
ALLOCATION OF MOTOR FUEL TAXES
TO THE
WATERWAYS SAFETY FUND



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This publication is a report of the research staff of the Legislative Service Commission. The report consists solely of information and analyses relating to the subject matter as prepared by the research staff. It does not purport to represent the findings and opinions of the Legislative Service Commission.

The Legislative Service Commission authorized its staff to prepare and publish the report pursuant to the mandate of Am. Sub. H.B. 215 of the 122nd General Assembly, but the Commission has taken no position in regard to the material contained in the report.

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SUMMARY

Amended Substitute H.B. 215 of the 122nd General Assembly included a request that the staff of the Legislative Service Commission undertake research to answer the following:

(1) How much motor fuel is used annually in Ohio for recreational boating purposes;

(2) Whether the 0.5% of motor fuel excise tax revenues currently allocated to the Waterways Safety Fund for harbor and related purposes accurately reflects the amount of motor fuel actually used for recreational boating purposes;

(3) How much motor fuel, other than fuel used by commercial air carriers, is consumed in Ohio for general and business aviation purposes?

Data obtained from the Ohio Department of Natural Resources and the United States Coast Guard make clear there has been a steady increase in recreational boating over the past several years. Other studies show a gradual increase in the size of motors used in boats, with a fairly large increase having occurred since 1963 when the present allocation to the Waterways Safety Fund was enacted. Increased engine size coupled with increased recreational boating can reasonably be assumed to result in an increase in fuel consumption--an assumption that was supported by the data obtained. Findings suggest that the present 0.5% allocation of revenues to the Waterways Safety Fund may not accurately reflect the amount of fuel actually being used for recreational boating. An increase in the allocation to a full 1% or even 1.25%, appears sustainable from the data gathered.

Ohio Department of Taxation data on the consumption of motor fuel to propel aircraft shows a steady increase over a period of time. Also, although no state data were available on aircraft registrations in Ohio or to indicate how aviation fuel use might be apportioned between general and business aviation purposes, Federal Aviation Administration figures indicate that more aircraft have been used over the past several years for private and recreational purposes than for business and commercial purposes.

INTRODUCTION

In 1997, the Legislative Service Commission staff was directed to conduct a study of the consumption of motor fuel in Ohio for recreational boating purposes and "general and business" aviation purposes. The study was requested by an amendment to Am. Sub. H.B. 215 of the 122nd General Assembly and was to be based on existing data from previous studies and research into any new relevant data in order to determine the following:

(1) The amount of motor fuel consumed in Ohio for recreational boating purposes;

(2) Whether the percentage of motor fuel excise tax revenue allocated to the Waterways Safety Fund (0.5%) is an accurate reflection of the amount of motor fuel actually used for recreational boating purposes;

(3) The amount of motor fuel consumed in Ohio for general and business aviation, excluding fuel consumed by commercial air carriers regulated under 14 C.F.R. Part 119.

This report includes a brief review of existing and prior provisions of state law relating to recreational boating and the taxation of motor fuel used for those purposes. Also included under the discussion of state law is a summary of the findings of LSC Information Bulletin 1963-2 dealing with problems in marine fuel taxation. These sections are succeeded by statistical data provided by the Ohio Departments of Taxation and Natural Resources on recreational boating fuel use, a review of other states' methods for funding boating programs and the federal allocation of motor vehicle fuel funds to marine purposes. The report concludes with a discussion of the background of and findings on the question of the consumption of motor fuel for general and business aviation.

I. STATE LAW

The Waterways Safety Fund was established in 1955¹ and a marine fuel tax was imposed to provide revenues for the fund,² which in turn were used to secure federal moneys.³ The Division of Watercraft in the Department of Natural Resources was designated to act as the "refuge and small boat harbor agency of the state for the purpose of participating with, and cooperating with" the Department of the Army and the Corps of Engineers in accordance with federal law. Specific duties of the Division currently include participating and cooperating with the Corps of Engineers in "acquiring, constructing, and maintaining refuge and light draft vessel harbor projects, channels, and facilities for vessels in the navigable waters lying within the boundaries of the state."⁴ Ohio's law dealing with harbor projects is included in sections 1547.71 through 1547.79 of the Revised Code.

The Waterways Safety Fund initially was funded with a marine fuel tax, which was imposed only on fuel sold for recreational boats. Fuel sold for boats used in trade or commercial fishing and those owned by political subdivisions was not taxed for this purpose. The rate of the marine fuel tax as first enacted in 1955 was 5¢ per gallon (the same as for fuel used in motor vehicles). The tax was collected and reported by dealers, who were required to be licensed as marine fuel dealers, in the same manner as the motor fuel tax. Taxes on fuel sold by service stations, as well as marine fuel facilities, were required to be credited monthly to the Waterways Safety Fund; however, the law did not include procedures for distinguishing the amount of tax on fuel sold for boat use from the tax on fuel sold for vehicle use.

Originally, revenues in excess of \$250,000 were anticipated. However, revenues never reached the amount anticipated even though the marine fuel tax rate was increased from 5¢ to 7¢ per gallon in 1959. The largest amount collected during the time the marine fuel tax was in effect was \$214,233 in fiscal year 1962. These shortfalls gave rise

¹ In 1932, Congress enacted the "Fletcher Act of 1932," which made federal moneys available to the states for the establishment of harbors of refuge. The grants available to states under the Fletcher Act and its successors were conditioned upon the provision of state matching funds and the existence of a state agency to oversee and administer the refuge harbor program. The Waterways Safety Fund was established in part as Ohio's response to the Fletcher Act.

² The law imposing the marine fuel tax and establishing the procedures related to its collection were located in Chapter 5736. of the Revised Code, which was enacted in 1955 by Am. Sub. H.B. 77 of the 101st General Assembly (126 Ohio Laws 572).

³ Various other moneys also are required to be deposited in the Waterways Safety Fund. The Appendix includes a listing of those moneys as well as the purposes for which they are to be spent.

⁴ OHIO REV. CODE ANN. § 1547.71.

to LSC Information Bulletin 1963-2,⁵ which determined that difficulties in reporting had resulted in a portion of the taxes on fuel used for recreational boating being credited to the various highway trust funds instead of the Waterways Safety Fund.⁶

The Information Bulletin included the findings of a study conducted by the Bureau of Business Research at Miami University to develop an estimate of the amount of fuel actually used for recreational boating. On the basis of a survey of boat owners, the study offered three alternative approaches for estimating marine fuel consumption. The estimates ranged from a low of 0.094% (based on finding the ratio of gasoline bought at marine dockside pumps to gasoline purchased elsewhere) to a high of 0.702% (based on hourly gasoline consumption per motor multiplied by the hours of operation), of the total amount of fuel sold for both recreational boating and vehicle purposes.⁷

The study also presented various alternative methods of tax allocation, one of which was that the General Assembly could transfer a legislatively specified percentage of all motor fuel excise revenues to the Waterways Safety Fund. Although the study pointed out that this method might be subject to challenge because of the antidiversion provisions of Section 5a, Article XII, Ohio Constitution,⁸ the General Assembly chose to adopt it by making a legislative finding of fact that 0.5% of the state's motor fuel tax revenues were attributable to recreational boating.⁹ At the same time, the General Assembly repealed the Marine Fuel Tax Law.¹⁰ No changes have been made in the

⁵ James K. Tully, *Problems in Marine Fuel Taxation*, in OHIO LEGISLATIVE SERVICE COMMISSION BULLETIN (1963).

⁶ As a practical matter, it was very difficult for a service station operator to separate sales of fuel for boat use from sales of fuel for vehicle use. LSC Information Bulletin 1963-2, pointed out that:

it is necessary . . . to view the problems of the motor vehicle fuel dealer. In order to make a monthly report of marine fuel sales, the dealer would need a method of separating his sales of marine fuel from his sales of fuel for motor vehicles and for other uses. . . . Short of installing separate dispensing equipment for each type of fuel use, physical separation of fuel sales by type of use is highly impractical.

Tully, at 29.

⁷ *Id.* at 35-36.

⁸ The tax allocation apparently has never been challenged on these grounds. The antidiversion provisions strictly limit the purposes for which highway user revenues can be spent to highway activities and activities that are closely related to highway activities.

⁹ OHIO REV. CODE § 5735.051.

¹⁰ Am. H.B. 466 of the 105th General Assembly (130 v 1743).

percentage of fuel tax revenues attributed to recreational boat use since the enactment of section 5735.051 in 1963.

II. CURRENT RECREATIONAL BOAT USE

In order to make some determination as to whether or not the 0.5% of motor fuel tax revenue now allocated to the Waterways Safety Fund represents an accurate estimate of fuel actually used for recreational boating, it is necessary to have data regarding the following:

- (1) The number of recreational boats registered in Ohio per year;
- (2) The average number of gallons of motor fuel used per recreational boat per year;
- (3) The total number of gallons of taxable motor fuel sold per year.

Data involving (1) and (3) were available from the Division of Watercraft in the Department of Natural Resources and from annual reports of the Department of Taxation, respectively. Data for (2) were estimates based on studies that had been conducted for the Department of Natural Resources by Dr. Ted L. Napier of Socio-Environmental Research.¹¹

Dr. Napier's studies were done primarily to assist the Division of Watercraft in developing its boating program and much of the data in the studies was gathered from questionnaires sent to boat owners throughout the state; the survey included questions relating to the average number of boats owned, length of boat, type of boat, horsepower of motor, and age of boat. However, the studies also included information on average annual fuel consumption per boat, calculated on the basis of figures given in the answers to the surveys that indicated the number of gallons of fuel used for each boating trip made during the boating season. These figures show an increase in the number of gallons of fuel used per trip that apparently reflects an increase in boat motor size. For example, the 1963 Information Bulletin showed the average horsepower per motor used in 1961 to be 38.4.¹² Dr. Napier's 1996 study indicates that, by 1995, the largest boat motors in use for recreational purposes were about 124 horsepower. Consequently, it probably is a valid assumption that the average size of boat motors now in use has increased considerably over those in use in 1961, and that current motors consume more fuel than earlier ones.

An estimate was prepared of the percentage of motor fuel used for recreational boating during the 1986, 1991, 1993, and 1995 boating seasons using Dr. Napier's figures on average annual fuel consumption per boat for each of those boating seasons, boat

¹¹ TED L. NAPIER, Ph. D., Socio-Environmental Research, WATERCRAFT PLANNING STUDY (1996); WATERCRAFT PLANNING STUDY (1994); WATERCRAFT PLANNING STUDY (1992); WATERCRAFT PLANNING STUDY (1987); WATERCRAFT RECREATION PLANNING STUDY (1986); and WATER-BASED OUTDOOR RECREATION AMONG OHIO LICENSED BOAT OWNERS: A STATE SURVEY (1985).

¹² Tully, at 48.

registration figures supplied by the Division of Watercraft, and the numbers of gallons of taxable motor fuel sold annually as given in the Department of Taxation's annual report. Table I contains the marine fuel use percentage estimates for those years.

TABLE I¹³				
ESTIMATED MOTOR FUEL USED FOR RECREATIONAL WATERCRAFT PURPOSES				
Year	Number of watercraft (powercraft)	Fuel use per watercraft (gallons)	Total gallons of gasoline sold	Percentage attributable to watercraft use
1986	263,232	194.0	4,565,299,052	1.12%
1991	288,115	195.2	4,625,046,066	1.21%
1993	286,483	163.6	4,616,106,317	1.02%
1995 (without personal watercraft figures)	283,291	299.7	4,758,231,046	1.78%
1995 (with personal watercraft figures)	307,396	299.7	4,758,231,046	1.93%

The figures in the last column of Table I suggest that the 0.5% allocation of motor fuel revenues now made to the Waterways Safety Fund might not accurately reflect recreational boating fuel use. The watercraft registration figures also indicate a considerable growth in the number of pleasure boats owned in Ohio since the allocation was established in 1963. When this growth is coupled with the increase in the average size of boat motors as discussed earlier, it seems very likely that a greater percentage of fuel is being used today for recreational boating purposes than was being used in 1963.

National figures on recreational boating also show substantial growth between 1975 and 1994. Table II includes figures, in millions, for each of several periods beginning with 1975 and ending with 1994.

¹³ A factor affecting the estimates was the inclusion of motor powered "personal watercraft" for the 1995 and 1996 registration years. However, after it was discovered that data on average annual fuel consumption were available for 1995 but not 1996 (the boating season covered by each study is for the year immediately preceding the year in which the study was completed), it was decided to calculate the fuel use percentage for 1995 with and without the "personal watercraft" figures. As shown in Table I, including the figures for personal watercraft increases the fuel use percentage slightly for that year.

TABLE II
RECREATIONAL BOATING IN THE UNITED STATES¹⁴
1975-1994 (in millions)

	1975	1980	1985	1990	1991	1992	1993	1994
Recreational boats owned	9.7	11.8	13.8	16.0	16.3	16.2	16.2	16.6
Outboard boats	5.7	6.8	7.4	7.9	7.9	7.7	7.7	7.9
Inboard boats	0.8	1.2	1.4	2.2	2.4	2.5	2.7	2.9

The amount of motor fuel tax revenues deposited annually in the Waterways Safety Fund also has increased, as a result of the overall increase in the consumption of motor fuel. Table III shows the actual distributions to the fund on an annual basis since 1990; it also shows the amounts the Waterways Safety Fund would have received during the same years if the allocation had been 0.75% or 1%.

TABLE III
DISTRIBUTIONS TO THE WATERWAYS SAFETY FUND
1991-1997

Fiscal Year	Actual Distribution At 0.5 %¹⁵	Projected Distribution At 0.75 %	Projected Distribution At 1%
1991	\$5,170,584	\$7,755,876	\$10,341,168
1992	5,644,076	8,466,144	11,288,152
1993	5,608,777	8,413,165	11,217,554
1994	6,212,387	9,318,580	12,424,774
1995	6,259,599	9,389,399	12,519,198
1996	6,008,063	9,012,095	12,016,126
1997	6,841,159	10,261,739	13,682,318

¹⁴ UNITED STATES DEPARTMENT OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES, 258 (1996).

¹⁵ Source: Ohio Department of Natural Resources. Figures rounded to the nearest dollar.

III. FUEL TAX ALLOCATION PRACTICES OF OTHER STATES AND THE FEDERAL GOVERNMENT

Survey of other states

According to information obtained through the National Conference of State Legislatures,¹⁶ twenty-eight states have laws or special arrangements earmarking all or part of estimated marine fuel tax receipts for public access and boating facilities. Eleven states, including Ohio, attribute a portion of total state motor fuel tax receipts to fuel purchased for use in boats. The percentages allocated to marine use range from 2% to 0.167%. Seven states have percentages higher than the 0.5% established in Ohio and three states have lower percentages. The other states that earmark fuel tax receipts for marine fuel purposes allocate their funds through a variety of methods including the use of (1) a statistical survey, (2) a formula, usually based on the number of registered boats, the estimated gallons of fuel used, and the state fuel tax rate, (3) an annual determination by executive agencies, and (4) an annual appropriation based on unknown factors.

The Federal Government's Allocation

The federal government also allocates a percentage of fuel tax revenues to a special fund for boat-related purposes. The Secretary of Transportation is required to pay from the Highway Trust Fund into the Boat Safety Account in the Aquatic Resources Trust Fund "amounts (as determined by him) equivalent to the motorboat fuel taxes received on or after October 1, 1980, and before October 1, 1998."¹⁷ Currently, this amount, as determined by studies completed in the 1980s and 1990s, is 1.08%.¹⁸

¹⁶ The National Conference of State Legislatures obtained and forwarded a copy of a report prepared by the States Organization for Boating Access. The report summarized the various state programs for utilizing marine fuel taxes for boating purposes; information in the report is dated October 1, 1991. The information has not been independently verified.

¹⁷ 26 U.S.C.A. § 9503.

¹⁸ Source: Ohio Department of Natural Resources.

IV. MOTOR FUEL USED FOR AVIATION PURPOSES

The Legislative Service Commission staff also was requested to determine the "number of gallons of motor fuel actually consumed in Ohio for general and business aviation purposes, not including fuel consumed by commercial air carriers regulated under 14 C.F.R. Part 119." The sale of motor vehicle fuel sold exclusively for use in the operation of aircraft is exempt from taxation under Chapter 5735. of the Revised Code; however, each motor fuel dealer is required to report the number of gallons sold for that purpose.¹⁹

The Excise and Motor Fuel Tax Division of the Department of Taxation has no data on the amount of motor fuel sold exclusively for aviation purposes. However, the Department's Division of Tax Analysis and Local Government Distributions includes some data in its monthly "Motor Fuel Tax Reports." These figures on the sales of motor fuel to propel aircraft include only gasoline-based fuel and not that based on kerosene such as is used in jet aircraft. Also, there is no distinction between fuel used for general aviation and fuel used for business aviation. However, since kerosene-based fuel is not included in the sales figures, it seems safe to assume that fuel used by commercial jet aircraft is excluded from those figures.²⁰ Table IV gives sales figures for five recent fiscal years, and, even though the split between general and business aviation cannot be determined, the figures indicate a steady growth in fuel use for non-commercial aviation.

TABLE IV GALLONS OF MOTOR FUEL SOLD TO PROPEL AIRCRAFT²¹		
Fiscal Year	Gallons Sold	Change
1992	9,134,509	
1993	9,601,862	+ 467,353
1994	9,662,689	+ 60,827
1995	10,439,272	+ 776,583
1996	14,296,925	+3,857,653

The Division of Aviation of the Ohio Department of Transportation, which handles the registration of aircraft in Ohio, does not have historical records of registration information. However, the Federal Aviation Administration maintains figures on the

¹⁹ OHIO REV. CODE ANN. § 5735.06(A)(3)(e).

²⁰ Note, though, that fuel used by some jet aircraft flown for business or recreational purposes also would be excluded.

²¹ OHIO DEPARTMENT OF TAXATION, DIVISION OF TAX ANALYSIS AND LOCAL GOVERNMENT DISTRIBUTIONS, MOTOR FUEL TAX REPORT (various months and years).

number of aircraft used for general aviation purposes (as opposed to commercial aviation) on an annual basis in each of the states. The figures for 1990 through 1993, included in Table V below, show a decrease in the number of aircraft used in Ohio for general aviation purposes.

TABLE V ACTIVE GENERAL AVIATION AIRCRAFT IN USE IN OHIO²²			
1990	1991	1992	1993
7,504	6,919	6,101	5,620

The Federal Aviation Administration also maintains figures on the number of aircraft used nationally in general aviation each year. These figures are shown in Table VI for the years 1984 through 1993 on the basis of three use categories: corporate, business, and personal. The personal category includes aircraft used for recreational flying.

TABLE VI GENERAL AVIATION AIRCRAFT BY PRIMARY USE (NATIONWIDE)²³ (in thousands)										
Use	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Corporate	16.7	12.7	11.3	11.1	10.2	11.5	10.1	10.0	9.4	9.9
Business	47.1	42.5	40.8	37.3	32.6	35.0	33.1	31.6	28.9	27.8
Personal	105.3	96.2	112.2	115.3	114.4	116.4	112.6	115.1	108.7	102.1

The national data indicate that significantly more aircraft are used for personal purposes than for corporate or business purposes. Even though there is a decline of approximately 3% in the figures for personal use in 1993 as compared with those for 1984, the decline of approximately 41% each in the corporate and business categories over the same period of time is much greater. These data appear to substantiate the assertion that recreational flying probably is engaged in more frequently than non-commercial flying for business-related purposes.

Several observations may be made given the available data for aircraft and fuel use. First, the number of gallons of motor vehicle fuel sold to propel aircraft has

²² FEDERAL AVIATION ADMINISTRATION STATISTICAL HANDBOOK ON AVIATION, Table 8.8 (1990-1993).

²³ *Id.* at Table 8.3. Note that other uses not included in this extract are: instructional, aerial application, aerial observation, sight seeing, external load, other work, air taxi, rental, and other.

increased steadily from 1992 to 1996. Second, there has been a decrease in the number of active general aviation aircraft in use in Ohio; nationally, there has been a decrease in the number of business and corporate general aviation aircraft, while the number of personal aircraft has been relatively steady in the last ten years. Lastly, the data is not available to determine the number of gallons of motor fuel actually consumed in Ohio for general and business aviation purposes.

APPENDIX

MAKEUP AND USES OF THE WATERWAYS SAFETY FUND

The Waterways Safety Fund consists not only of the 0.5% of motor fuel tax revenue allocated to it under section 5735.051 of the Revised Code (plus investment earnings) but also revenue from watercraft registration fees; fees for historic watercraft identification plates; moneys transferred to the fund from the General Revenue Fund as reimbursement for foregone fees for free watercraft registrations issued to disabled veterans, Medal of Honor awardees, and former prisoners of war; fees for the livery registration of fleets of rental watercraft; fees for registration certificates (licenses) for watercraft dealers and manufacturers; fees for watercraft certificates of title; and all fines, forfeitures, and penalties arising from violations of the Watercraft and Waterways Law (Chapter 1547. of the Revised Code) and the Watercraft Certificates of Title Law (Chapter 1548. of the Revised Code), and from actions commenced by state watercraft officers under any law prohibiting the dumping of refuse, trash, or litter into the waters of the state. (Sections 1547.55, 1547.75, 1547.79, and 5735.051 of the Revised Code.)

Moneys in the Waterways Safety Fund may be used for the following purposes:

- (1) Educating the public concerning watercraft and watercraft safety as well as for paying expenses for salaries, operation, and administration of the Division of Watercraft;
- (2) The expenses of members of the Waterways Safety Council incurred in attending council meetings;
- (3) Up to 10% of all moneys accruing to the fund for grants to assist political subdivisions, conservancy districts, and state departments in establishing and maintaining marine patrols to enforce the Watercraft and Waterways Law and rules adopted under it;
- (4) Up to 10% of all moneys accruing to the fund, for grants to assist political subdivisions, conservancy districts, state departments, and nonprofit organizations in establishing or participating in boating safety education programs;
- (5) The costs of carrying out activities in participation and cooperation with the Corps of Engineers in acquiring, constructing, and maintaining refuge and light draft vessel harbor projects, channels, and facilities for vessels in the navigable waters within the state;
- (6) The costs of constructing, maintaining, repairing, and operating refuge harbors and other projects for the harboring, mooring, docking, launching, and storing of light draft vessels, and marine recreational facilities. (Sections 1547.55, 1547.67, 1547.68, 1547.71, 1547.72, 1547.73, and 1547.75 of the Revised Code.)