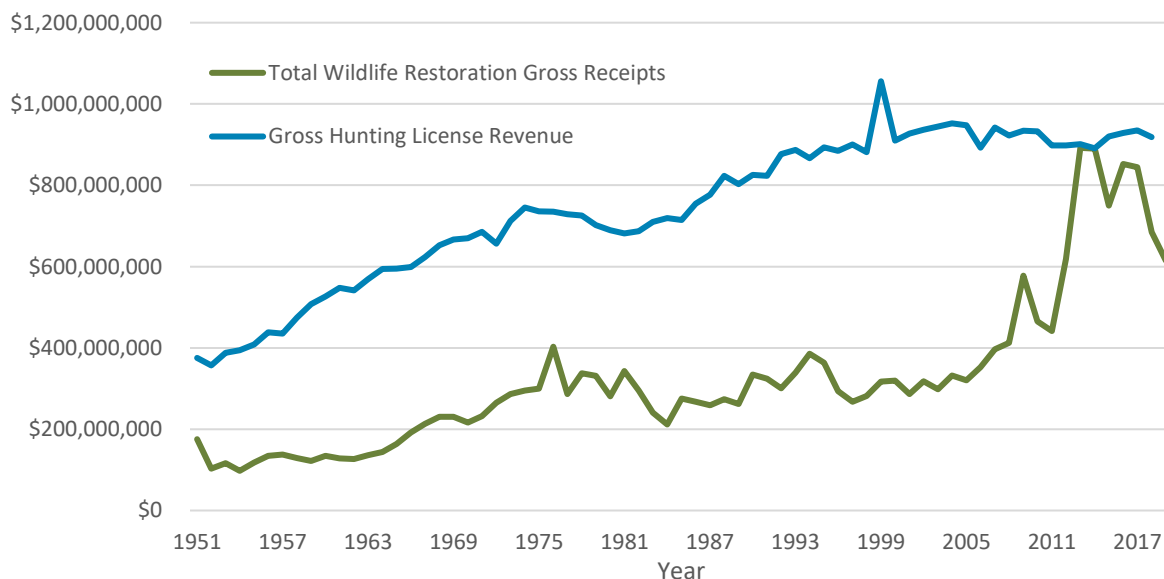
Benefits to Industry

Leveraged Funds

In almost every year since 1951, the revenue generated by hunting licenses in the United States has exceeded that provided by Wildlife Restoration (Figure 10). The amount by which hunting license revenue has exceeded Wildlife Restoration funding has averaged 174% annually during the period. This means is that before the industry investment even hits the ground, its value is doubled. As mentioned earlier, without the WSFR Program’s provision that states cannot divert hunting-license funds to other purposes, license money would not likely be available for wildlife management and conservation programs.

The extent to which hunting license revenue outpaced excise tax collections diminished between 2013 and 2017. This suggests a period where the hunting population and license prices were stable but spending on taxable items rose significantly, in part driven by increased spending by people purchasing firearms and ammunition for personal defense and recreational shooting.

Figure 4. Wildlife Restoration and Hunting License Income in the United States (1951-2019)

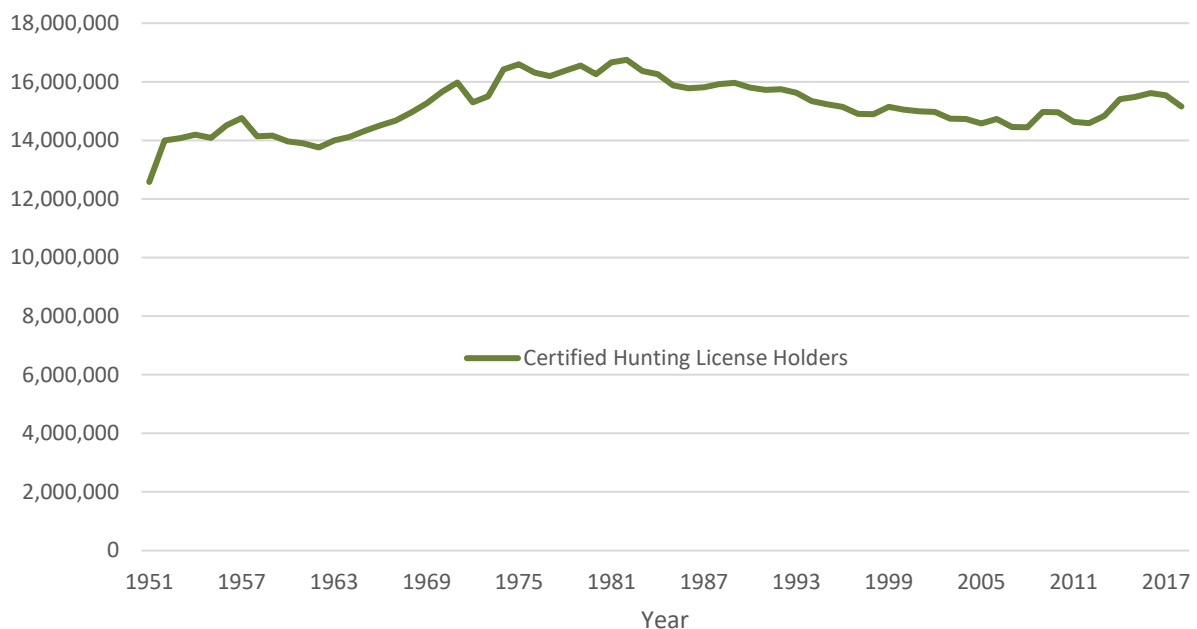


Source: U.S. Fish and Wildlife Service's WSFR Program Excise Tax Receipts and Historical Hunting License Data.

Hunting Participation

The two primary measures important to industry's return-on-investment are how much those hunters are spending on taxable equipment-related items and the number of hunters (Figure 11). The nation saw steady growth of the hunter population from 1950 until 1982. Since then, the number of hunters has diminished only slightly.

Figure 5. Recreational Hunters in the United States (1951-2018)



Source: U.S. Fish and Wildlife Service's National License Certification Report and National Hunting Statistics Report.

Federal Excise Taxes & Returns on Investment

Although industry has been a long-term partner in the development and continued success of these programs, today's competitive business climate presents difficult challenges to companies. The Wildlife Restoration excise tax is often one of the top three expenses for a company, challenging the business value of paying these taxes, particularly in the absence of a measure connecting this expenditure to company profitability. Traditional communications over the years have described Wildlife Restoration "success" in terms of how much money was spent, not how much was returned. While this approach is valuable, it is only mildly effective from a business perspective as companies measure success in earnings. This report assesses returns to industry based primarily on hunting-related sales.

Many companies paying Wildlife Restoration excise taxes do not sell to hunters. Reporting benefits to these companies using primarily hunting-related measures is limiting. While some measures reported in this effort cover shooting ranges, very few other data sources exist to measure how the excise tax increases non-hunting uses of firearms, ammunition and archery equipment. Data such as the FBI's NICS checks that are a proxy for firearm sales are driven more by cultural factors than opportunities created by the excise tax. While these companies do benefit from excise tax-supported efforts such as firearm safety training and range construction, it was not possible to measure many of the excise tax's benefits to these companies. Hunting-related measures are currently the best method for tracking returns to industry.

Table 4 provides a comparison between Wildlife Restoration excise tax collections and hunter purchases of tax-related equipment items for the last eight cycles of the National Survey (conducted every five years between 1955 and 2016). *In years prior to 1970, purchases of hunting equipment are reported as an aggregate thereby not allowing itemization of spending on tax-related items.* It is also important to note that the items impacted by tax collections changed over this period and adjustments were made to calculations to accurately reflect spending on only those items where taxes were collected. For example, bows and arrows were not subject to excise-tax collections prior to the 1975 survey, therefore they are not included as part of hunter purchases of tax-related items in 1970.

Table 1. Wildlife Tax Collections and Hunter Purchases of Tax Related Equipment Items, 1970-2016

Year*	Wildlife Restoration Excise Tax Collections		Hunter Purchase of Tax-Related Equipment Items				Excise Tax-Related ROI
	Actual \$s	2019 \$s	Actual \$s	2019 \$s	Wholesale Adjusted 2019 \$s		
1970	\$32,805,725	\$216,160,135	\$506,680,000	\$3,338,564,143	\$2,568,126,264		1088%
1980	\$90,644,651	\$281,237,130	\$1,456,349,000	\$4,518,517,188	\$3,475,782,452		1136%
1985	\$115,999,616	\$275,614,441	\$1,958,339,000	\$4,653,002,544	\$3,579,232,726		1199%
1991	\$172,777,090	\$324,314,776	\$2,431,274,000	\$4,563,672,665	\$3,510,517,435		982%
1996	\$180,000,000	\$293,296,750	\$3,837,045,000	\$6,252,182,368	\$4,809,371,052		1540%
2001	\$198,485,863	\$286,529,081	\$3,080,860,000	\$4,447,450,170	\$3,421,115,515		1094%
2006	\$278,244,176	\$352,852,536	\$3,822,853,000	\$4,847,912,348	\$3,729,163,345		957%
2011	\$388,216,727	\$441,232,173	\$5,283,625,000	\$6,005,164,585	\$4,619,357,373		947%
2016	\$800,035,804	\$852,203,284	\$5,941,355,000	\$6,328,769,558	\$4,868,284,275		471%

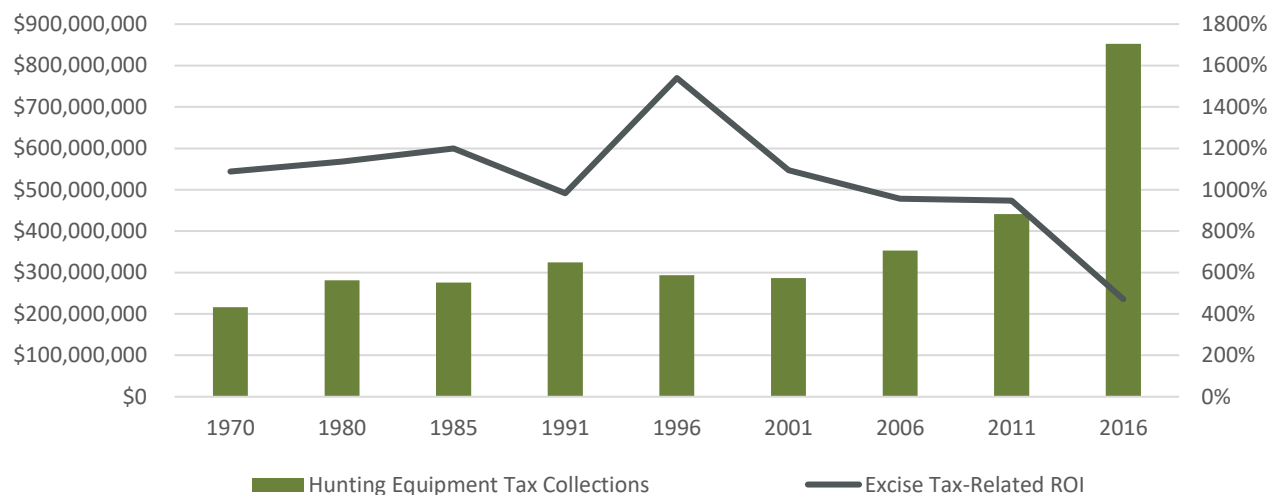
*In 1975, data was collected by a private contractor utilizing different methodology and reporting detail that does not enable comparisons with other survey years.

Source: U.S. Fish and Wildlife Service's WSFR Program Excise Tax Receipts and US Census Bureau's National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

During the period available for analysis (1970-2016), excise tax collections ranged between a low of \$216.2 million in 1970 to a high of \$852.2 million in 2016 (based on constant 2019 dollars). Hunter spending on tax-related equipment items over the period ranged from a low of \$3.3 billion to a high of \$6.3 billion. Hunter retail spending is only a partial indicator of the amount of the tax contributed by industry because the tax is levied at the point of first sale, and sales related to non-hunting activities such as target shooting – which is greater than hunting – are not included. To estimate a manufacturer-level return on investment, it is necessary to remove mark-ups in the market chain. Therefore, to account for the mark-up in prices from manufacturers (which is reflected in the excise tax collections) to retail (which is reflected in hunter purchases), retail purchases were adjusted by a factor of 1.3, which assumes a thirty percent mark-up. Wholesale adjusted spending ranges between \$2.6 billion and \$4.9 billion.

Using these hunter-spending estimates, it is possible to calculate an annual Excise Tax-Related ROI for the whole period between 1970 and 2006. Over the period, the estimated annual Excise Tax-Related ROI ranges between 1,540% and 471%.

Figure 6. Hunting and Shooting Equipment Excise Tax Collections and Return on Investment (1970-2016)



It is important to remember that the reported returns to manufacturers (Excise-Tax-Related ROI) only includes the Wildlife Restoration excise tax as the "investment," which results in rather high ROIs. Adding in the hunting license funds and other leveraged funding sources not paid directly by manufacturers would greatly reduce the Excise-Tax-Related ROIs reported in this document but then could not be considered a true ROI to industry. It is equally important to remember that the hunting public is only one segment of the firearm, ammo, and archery consumer base. In the absence of the spending associated with personal defense and recreation shooting, these ROI estimates must be considered conservative.

Wildlife Restoration Program Case Studies

While it's not possible to assess the returns on investment for all projects funded in part by WSFR investments, the following are examples of how investments made by state wildlife agencies have helped boost hunting participation and sales through the last decade:

- ❖ Hunter education has improved safety in the field, thereby improving the public's image of hunting and hunters. In the case of Idaho, great strides have been taken to improve the course availability and make sure that courses are effectively and efficiently delivered. Between 2003 and 2008, Wildlife Restoration funds contributed approximately \$525,000 (2019 \$s) per year to support the hunter education program. Idaho hunter education graduates are estimated to collectively spend just over \$1.0 million (2019\$) per year in annual equipment purchases. Comparing WSFR investments to hunter tax related equipment item purchases, it is evident that invested funds quickly earn positive net benefits, averaging an approximated annual Excise Tax-Related ROI of 110%
- ❖ As of 2008, nearly 140 of Nebraska's schools offer the program in grades 4-12 and many of the state's community recreation centers, reaching at least 20,000 students. The annual Wildlife Restoration investment totals \$42,000 (2019\$), covering the costs of a coordinator and program supplies. It is difficult to know with any level of certainty just how many program graduates actually take up hunting or target shooting as a result of exposure to the course, making estimating a typical return on investment a bit challenging. It is possible, however, to estimate the number of graduates who would need to take up either hunting or target shooting in order generate a certain level of return on investment. In the case of Nebraska, it would only take between 1.0% and 1.6% of students (205 to 317) to take up either recreational hunting or shooting for one year as a result of taking the program to earn a return of 10%. These estimates are certainly achievable given that, on average, 48% of students completing the course indicate that they will participate in archery in the future. Another 32% of students indicate that they have more interest in other shooting sports since having completed a school-based archery class.²

² *An Assessment and Evaluation of the National Archery in the Schools Program-Phase II: Student Survey Results, Responsive Management, 2009.*



Idaho Black Creek Range

Black's Creek Shooting Range (BCR) is located approximately 25 miles from downtown Boise and is one of the largest and most visited ranges in Idaho. Owned by the Idaho Department of Fish and Game and cooperatively managed by a non-profit shoot club, the EE-DA-HOW Long Rifles, it offers thousands of local residents in the metropolitan area an opportunity to spend time sharpening their target shooting skills.

Utilization

Visits to the range have grown steadily from 4,800 to 6,700 days annually, between 2014 and 2018 respectively. A 38% increase over the period, with the largest proportional increase taking place between 2017 and 2018, following a period of significant investment in target shooter support. "All of (the) improvements have resulted in a more quality user experience and not a day goes by that a guest shooter does not express their appreciation for all the improvements that have been made at BCR."³



Photo source: Idaho Fish & Game. Available:
<https://idfg.idaho.gov/visit/southwest/blacks-creek>

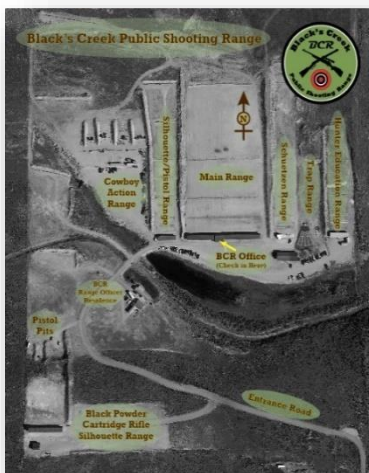


Photo source: Idaho Fish & Game. Available:
<https://idfg.idaho.gov/visit/southwest/blacks-creek>

Investments

The range, established in 1976, has grown to offer more than 40 benches, many of them under a covered area, a wide variety of shooting distances, and handicap accessible public facilities. Recent improvements made possible with the use of WSFR Pittman-Robertson (PR) funds, have resulted in increased public awareness, opportunity and use of the range. In 2018 and 2019 alone the improvements include a new Hunter Education training center, a new security system, a new interactive web page, new signs at the range and along routes to the range, WiFi capability, a paved entrance road, berm and ballistic wall improvements, and part-time staff to allow for

³ Beckley, B. Hunter & Angler Recruitment Manager. Personal correspondence from the Idaho Department of Fish and Game. November 12, 2019.

expanded public shooting days and hours. The Department of Fish and Game feels that the improvement that had the most significant impact to increase attendance was hiring staff to run the range and support visiting shooters in a “safe and fun environment”.⁴

Return on Investment

The “return on investment measure” compares net benefits from the investment to the costs of the investment. The benefit is defined as the retail purchase of tax-related equipment items by shooters, adjusted to account for the amount of each sale passed from retailers and wholesalers to manufacturers who pay the tax. Investments are defined as the amount invested into a specific project.

Per day tax-related equipment item purchases are developed from the 2016 Target Shooting in America and inflated to 2019 dollars.⁵ Total spending per target shooter day is estimated to be \$14.29 in retail sales on tax related items. A lifespan of 25 years is assumed for the range before any major rehabilitation needs to occur and a discount rate of 7% is applied. To estimate future benefits to industry a present value calculation was applied. Future annual visitation is assumed to average 6,700 user days resulting in annual tax related retail sales of \$95,700. The present value of tax related sales is estimated at \$1.1 million. Total estimated spending on excise tax related items is an estimated \$1.3 million.

Table 2. Idaho Fish and Game: Black Creek Shooting Range

WSFR Investments (Past & Future)	\$784,362
Future <u>Annual</u> Purchases.	\$95,700 ^a
Present Value of Future Purchases	\$1,078,752
Total estimated spending on excise tax related items	\$1,271,841
Net benefit	\$487,479
Return on investment (excise tax related)	62%

^a An annual visitation level of 6,700 user days is assumed based upon unofficial visitation for FY 2018.

^b Present value calculations assume a 25-year lifespan and a 7% discount rate.

Investments allocated to the range improvements is estimated to total \$784,000. Net benefit to industry is estimated to be \$487,479 which earns an Excise Tax-Related ROI of 62%.

⁴Beckley, B. Hunter & Angler Recruitment Manager. Personal correspondence from the Idaho Department of Fish and Game. November 12, 2019.

⁵ Southwick Associates. (2018) *Target Shooting in America: An Economic Force*.



South Dakota Walk-in Areas

With more than three-quarters of the state's land under private ownership, access to those lands is critical to the for South Dakota's hunting community. Now more than 30 years old, the Walk-In Area program opens access to over a million acres, with locations all across the state.

Utilization

An estimated 40% of hunters spend an average of 5 days hunting on WIAs during the year. This translates to more than 180,000 days of recreational hunting utilization. The overall satisfaction with the program is high and almost all hunters say they plan to continue to rely on WIA in the future.



Photo source: South Dakota Game, Fish & Parks. Available: <https://gfp.sd.gov/hunt/>

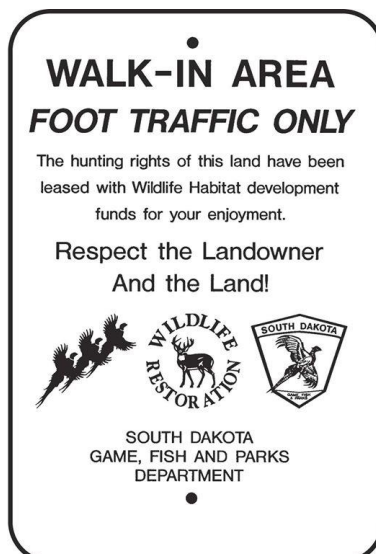


Photo source: South Dakota Game, Fish & Parks. Available: <https://gfp.sd.gov/hunt/>

Investments

Providing public access to private lands for hunters to pursue pheasant and other upland game birds, waterfowl, and even big game relies heavily investments from the Wildlife Restoration Fund. Over recent years past, the focus has been recruiting landowners and acres in the southeastern part of the state where roughly 50% of the population reside to provide close-to-home hunting opportunities. These recruitment efforts are teamed with outreach efforts to raise awareness of the program along with user-friendly geospatial navigational tools enabling hunters to easily access up-to-date information about lands open for public use.

Return on Investment

The “return on investment measure” compares net benefits from the investment to the costs of the investment. The benefit is defined as the retail purchase of tax-related equipment items by hunters, adjusted to account for the amount of each sale passed from retailers and wholesalers to manufacturers who pay the tax. Investments are defined as the amount invested into a specific project.

Per day tax-related equipment item purchases are developed from the 2016 Fishing, hunting, and wildlife-related national survey data and inflated to 2019 dollars. Total spending per hunter day is estimated to be \$29.87 in retail sales on tax related items. Annual benefits from the investment, total adjusted annual hunter spending in 2019 was an estimated \$4.2 million

Table 3. South Dakota Game, Fish and Parks: Walk-In Area Program

WSFR investments in 2019	\$1,600,000
Hunter spending on tax-related items (2019 \$s)	\$4,240,000
Net benefits	\$2,640,000
Return on investment (excise tax related)	165%

Investments allocated to the Walk-In Area Program in 2019 was \$1.6 million. Net benefit to industry is estimated to be \$2.6 million, which earns an Excise Tax-related ROI of 165%.



Oklahoma Lexington WMA Shooting Range

Roughly five years ago, the Oklahoma Department of Wildlife Conservation announced strategic action to increase support of shooting activities and update shooting range facilities to improve the experience from a day on the range.

Utilization

The shooting range located within the Lexington Wildlife Management Area (WMA) is about an hour south of Oklahoma City and offers thousands of visitors the opportunity for outdoor sporting activities. Over the course of 2018, the year following significant range renovations, the range itself saw an average of 700 vehicles per month equating to 8,400 shooter days per year, a 60% increase from the year prior to the renovations. Visitation during the first six months of 2019 shows the increase visitation realized in 2018 is continuing.



Photo source: Oklahoma Department of Wildlife Conservation.
Available: <https://www.wildlifedepartment.com/outdoor-news/wildlife-commissioners-view-renovations-lexington-wma>



Photo source: Oklahoma Department of Wildlife Conservation.
Available: <https://www.wildlifedepartment.com/wildlife-management-areas/shooting-ranges>

Investments

The 2017 renovations, made possible with the use of WSFR Pittman-Robertson (PR) funds, include ADA compliant parking, sidewalk, and path to the target frames; the addition of a 25 yard pistol range; covered shooting benches; berm and backstop improvements; and landscaping.⁶ “A big portion of our funding from the Wildlife Restoration grant program comes from firearms purchases and ammunition sales” says the

⁶ Oklahoma Digital Prairie. 2018. Oklahoma Gun Range Renovation/Construction. Available: <https://digitalprairie.ok.gov/digital/collection/stgovpub/id/535382>

Information and Education Chief for the Wildlife Department.⁷

Return on Investment

The “return on investment measure” compares net benefits from the investment to the costs of the investment. The benefit is defined as the retail purchase of tax-related equipment items by shooters, adjusted to account for the amount of each sale passed from retailers and wholesalers to manufacturers who pay the tax. Investments are defined as the amount invested into a specific project.

Per day tax-related equipment item purchases are developed from the 2016 Target Shooting in America and inflated to 2019 dollars.⁸ Total spending per target shooter day is estimated to be \$15.22 in retail sales on tax related items.

A lifespan of 25 years is assumed for the range before any major rehabilitation needs to occur and a discount rate of 7% is applied. To estimate future benefits to industry a present value calculation was applied. Future annual visitation is assumed to average 8,400 user days resulting in annual tax related retail sales of \$255,000 in the two years following the renovation. The present value of future tax related sales is estimated at \$1.4 million. Total estimated spending on excise tax related items is an estimated \$1.7 million.

Table 4: Oklahoma Department of Wildlife Conservation: Lexington WMA Shooting Range

WSFR Program Investments	\$307,000
Estimated Annual Purchases	\$255,000
Present Value of Future Purchases	\$1,440,800
Total estimated spending on excise tax related items	\$1,695,800
Net benefit	\$1,326,000
Return on investment (excise tax related)	358%

WSFR investments allocated to the range improvements is estimated to total \$307,000. Net benefit to industry is estimated to be \$1.3 million, which earns an Excise Tax-Related ROI of 358%.

⁷ Oklahoma Department of Wildlife Conservation. 2017. Wildlife Commissioners View Renovations at Lexington WMA. Available: <https://www.wildlifedepartment.com/outdoor-news/wildlife-commissioners-view-renovations-lexington-wma>

⁸ Southwick Associates. (2018) Target Shooting in America: An Economic Force.

Hunting Opportunity Expansion Case Studies by State

Abundant wildlife populations equate to more hunting opportunities; more hunting opportunities equate to increased purchases of hunting and shooting equipment. Pondering the question: "How large would the hunting and shooting-sports industries be today if wildlife populations were not restored?", an exact answer to this question is not possible.

The purpose of the state-by-state synopsis that follows is to illustrate the success of modern wildlife management that is the result of the partnership between the hunting and shooting-sports industry, state and federal wildlife and land management agencies, and conservation minded non-government organizations. Potential hunting-opportunity days were developed as a result of discussions with state-level contacts and a careful review of state-agency websites.

ALABAMA:

- In 1937 Alabama's deer population was a mere 15,000, giving hunters only 42 days of deer hunting. With a population of around 1.6 million deer by 2018, hunters now enjoy 118 days of deer hunting annually, an increase of 181%, and harvest over 200,000 deer each year.
- Alabama's turkey population has boomed from just 11,000 in 1940 to 500,000 in 2018. Among several other factors, this increase can be contributed to the annual number of hunting days remaining almost constant, with a small increase of 4%, over the last 82 years.
- Alabama now offers 125 days of potential waterfowl hunting days annually. This is a 317% increase since 1937!

ALASKA:

- Some states have seen decreases or eliminations of bear seasons as their habitats are lost due to human encroachment. However, in Alaska, hunters can enjoy year-round bear hunting season, as well as rabbit and squirrel, a rare opportunity!
- Both deer and grouse annual hunting days for Alaska have increased by over 50% from 1937 to 2019 - deer hunting has increased by 63% and grouse hunting has increased by 59%.

ARIZONA:

- In 1937, elk hunting in Arizona was non-existent. Today, Arizona hunters have extensive elk hunting opportunities.

- There are four species in Arizona that have all seen over 300% increases in annual hunting days from 1937 to 2019 – the deer (365%), bear (365%), quail (756%), and waterfowl (317%) populations.

ARKANSAS:

- Compared to only having a 15-day deer hunting season in 1937, Arkansas hunters now enjoy 155 days of deer hunting, which allowed them to take over 200,000 deer in 2018. That is an increase of 933% in annual hunting days!
- A species restoration project for elk in Arkansas has been underway since 1981. Since that time, the elk population has grown from zero to 450 animals.
- Due to active management of turkey populations and the increased popularity of turkey hunting, the annual turkey harvest has grown from 300 in 1937 to 7,884 turkeys by 2019.

CALIFORNIA:

- In 1937, pheasant hunters in California were allowed only a one-week pheasant season. Today, they can spend 196 days afield statewide... a 3000+% increase.
- Two California species have seen an over 400% increases in annual hunting days from 1937 to 2019 – rabbit (449%) and waterfowl (413%).

COLORADO:

- In 1910, Colorado estimated that there were approximately 500-1,000 elk in the state and allowed a very limited seven-day hunting season. Today, an elk hunter in Colorado could potentially hunt for 169 days, which is an increase of 2,314%!
- Colorado bear hunters were only allowed a limited 7 days of hunting in 1937. Today, they can hunt for 81 days, a 1057% increase!
- Grouse hunting has grown by 2,929% in Colorado! What once began as a short seven-day hunting season has now increased to 212 days annually.

CONNECTICUT:

- In 1937, deer hunting in Connecticut was unavailable due to a low population density. Now there are 138 open days annually, and hunters were able to harvest over 11,000 deer in 2018.
- In 2019, both squirrel and waterfowl hunting in Connecticut have experienced growth of over 400% in annual hunting days compared to the number of open season days available in 1937.

DELAWARE:

- Pheasant hunting in Delaware used to be heavily restricted, allowing only six days annually in 1937. Today's hunters have a 68-day season, which is an increase of over 1000%!
- In 1937, deer hunting in Delaware was unavailable due to low population numbers. Now hunters can enjoy 153 days of open season annually, and hunters were able to harvest over 14,500 deer in 2018.

FLORIDA:

- The Florida turkey season has grown 166% since 1937, an increase from 88 days to 234 days from the first opportunity to the last, yielding a harvest of over 20,000 turkeys in 2018!
- In 1950, the Florida deer season yielded 6,000 animals. By 2019, that yield swelled to almost 75,000 deer taken during the 200+ days of deer hunting available across the state annually.

GEORGIA:

- In 1937, Georgia deer hunters were only allowed 52 days of hunting, due to a low deer population of just 3,000. In 1985, the deer population grew to 900,00 and today hunters in the Peach State can hunt for 140 days annually.
- Turkey populations in Georgia have increased from 10,000 in 1960 to 300,000 in 2018. Even though the total number of open season days has decreased by 38% for species management purposes, the current annual harvest of 17,000 birds is greater than the turkey population 50 years ago.
- Georgia waterfowl hunters have been able to enjoy more days outdoors as their hunting season has expanded by 223% from just 30 days in 1937 to 97 days by 2019.

HAWAII:

- While Hawaii may not be your first thought for hunting destinations, it has excellent hunting opportunities. Since 2019, Hawaii now offers over 130 days of turkey hunting and year-round deer hunting season (with a private land permit).
- In 2019, pheasant and quail hunters in Hawaii have enjoyed increases in annual hunting days available to spend afield at or above 30%, compared with previous days available in 1937.

IDAHO:

- Pheasant, quail, and grouse hunters in Idaho had only restrictive, local seasons for hunting opportunities in 1937. Today, hunters enjoy a 212-day, state-wide season for each of these game bird species.

- In 1937, Idaho waterfowl hunters were only able to spend 30 days outdoors hunting. Today, they can hunt for 175 days, a 483% increase!
- Deer, elk, and bear hunters once had only restrictive, local seasons for hunting opportunities in 1937. Today, hunters now enjoy more than 130 days of hunting of state-wide seasons for each of these big game species.

ILLINOIS:

- In 1937, there were no open seasons for Illinois deer hunting. Today, deer hunting is a very popular outdoor activity, allowing hunters to spend 111 days in the field and harvesting over 150,000 deer.
- Illinois waterfowl regulations only allowed for a 30 day season in 1937. Thanks to focused conservation efforts, an Illinois hunter can now enjoy 183 days of waterfowl hunting.
- In 1937, there were no open seasons for Illinois turkey hunting. Today, turkey hunting is a very popular pastime, and hunters can now spend 155 days in the field.

INDIANA:

- In 1937, Indiana deer hunting was nonexistent. In 2018, deer hunters spent 139 days afield, harvesting over 100,000 deer.
- In 1937, Indiana pheasant hunters were only allowed a very limited three-day season. Today, they can hunt pheasant for 45 days - a 1400% increase!
- There were no open seasons for Indiana turkey hunting in 1937. Today, turkey hunters are offered 83 days of hunting and harvested 110-120,000 turkeys in 2018.

IOWA:

- Iowa pheasant hunters were only allowed three days of hunting in 1937. Today, they can hunt for 79 days, a 2533% increase!
- Annual turkey harvest tracking in Iowa began in 1974 with a recorded harvest of 115 birds. By 2018, turkey hunters spent 111 days hunting and harvested over 11,700 turkeys.
- In 1937, there were no open seasons for deer in Iowa. Now, deer hunters can spend 126 days afield and harvested over 107,000 deer in 2018.

KANSAS:

- In 1955, the Kansas deer population was estimated at 725 with no hunting allowed. Fast forward to 2018, with 147 days of hunting available, hunters took nearly 80,000 deer.
- A population of 3,000 pheasants were introduced to Kansas in 1906 and no open season was allowed even by 1937. In 1957, there was a recorded harvest of 154,000 pheasants

taken. Now in 2018, 86 days of pheasant season are allowed annually, and 680,000 birds were harvested.

- The first turkey season in Kansas was open in 1974 and hunters harvested 123 birds that year. By 2018, hunters took 22,600 birds and could hunt for 172 days annually.
- Kansas quail hunters were only allowed 11 days of hunting in 1937. Today, they can hunt for 86 days, a 682% increase!

KENTUCKY:

- In 1937, Kentucky turkey hunters would have had to travel out of state due to closed seasons. In 2018, hunters were able to harvest over 27,000 turkey thanks to a 162-day season.
- A species restoration project for elk in Kentucky began in 1997. Today that population has grown to 11,000 animals. In 2001, a limited open season was offered, and 10 elk were harvested. In 2009, a limited season was again offered, and 778 elk were harvested. By 2019, hunters can now hunt elk in Kentucky for 41 days as this big game species continues to flourish.
- The Kentucky deer population has grown from a mere 1,000 deer in 1927 to a stout one of approximately one million by 2018. The 2018 hunting season also saw hunters bring in a deer harvest of over 145,000 animals during the 136-day season.

LOUISIANA:

- In 1937, Louisiana deer season was 62 days, with a harvest of 5,000. By 2018, the annual number of deer hunting days more than doubled to 136 days, with the annual harvest increasing to over 120,000 deer.
- There were no open seasons for turkey hunting in Louisiana in 1937. Today, turkey hunters can spend 32 days afield and harvested over 3,000 turkeys in 2018.
- The Louisiana waterfowl season saw an increase of 320% from 1937 to 2018. Hunters can now spend 126 days outdoors in 2018, compared to only 30 in 1937.

MAINE:

- In 1937, Maine quail hunters had no opportunities to hunt locally due to closed seasons. By 2018, hunters had 97 days available to hunt quail.
- The Maine bear population has grown from 6,000-9,000 in 1979 to a strong one of 24,000-36,000 in 2018. Because of this population increase, the 61-day hunting season from 1937 has also increased to 90-days by 2018.
- The Maine waterfowl season saw an increase of over 400% from 1937 to 2018. Waterfowl sportsman can now spend 152 days afield in 2018, compared to only 30 in 1937.
- Turkey was not a game bird species that was present or available to hunt in 1937. Now, turkey hunters have a 94-day season and harvested over 32,000 birds in 2018.

MARYLAND:

- In 1937, the deer season in Maryland was only five days. By 2018, the season had increased by almost 3000% to 151 days and the annual harvest was almost 74,000 deer.
- Maryland's turkey population and hunting remains strong with 40,000 birds taken in 2018.
- Maryland squirrel hunters were only allowed a limited 15 days of hunting in 1937. Today, they can hunt for 176 days, a 1073% increase!
- With strengthened waterfowl populations, Maryland's waterfowl season has expanded by 560% from just 30 days in 1937 to 198 days in 2019.

MASSACHUSETTS:

- Massachusetts waterfowl season saw an almost 400% increase from 1937 to 2018. Hunters can now spend 147 days afield in 2018, compared to only 30 in 1937.
- Massachusetts deer hunters were only allowed a very limited six days of hunting in 1937. Today, they can hunt for 75 days, a 1150% increase, with an annual harvest of 14,700 deer.
- In 1937, Massachusetts turkey hunting was nonexistent. In 2018, turkey hunters spent 83 days outdoors, harvesting 30,000 turkey.

MICHIGAN:

- In 1937, Michigan turkey hunting was non-existent. With the help of conservation efforts, Michigan brought turkey populations to over 300,000 by 2018. Now hunters have the opportunity to hunt turkey 112 days each year.
- In 1937, deer season in Michigan was only 16 days long. By 2018, the deer season had increased by almost 725% to 132 days and the annual harvest was over 367,600 animals.
- Michigan bear hunters were only allowed a limited 16 days of hunting in 1937. Today, they can hunt for 48 days, an increase of 200%!
- Michigan waterfowl hunters have been able to enjoy more days outdoors as their annual hunting season has expanded by 443% from just 30 days in 1937 to 163 days in 2019.

MINNESOTA:

- Minnesota's deer season saw an almost 900% increase from 1937 to 2018. Hunters can now spend 109 days afield in 2018, compared to only 11 in 1937. Deer hunters also harvested 188,700 deer during the 2018 season.
- In 1937, Minnesota bear hunters could only spend 11 days outdoors hunting. Today, they can hunt for 43 days, an increase of 291%!

- The Minnesota pheasant season saw an increase of over 800% from 1937 to 2018. Hunters can now spend 82 days afield in 2018, compared to only nine in 1937.
- In 1937, Massachusetts grouse hunting was nonexistent, with closed seasons across the state. By 2018, with growing game populations, bird hunters could seek grouse for 110 days.

MISSISSIPPI:

- In 1937, Mississippi's turkey season was only 20 days long, due to a low population of only 5,000 birds. By 2018, with an annual harvest of over 24,700 birds, the turkey population had risen to over 300,000 allowing hunters to potentially hunt for 118 days.
- In 1937, Mississippi waterfowl hunters were only able to spend 30 days afield. Today, they can hunt for 205 days, an increase of 583%!

MISSOURI:

- In 1937, Missouri's deer season was only three days long, with only 108 deer taken. Today, hunters in the Show Me state can potentially hunt deer for 123 days, which is more than a 4000% increase! During 2018, Missouri hunters used this time afield to take more than 290,000 deer.
- A species restoration project for elk in Missouri began in 2011 based in part on Wildlife Restoration excise tax revenues. Today that population has grown to 150-200 animals.

MONTANA:

- In 1940, Montana had 40,000 mule deer. By 2018, the annual harvest was over two times greater (97,156).
- In 1924, Montana had 3,000 antelope. By 2014, the population had increased to over 120,000,
- Montana grouse hunters had only five days of hunting in 1937, a very limited opportunity. By 2018, grouse hunters could hunt for 123 days annually... over a 2300% increase!
- Both deer and elk hunters in Montana had just 30 days of open season in 1937. Today, hunting has expanded to 86 days for both species, an increase of 169%.

NEBRASKA:

- In 1937, Nebraska did not have a deer hunting season. By 2018, hunters could hunt for 137 days annually, and were able to take almost 60,000 deer.
- In 1937, Nebraska turkey hunters had no opportunities to hunt locally due to closed seasons. By 2018, hunters had 207 open days and harvested 17,700 birds.

NEVADA:

- Nevada quail and grouse hunters only had two days of open season in 1937. By 2018, hunters could spend 122 days afield, enjoying a 6000% increase in annual hunting days!
- Nevada's waterfowl season saw a 410% increase from 1937 to 2018. Hunters can now spend 153 days afield in 2018, compared to only 30 in 1937.

NEW HAMPSHIRE:

- With a 500% increase in deer hunting season since 1937, New Hampshire hunters were able to take more than 14,000 deer in 2018.
- New Hampshire pheasant hunters were only able to hunt for a mere 10 days in 1937. Today, they can enjoy 92 days outdoors, which is an 820% increase in annual hunting days.

NEW JERSEY:

- In 1937, New Jersey only had 36 days allotted for squirrel and rabbit hunting. By 2018, hunters can potentially hunt for 141 days...an almost 300% increase since 1937!
- In 1937, New Jersey's deer season was only five days long with 2,100 deer taken. Today, hunters can potentially pursue deer for 152 days - which is an increase of 2940% - with more than 50,800 deer harvested in 2018.

NEW MEXICO:

- In 1937, New Mexico's deer and elk hunters only had 15 days of hunting each species. By 2018, 153 days were available for deer and elk hunts, an increase of 920%.
- Annual hunting days for grouse have grown by 1200% in New Mexico. What started as just seven days in 1937 has increased to 91 days annually by 2018.

NEW YORK:

- When you think of New York you probably first think of New York City, but the Empire State also offers excellent hunting opportunities. In 1937, New York's deer season was 32 days, but by 2018 increased 300% to 127 days with nearly 228,000 animals taken.
- New York waterfowl hunters have been able to enjoy more days outdoors as their annual hunting season has expanded by 573% from just 30 days in 1937 to 202 days in 2019.

NORTH CAROLINA:

- By 1971, North Carolina's fall turkey season was closed, and a spring season was established in 1972. When seasons re-opened, harvests were limited with 144 birds

taken in 1977. By 2018, populations had exploded and over 17,000 turkeys were taken... an increase of 11,000 %.

- In 1937, North Carolina grouse hunters only had a limited 26 days of hunting season. By 2018, there are now 139 days available for grouse hunts, an increase of 435% for annual hunting days.

NORTH DAKOTA:

- Since 1937, North Dakota saw an almost 3,000% increase in the state's deer hunting season up from four days to 122 days by 2018. This gave hunters the opportunity to harvest over 16,000 deer in 2018.
- Annual hunting days for pheasant have grown by 878% in North Dakota. What started as just nine days in 1937, has increased dramatically to 88 days annually by 2018.

OHIO:

- In 1937, with too few animals Ohio did not have a deer season. Today, Ohio offers 128 deer hunting days annually, which hunters used to take over 172,000 deer in 2018.
- Ohio squirrel hunters only had 16 days of open season in 1937. By 2018, hunters can now spend 153 days in the field, enjoying a 856% increase in annual squirrel hunting days.

OKLAHOMA:

- In 1937, Oklahoma turkey season was closed year-round because of a low population of just 300 birds. By the 1980's their population numbered close to 80,000. Today, hunters can hunt 140 days annually, and harvested over 22,000 turkeys in 2018.
- In 2019, waterfowl hunting in Oklahoma has experienced growth of over 500% in annual hunting days compared to the number of open season days available in 1937.

OREGON:

- Oregon offers amazing bear hunting opportunities that you can rarely find elsewhere. Since 1937, Oregon bear seasons have increased over 600% to a total of 215 days in 2018.
- With a stronger population, Oregon's elk season has grown 2,938% since 1937. What once began as a short eight-day hunting season has now increased to 243 days annually for this big game species.
- In 1937, Oregon's hunters could pursue deer for only 36 days, but by 2019, 170 days were available across the state.

PENNSYLVANIA:

- Pennsylvania is known for its great deer hunting opportunities. Since 1937, the deer hunting season has increased almost 800% to 116 days annually. In 2018, over 700,000 hunters used those 116 days to harvest over 374,000 deer.
- Both squirrel and rabbit hunters in Pennsylvania were restricted to just 25 days of hunting annually in 1937. Today, hunting season for both species has increased by 420% to 130 days of hunting annually.

RHODE ISLAND:

- Rhode Island offers excellent waterfowl hunting opportunities, with 157 days of hunting annually, a 423% increase since 1937!
- In 1937, Rhode Island did not have deer season, forcing hunters to venture out-of-state. Today, the Rhode Island deer population is strong enough to offer 153 days of deer hunting annually, which hunters used to take over 2,100 deer in 2018.

SOUTH CAROLINA:

- South Carolina now offers 105 days of potential waterfowl hunting days annually. This is a 250% increase since 1937!
- Deer hunting in South Carolina has seen steady growth from 1937 to 2018. The annual number of hunting days has increased from 140 in 1937 to 170 in 2018, which is growth of over 21%. In 1950, 10,000 deer were taken, but by 2018, 195,000 were harvested.

SOUTH DAKOTA:

- A pheasant hunter in South Dakota had only restrictive, local seasons in which to hunt in 1937. Today, pheasant hunters enjoy 87 days of hunting across the state.
- South Dakota is known for its great deer and elk hunting opportunities. Since 1937, the both deer and elk hunting seasons have increased over 500% to 122 days annually across the state by 2018.

TENNESSEE:

- In 1937, the deer population in Tennessee was estimated to be only 1,000 and hunting season was just 15 days. By 2018, populations had reached over 850,000, allowing hunters to take 147,000 deer during the 109-day season.
- Turkey hunting in Tennessee has seen steady growth from 1937 to 2018. The annual number of turkey hunting days has increased by 34% from 62 days in 1937 to 83 days in 2018 and hunters harvested over 28,200 birds.

TEXAS:

- While Texas had a 47-day turkey season in the 1930's, hunting success was dismal due to low populations. Today, turkey hunters in Texas enjoy a 121-day season and harvested more than 22,000 birds.
- The Texas deer population has grown from 225,000 in the 1930's to a strong one of 3.5 million by 2018. Because of this population increase, the 47-day hunting season from 1937 has also increased by 221% to 151-days in 2018.

UTAH:

- In 1937, Utah turkey hunters had no opportunities to hunt in-state. By 2018, Utah offered 53 days of turkey hunting, allowing hunters to harvest over 3,000 turkeys.
- Deer hunting has grown by 364% in Utah! From 1937 when the season was a short 11 days, deer hunters now have 51 days annually for this big game species.

VERMONT:

- In 1937, Vermont only had 77 days of quail hunting annually. By 2018, Vermont offered year-round quail hunting!
- Since 1937, Vermont's deer hunting season has increased by 660% from 10 days to 76 days annually. In 2018, hunters used those 76 days to harvest over 19,000 deer.

VIRGINIA:

- Today, Virginia offers 204 days of deer hunting, up over 300% compared to 1937. An estimated 190,000 deer hunters took to the field in 2018 and harvested almost 200,000 deer!

WASHINGTON:

- In 1937, Washington pheasant hunting season was only 8 days long. Hunters today can now enjoy 115 days afield...an increase of 1,337%!
- Washington deer hunters only had a short 25-day deer season in 1937. Today, 122 days of deer hunting are available, an increase of 388%.

WEST VIRGINIA:

- West Virginia hunters saw a 4,650% increase in deer hunting season since 1937! Deer hunters certainly took advantage, harvesting over 100,000 deer in 2018.
- West Virginia now offers 119 days of rabbit hunting days annually. This is a 693% increase from the 15-day season offered in 1937!
- In 1944, West Virginia's turkey population was estimated to be 6,000 birds. The 2018 harvest was twice this number, with over 12,000 birds taken from an estimated population of nearly 123,000.

WISCONSIN:

- In 1937, grouse hunting was closed in Wisconsin. Today, the Cheese State offers a 137-day grouse season.
- From 1955 to 2018, Wisconsin's annual deer harvest increased nearly ten-fold from 36,000 to 335,243 animals!
- In 1937, Wisconsin pheasant hunting season was only a mere six days long. Hunters today can now enjoy 79 days outdoors...an increase of 1,217%!

WYOMING:

- In 1937, Wyoming elk hunters had only limited local seasons. Today, 170 days of elk hunting are available for various specialty hunts and in 2018 approximately 25,000 elk were harvested.
- Grouse hunters in Wyoming were restricted to just 11 days of hunting annually in 1937. Today, grouse hunting has increased by 1291% to 153 days of hunting annually.
- From the 1930's to the present, through proper wildlife stewardship, Wyoming's antelope population has grown from 12,000 animals to 400,000.

Sport Fish Restoration

Evolution of the Sport Fish Restoration Program

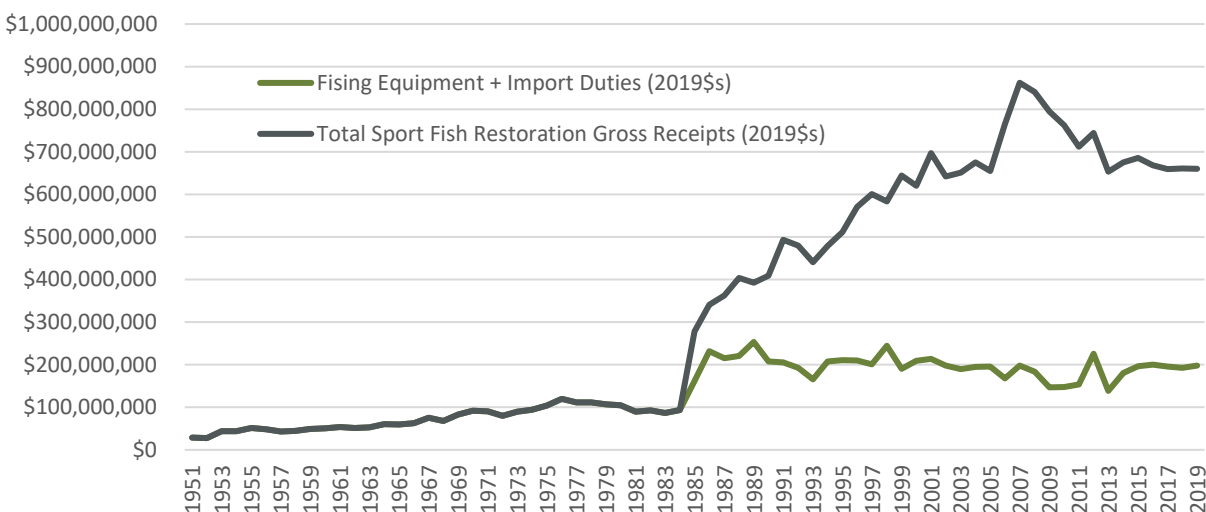
By spotlighting the benefits of a dedicated source of funding for fisheries conservation and management, the presence of the Pittman-Robertson Wildlife Restoration Program influenced Congressman Frank Buck's (CA) federal legislation to create a 10-percent manufacturer's excise tax on certain fishing equipment, artificial lures, and similar devices for recreational fishing. Two attempts, the latest in 1941, to pass Congressman Buck's bill were unsuccessful. However, the realities of World War II resulted in a 10-percent tax on luxury items - including fishing rods, reels, lures, and creels - that garnered support with the Congress and the President.

Following the end of World War II, manufacturers continued to pay this tax with the funds being deposited into the general treasury of the United States. In 1947, Congressman John Dingell (MI) began efforts to revive the spirit of Congressman Buck's bill by introducing legislation to channel the funds already being paid by sportfishing equipment manufacturers into sportfish management programs conducted by the states. Congressman Dingell was joined by anglers and, at various times during the next three years, by businesses in the sportfishing industry in his fight. The legislation was signed into law in 1950 and the excise taxes that the sportfishing industry had been paying for nine years were finally directed to programs that benefited their industry. For the next 30 years, the Sport Fish Restoration Program (also known as Dingell-Johnson after its Congressional sponsors) was a huge success.

Failing for over a decade to develop a dedicated funding source on their own, the recreational-boating community teamed with sportfishing manufacturers to implement what became known as the Wallop-Breaux expansion of the Sport Fish Restoration Program (named after its primary Congressional sponsors) in 1984. In essence, the Wallop-Breaux amendments captured the tax that recreational boaters were paying on their gasoline purchases and channeled them into boating access and boater-safety programs. The results were immediate. Gross receipts into the Sport Fish Restoration fund increased by 200% between passage of Wallop Breaux in 1984 and the first year of implementation in 1985, meaning that an additional \$79 million now flowed through Sport Fish Restoration account in the first year alone (Figure 1). While much of this new money went to fund the boating-related provisions (including access for anglers), some became available for improving sportfish populations upon which both the fishing and boating industries depend.

Since 1984, several additional changes were made to Sport Fish Restoration, none of the magnitude of Wallop-Breaux. All were designed to enhance participation in recreational fishing, thereby reinforcing the consumer base that purchases fishing equipment.

Figure 7. Sport Fish Restoration Excise Tax Collections 1951-2019



Notes:

Total Gross Receipts includes all categories, including boater's gasoline taxes, interest, import duties, etc.

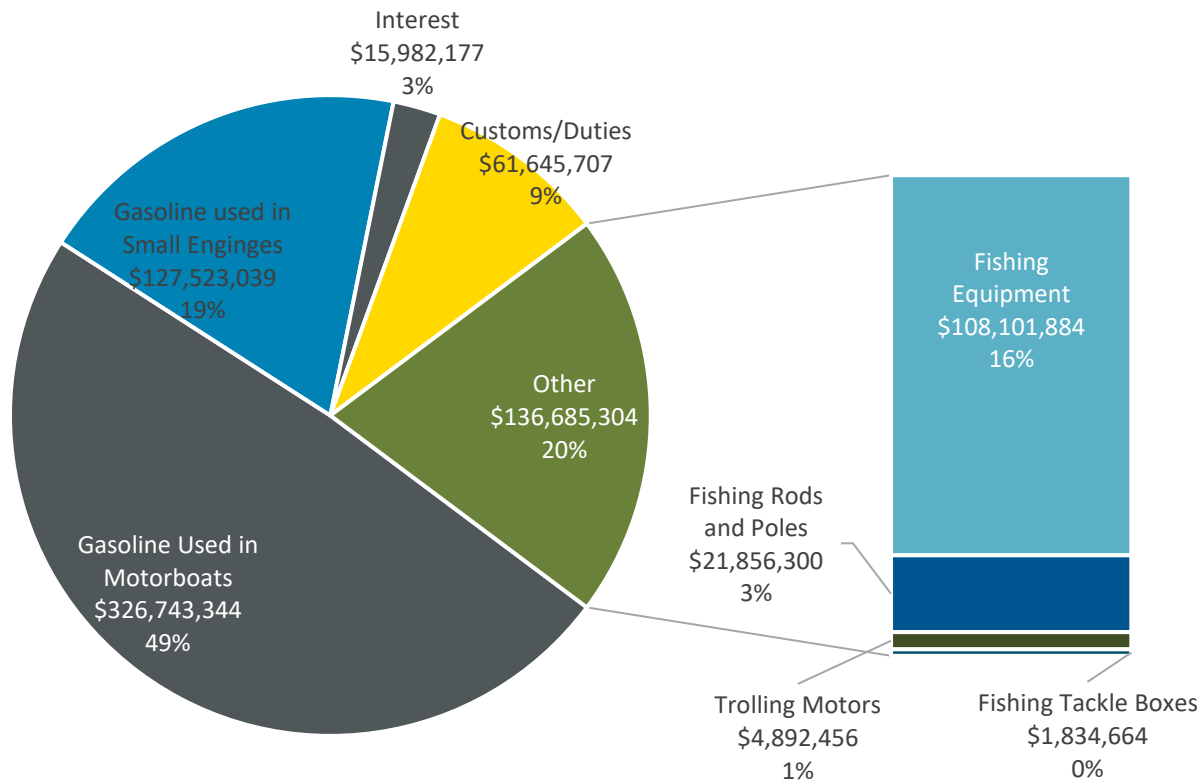
Major changes include: 1985 motor boat gasoline tax added; 1993 small engines fuel tax added; 2005 sonar taxes discontinued, tackle boxes reduced to 3%, and fishing rods capped at \$10.

Source: U.S. Fish and Wildlife Service WSFR Program Excise Tax Receipts

Current Program Status

Over the last five years (2015-2019), Sport Fish Restoration receipts (including boaters' gasoline taxes) averaged \$668.6 million per year. Of this, \$136.7 million (20%) came from the excise taxes on "All Fishing Equipment" (Figure 2). Within this category, fishing equipment such as tackle is the largest contributor at an average of \$108.1 million annually. Excise tax collections on rods and poles contribute another \$21.8 million annually. These two subcategories account for 95% of the larger "Fishing Equipment" category.

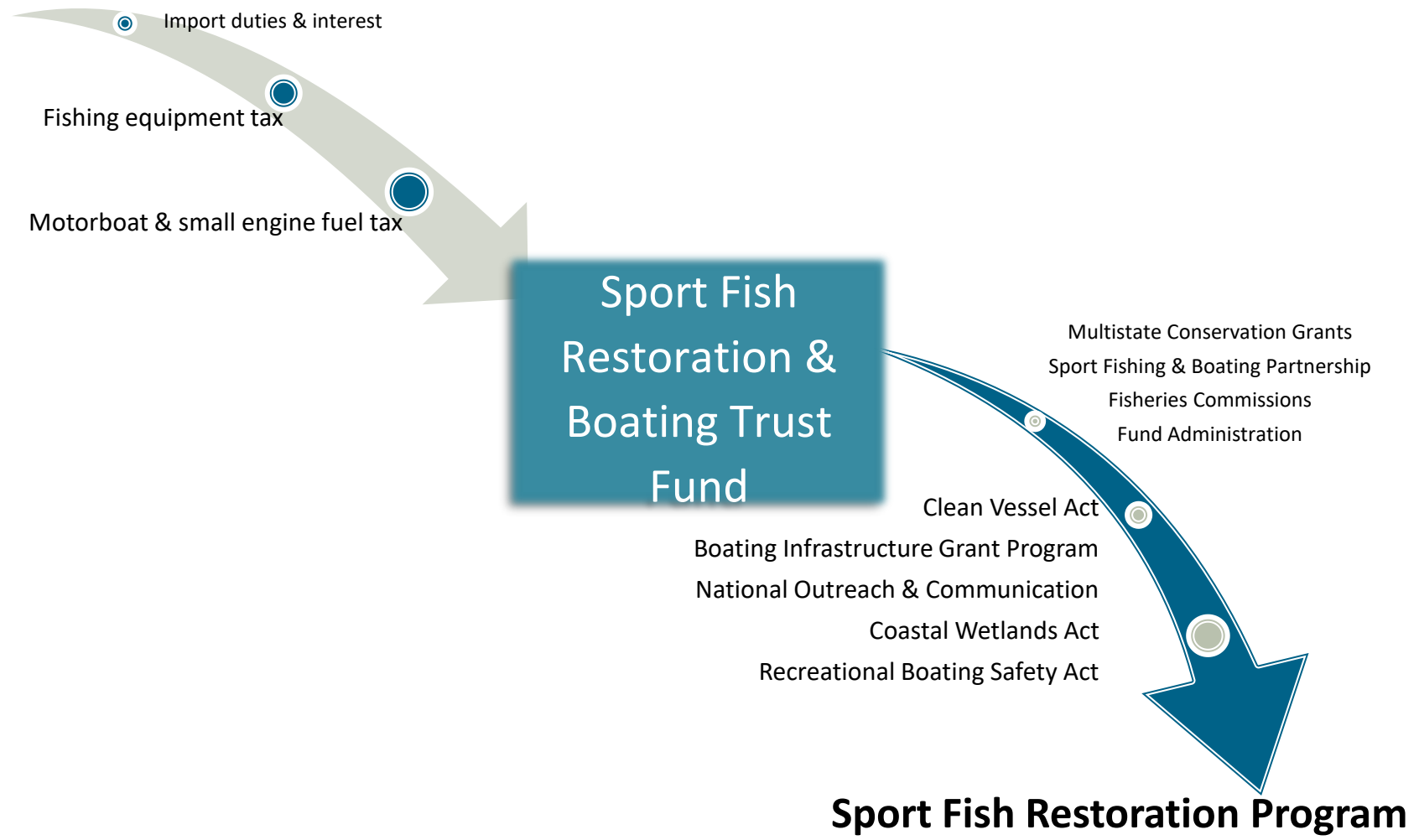
Figure 8. Average Annual Contributions to Sport Fish Restoration Account (2015-2019)



Source: U.S. Fish and Wildlife Service WSFR Program Excise Tax Receipts

Excise taxes are paid by the sport fishing equipment manufacturers to the U.S. Treasury on a quarterly basis. As with all sources of revenue destined for the Sport Fish Restoration Program, they are transferred to the dedicated Sport Fish Restoration & Boating Trust Fund (Figure 3). The main portion of this Fund is distributed to states through the Sport Fish Restoration Program for fisheries-enhancement programs by a formula that takes into account each state's size (land area) and number of certified anglers. Funds are only paid to states on a reimbursable basis (after work is completed) for approved projects.

Figure 9. Sport Fish Restoration Program Funding Mechanism



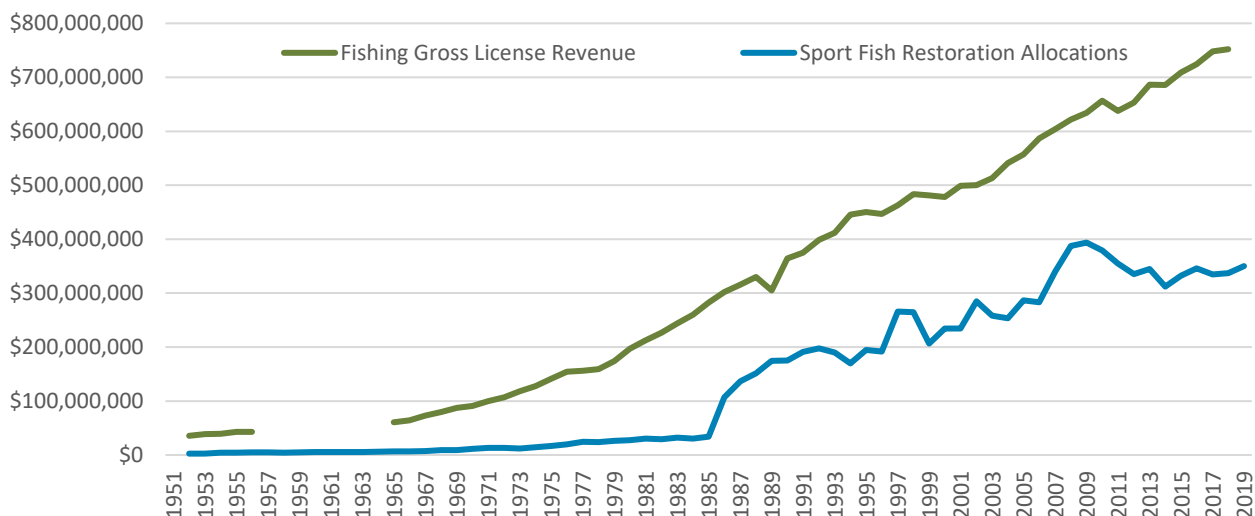
Benefits to Industry

Leveraged Funds

An often-overlooked benefit of the Sport Fish Restoration Program to the recreational fishing industry is the program's ability to leverage outside funding for fisheries enhancement projects. The most obvious demonstration of this leveraging ability is the provision requiring states to utilize angler license dollars for wildlife and sport fish programs as a condition of receiving funds.

Every year since 1950, the revenue generated by fishing licenses in the United States has exceeded the grants to states through Sport Fish Restoration, even after the massive influx of boaters' gasoline tax in 1985 (Figure 4). The amount by which license revenue has exceeded Sport Fish restoration funding was as high as 1,200 percent in the early years of the program but averaged 710% annually 1965-1985. Since gasoline taxes began to be allocated to Sport Fish Restoration, the annual amount by which license revenue exceeds Sport Fish Restoration funds averaged close to 100 percent. Therefore, before the industry investment even hits the ground, its value is doubled -- money that would not likely be available for fisheries management in the absence of this Federal program that by law prohibits fishing and hunting license dollars from being used for any other purpose besides fisheries and wildlife conservation and recreational enhancement.

Figure 10. National Sport Fish Restoration Grants to States and License Income: 1951-2009 (actual dollars)



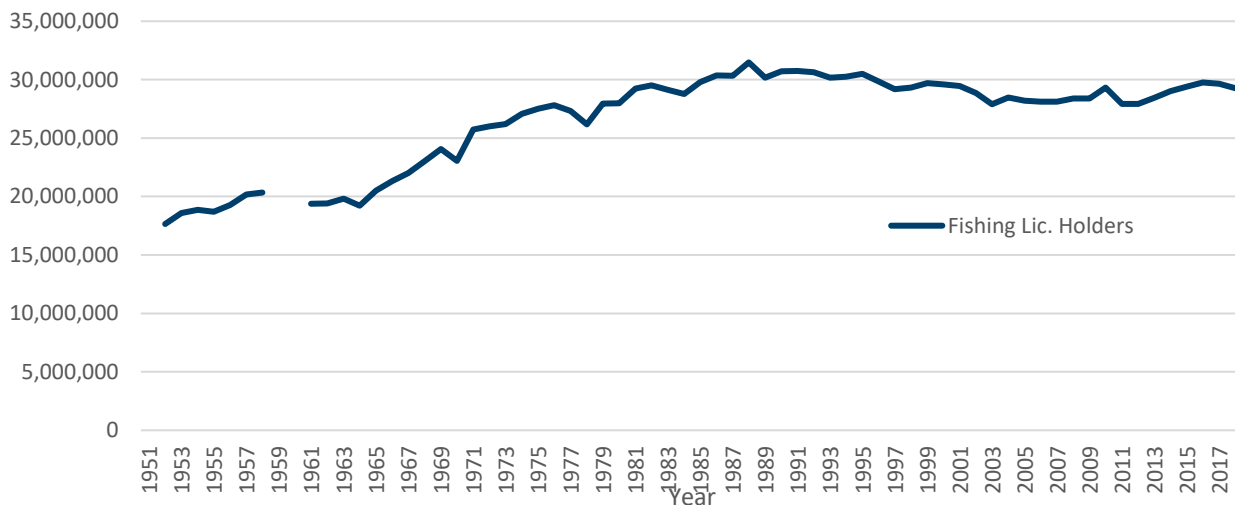
Source: U.S. Fish and Wildlife Service's WSFR Program Excise Tax Receipts and Historical Hunting License Data.

Fishing Participation

The two primary measures important to industry's return-on-investment are the number of participants (anglers) and how much those anglers are spending on tackle-related items.

The nation saw steady growth of the angler population from 1950 until 1988, almost doubling in size. Since 1991, the number of anglers has diminished only slightly, with increases in recent years (Figure 5).

Figure 11. National Certified Fishing License Holders in the United States: 1951-2018



Source: U.S. Fish and Wildlife Service's National License Certification Report and National Hunting Statistics Report.

Federal Excise Taxes & Return on Investment

Although industry has been a long-term partner in the development and continued success of these programs, today's competitive business climate presents tough challenges to companies. The excise tax is often one of the top three expenses for a company, pushing some companies to question the value of paying these taxes, particularly in the absence of a measure connecting this expenditure to company profitability. Traditional communications over the years have described the "success" of the excise tax in terms of how much money was spent, not how much was returned. While this approach is valuable, it is only mildly effective from a business perspective since companies measure success in earnings.

Table 1 provides a comparison between Sport Fish Restoration excise tax collections and angler purchases of tax-related equipment items for the last 12 cycles of the National Survey of Fishing, Hunting, and Wildlife-Activity Recreation (conducted every five years between 1955 and 2016). The following discussion is presented in terms of constant (2019) dollars. *For the years in which the National Survey was conducted*, excise tax and import duty collections range from a low of \$50.4 million in 1960 to a high of \$213.8 million in 2001. Anglers are estimated to have purchased \$2.3 billion of tax related equipment items in 1955. These purchases grew slowly through 1970 to roughly \$2.6 billion. Angler purchases of tax-related items then rose dramatically in 1980 to more than \$5.7 billion. Reaching a peak of \$8.6 billion in 1996, spending has fallen since, which helped spur the expansion of angler recruitment and education efforts funded by excise tax dollars, such as the creation and successes of the Recreational Boating and Fishing Foundation.

Table 5. Excise Tax Collections and Angler Purchases of Tax Related Equipment Items

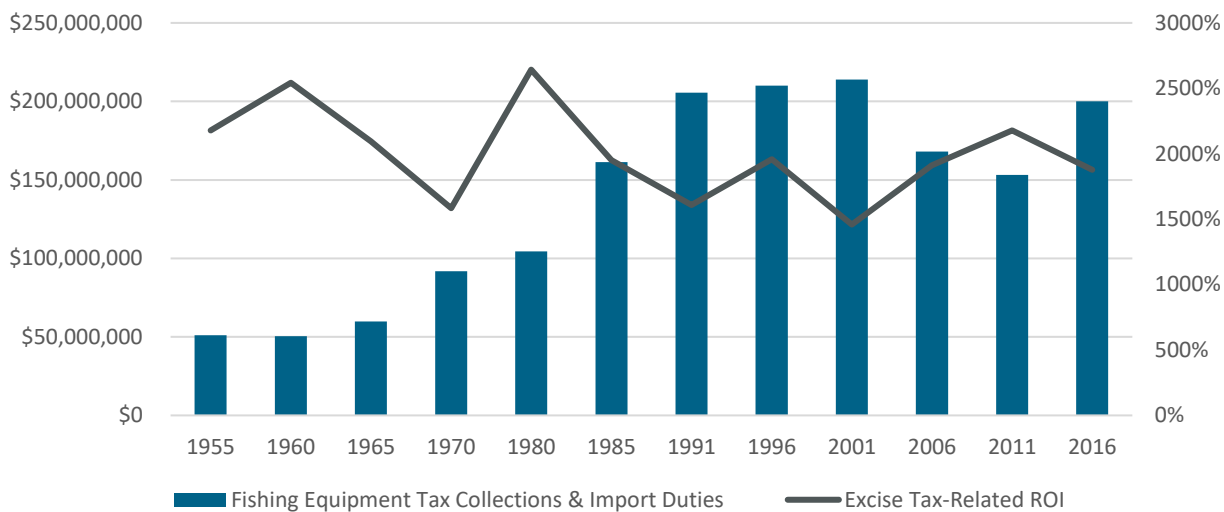
Year*	SFR Excise Tax Collections		Angler Purchases of Tax Related Equipment Items			
	Actual \$s	2019 \$s	Actual \$s	2019 \$s	Wholesale Adjusted 2019 \$s	Excise Tax-Related ROI
1955	\$5,347,425	\$51,011,442	\$243,626,000	\$2,324,055,682	\$1,162,027,841	2178%
1960	\$5,835,695	\$50,403,253	\$308,326,000	\$2,663,030,412	\$1,331,515,206	2542%
1965	\$7,373,380	\$59,843,054	\$323,543,000	\$2,625,905,802	\$1,312,952,901	2094%
1970	\$13,924,091	\$91,747,199	\$469,149,000	\$3,091,268,709	\$1,545,634,354	1585%
1980	\$33,640,051	\$104,372,749	\$1,845,321,000	\$5,725,354,744	\$2,862,677,372	2643%
1985	\$67,936,953	\$161,417,821	\$2,786,922,000	\$6,621,711,132	\$3,310,855,566	1951%
1991	\$109,539,184	\$205,612,769	\$3,740,104,000	\$7,020,438,828	\$3,510,219,414	1607%
1996	\$128,929,356	\$210,080,895	\$5,308,674,000	\$8,650,093,492	\$4,325,046,746	1959%
2001	\$148,140,211	\$213,851,394	\$4,617,612,000	\$6,665,865,788	\$3,332,932,894	1459%
2006	\$132,600,207	\$168,155,611	\$5,332,401,000	\$6,762,230,369	\$3,381,115,185	1911%
2011	\$134,815,714	\$153,226,346	\$6,141,895,000	\$6,980,641,196	\$3,490,320,598	2178%
2016	\$187,821,560	\$200,068,734	\$7,430,662,000	\$7,915,188,953	\$3,957,594,476	1878%

*In 1975, data was collected by a private contractor utilizing different methodology and reporting detail that does not enable comparisons with other survey years.

Source: U.S. Fish and Wildlife Service's WSFR Program Excise Tax Receipts and US Census Bureau's National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

Retail purchases are only a rough indicator of the amount of tax contributed by industry because the tax is levied at the point of first sale. To estimate an industry-level return on investment, it is necessary to remove markups in the market chain to arrive at an estimate of the dollar value making it back to the manufacturer. Therefore, to account for the markup in prices from the manufacturer point of sale (which is reflected in the excise tax collections) and the retail point of sale (which is reflected in angler purchases of tax-related items), retail purchases were adjusted by a factor of 2.0.⁹ Wholesale adjusted purchases range between \$1.2 billion and \$4.3 billion. Estimated Excise Tax-Related ROI ranges between a low of 1,459% in 2001 to a high of 2,643% in 1980.

Figure 12. Fishing Equipment Excise Tax Collections and Return on Investment (1955-2016)



It is important to remember that the reported Excise Tax-Related ROI only includes the excise taxes and import duties paid by companies as the “investment.” Adding in the angler license funds and other leveraged funding sources on the investment side would not allow companies to see the return received from the taxes they paid. If all license and leveraged funds were included in a ROI estimate, the resulting estimate would be lower than the 2,643% estimated in 1980 *but would not be a true industry ROI.*

⁹ Based on typical mark-ups identified by Southwick Associates in a variety of sportfishing and hunting industry surveys conducted in recent years.

Sport Fish Restoration Program Case studies

While it's not possible to assess the returns on investment for all projects funded in part by Program funds, the following are examples of how investments have helped boost fishing participation and sales, through the last decade and more recently:

- ❖ Built from scratch and opened in 2002, 784 acre Cedar Creek Lake in Kentucky now generates more than \$5.0 million (2019\$) annual in sales of taxable fishing equipment, providing industry with a 488% return on the SFR dollars invested in its construction.
- ❖ Until 1996, Kansas's 5,100 acre Wolf Creek Reservoir was off limits to anglers. With roughly \$1.0 million (2019\$) invested in angler access and management by the State of Kansas – two-thirds funded by SFR grants – by 1998 this reservoir was opened full-time for fishing, generating roughly a half-million dollars in sales of taxable fishing equipment and providing industry a 400% return over the reservoir's expected 25 year life span.
- ❖ Striped bass are one of the most sought-after gamefish along the Atlantic coast. Through 2009, nearly \$2.5 million (2019\$) in SFR funds were invested in maintaining this fishery annually, matched by \$1.1 million (2019\$) from other sources. The returns are impressive, with anglers spending \$82 million (2019\$) annually for taxable fishing tackle to pursue striped bass, providing industry with a 3,000% return on SFR invested dollars.
- ❖ By 2002, fishing trips to Oregon's 2,824-acre Diamond Lake had decreased 85% due to impacts from a non-native species of chub. After investing nearly \$850,000 (2019\$) in SFR funds, matched by nine times more from state and federal sources, to eradicate the invasives and restock, by 2009 anglers were spending \$5.8 (2019\$) million for taxable fishing tackle alone, representing a 575% return on SFR investments.
- ❖ In 1997, Nebraska began rehabilitating Cottonmill Lake near Kearney. Nearly \$1.8 million (2019\$) was spent to remove 300,000 cubic feet of sediment plus adding jetties and other structure to support gamefish. One-fourth of the funds came from the SFR program. Now, anglers spend about \$1.0 million (2019\$) annually on taxable fishing tackle and providing industry with a 90% annual return over the 25-year expected life of the investment.
- ❖ In 2001, the State of Virginia began rebuilding the New River's walleye fishery. Considering the total investment to rebuild this fishery, with 75% paid by SFR funds, by 2007 angler expenditures to pursue walleye increased 120% along the river, representing 62% annual return to the sportfishing industry over the project's 20 year expected lifetime.



Edson Fichter Pond

The Edson Fichter Nature Area is located along the southern edge of the City of Pocatello in southeast Idaho. In 2011, the three-acre Edson Fichter Pond was added to the Area, the first urban community fishing pond in Pocatello. The pond is stocked with rainbow trout annually and managed by IDFG as a put-and-take fishery.

Utilization

Prior to construction of the pond, the primary use of the area was walking on its nature trail. In 2012, the first full year of use, approximately 22,000 angler trips were recorded to the new fishing water. Angler use has slightly increased over the subsequent years and persists through the winter months as the pond offers an ice fishery. The Edson Fichter Pond now ranks as one of the most easily accessible and family-friendly fishing waters in Southeast Idaho.



Photo source: Idaho Fish & Game. Available: <https://idfg.idaho.gov/ifwis/fishingplanner/water/1124032428216>



Photo source: Idaho Fish & Game. Available: <https://idfg.idaho.gov/ifwis/fishingplanner/water/1124032428216>

Investments

Between 2011 and 2019, total investment in pond construction was approximately \$270,000, of which roughly 25% came from private donations and the remainder from WSFR investments. Over those nine years, improvements have included the addition of an asphalt trail, fishing docks, restroom facility, and landscaping maintaining a rural feeling just outside the city.

Return on Investment

The “return on investment measure” compares net benefits from the investment to the costs of the investment. The benefit is defined as the retail purchase of tax-related equipment items by anglers, adjusted to account for the amount of each sale passed from retailers and wholesalers to manufacturers who pay the tax. Investments are defined as the amount invested into a specific project.

Per day tax-related equipment item purchases are developed from the 2016 Fishing, hunting, and wildlife-related national survey report and inflated to 2019 dollars. Total spending per angler day is estimated to be \$19.75 in retail sales on tax related items.

Collective spending by anglers on days spent at Edson Fichter Pond are calculated based upon the number of angler trips estimated by IDFG during the first full year of use and held fixed over the period of study. Benefits from the investment, total adjusted angler spending between 2011 and 2019, have accrued to an estimated \$1.8 million. Given that the state reports utilization has increase over the intervening years, the benefits related angler spending is potentially a conservative estimate.

WSFR investments allocated to the creation of an urban community pond with easy angler access between 2011 to 2019 is estimated to total \$191,000 when inflated to current dollars. Net benefits from total angler spending are estimated to be \$1.6 million, generating a positive ROI of just over 860%. Many of these improvements can span the test of time, requiring only general maintenance to support utilization over the next decade or beyond, further growing the return to these initial investments.

Table 6. Idaho Fish and Game: Edson Fichter Pond

WSFR investments: 2011-2019 (2019 \$'s)	\$191,000
Angler spending on tax-related items: 2011-2019 (2019 \$'s)	\$1,845,000
Net Benefits	\$1,479,000
Return on investment (excise tax related)	864%

Georgia Trout Fishery



According to the Georgia Department of Natural Resources, the state's streams have not been able to independently support a vibrant trout population, relative to other locations across the nation. One of the key management strategies the state uses to support the desired catch rates is stocking.

Utilization

Roughly 4,000 miles of cold clean trout streams stretch across the upper state. Roughly 1 in 4 of Georgia's licensed anglers spin, bait, or fly fish for trout. These anglers reportedly each take three fishing trips with the primary purpose of pursuing trout annually.¹⁰



Photo source: Georgia Wildlife Resources Division. Available: <https://georgiawildlife.com/fishing/identification>



Photo source: Georgia Wildlife Resources Division. Available: <https://georgiawildlife.com/burton-trout-hatchery>

Investments

Georgia's trout fishery relies heavily on three state hatcheries and one federal hatchery to support the growth of eggs or fingerlings. More than 1 million reared trout of harvestable length are released in waterbodies across the state each year. Arguably, without the WSFR program and its partnerships, only a small portion of the state's public trout waters would support fishable trout populations.

¹⁰ Fishing day is the median number of trips taken as reported in Yondo, H.J. et al. in the draft report "Final Report for the 2017 Georgia Trout Angler Survey" shared through personal communication with the Georgia DNR.

Return on Investment

The “return on investment measure” compares net benefits from the investment to the costs of the investment. The benefit is defined as the retail purchase of tax-related equipment items by anglers, adjusted to account for mark-ups from manufacturing to retail. Investments are defined as the amount invested into a specific project.

Per day tax-related equipment item purchases are developed from the 2016 national survey data and inflated to 2019 dollars. Total spending per angler day is estimated to be \$9.77 in retail sales on tax related items. Benefits from the investment, total adjusted angler spending in 2019 was an estimated \$3.6 million.

Investments allocated to the rearing and stocking of trout across the state is estimated to total \$636,000. Net benefits from total angler spending are estimated to be \$3.0 million, generating a positive ROI of just over 470%.

Table 7. Georgia Wildlife Resources Division: Trout rearing and stocking

WSFR investments in 2019	\$636,000
Angler spending on tax-related items (2019 \$s)	\$3,636,000
Net Benefits	\$2,999,000
Return on investment (excise tax related)	471%