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**Economic Activity Associated With
the Inaugural “Virginia In-Water Boat Expo”
— September 9-11, 2005 —**



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**Economic Activity Associated With
the Inaugural
2005 Virginia In-Water Boat Expo
– September 9-11, 2005 –**

Prepared by
Thomas J. Murray

EXECUTIVE SUMMARY

Major Findings

Sales of boats and other marine products at the 2005 Virginia In-Water Boat Expo (“the Show”) brought serious buyers together with leading suppliers to generate final sales.

- Virginia companies sold over \$4.0 million in boats and related products during the three-day event.
- The Show generated over \$11.0 million in total economic output throughout Hampton Roads and Virginia as a result of the infusion of out-of-state purchases and expenditures at the Show.
- 110 full time jobs are associated with the economic output generated by the Show.
- \$7 million in total excise and sales taxes were generated in Virginia, as a result of the Show.
- \$3.9 million of labor income resulted from the economic activity generated by the 2005 Show.

Boat show visitors bring in new dollars to the region and the State.

- Over 8,000 visitors attended the Show.
- 26% of the visitors were from outside Hampton Roads
- The estimated average local expenditure by Show visitors was \$407.00 including purchases made at the Show.
- Show attendees represented a patronage of qualified and motivated buyers with 36% of attendees reporting annual household income in excess of \$100,000.
- The median household income for Show attendees was \$81,579, significantly higher than income levels reported by visitors to other downtown Norfolk events.

Boat Show exhibitors spend to promote their company or products.

- 50% of exhibitors were companies located within Hampton Roads.
- 38% of exhibitors were from outside the state of Virginia.
- 58% of the leads developed by exhibitors at the Show were considered to be new prospects.
- Show exhibitors expended \$.204 million on local goods and services, such as hotels, restaurants, retail and local transportation in order to participate in the Show. Such expenditures were the beginning of economic impacts throughout the region and the state of Virginia.

INTRODUCTION

The Virginia In-Water Boat Expo (“the Show”) was initiated in 2005. The three-day Show, centered at Norfolk’s “Town Point Park,” is co-owned and operated by the National Marine Manufacturers Association, Inc. (“NMMA”) and the Norfolk Festevents (“Festevents”). This study has been completed on behalf of both organizations to evaluate the economic activity arising from the Show and report findings relative to its future.¹

Based upon the information gathered from NMMA and Festevents, the author’s knowledge of the region’s marine industry, and implementation of conventional input-output modeling techniques, the economic impacts of the Show have been estimated.

The Show

The 2005 Show attracted 8,032 attendees, 74% from the Hampton Roads area.² The recent Show displayed boats representing over 70 different manufacturers. The types and values of vessels varied greatly throughout the Show.³ The intent of this study is to prepare initial estimates of the economic impacts of the 2005 Virginia In-Water Boat Expo, which include the following sources:

- Expenditures by visitors and exhibitors at the Show
- Sales of boats and other marine products as a result of the Show

The 2005 inaugural event was widely reported to be a success by both exhibitors and visitors. Post Show surveys of exhibitors showed a very positive experience at the inaugural event. Seventy-two percent (72%) of exhibitors rated the show as “very good” (52%) or “excellent” (20%). Exhibitors reported consistent interest in participating in the “Show” in 2006, with 71% saying they “would attend,” 15% indicated they “would likely attend” and 12.5% were “undecided” about attending the 2006 Show in October 2005, the time of the post show survey.

1 The current address of the NMMA Boat Shows, Inc. is 9050 Pembroke Pines Boulevard, Suite 305, Pembroke Pines, Florida 33024. The current address for Festevents is 120 W. Main Street, Norfolk, Virginia 23510.

2 Hampton Roads Metropolitan Statistical area includes the following counties and cities: Isle of Wight, James City, Mathews Surry, York, Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.

3 Both product exhibitors and working dealers attend the Show. The official “Show Directory & Boaters Guide” and “Directory Changes and Additions,” listed a total of 118 companies with booth space.

The first year event provided valuable marketing exposure to exhibitors. Those completing the post show survey reported 1,025 leads produced at the Show, on average 58% of the leads were considered to be new prospects.

Economic Impact Analysis

Economic impact analysis begins with introducing a change in the output of goods and using the multiplier model to analyze the effects on a region's economic base. The standard input-output model estimates the direct, indirect, and induced economic implications of some basic economic activity. The secondary effects (the indirect and induced impacts), along with the basic economic activity estimates, provide an estimate of the "multiplier" effects from the basic activity (direct impact).

In the standard input-output model, measures of aggregate economic activity are used as a basis for estimating the total economic impact of the subject activity. For example, measures of direct employment or total sales in an industry are obtained, and these are then used as a basis for evaluating the total impact. In this report estimates of the primary sales by category were obtained and used as the base measure of the "direct impact" of the industry.

Given this measure of the direct purchases of the boat-related industry, an estimate is made of the indirect impacts using information on the interactions between these industry sectors and other economic sectors that are, to varying extent, dependent upon such boat-related industry.

For example, suppliers of materials into the boat-related product's manufacturing, transportation, storage, marketing and distribution are also dependent upon the sales of boat-related goods and services. These added sales or impacts are referred to as the "indirect impacts." Such "indirectly" dependent sectors include hundreds of other types of manufacturing and trades, for which industrial classifications range from "Boat Building and Repairing" to "Veneer and Plywood."

Ultimately, the direct sales activity and the resulting indirect activity, generate some increases in the general level of employment and income in the study area. The extra income generated in this way leads to a third "wave" of economic impact through greater household expenditures on goods and services. Much of this additional re-spending will also occur within the study area, further expanding economic activity. These effects are

referred to as the “induced impacts” of the industry. (See *Economic Impact Definitions* section).

ECONOMIC INPUT-OUTPUT MODEL APPLICATION

Most regional input-output studies attempt to characterize either the economic impacts of specified changes in final demand for a given set of products, services, and industries, or the economic significance of specific industries in a regional and national economy. The research described herein accomplishes the former task. It assesses the economic significance of the Show upon boat-related industries located in Norfolk-Hampton Roads area, and the state of Virginia.

Because of the interrelationships among the many sectors of an economy, any new basic economic activity (such as sales induced by the Show) will generate additional waves of economic impact. By stimulating the expenditures by out-of-region visitors and the export sale of marine products, the Show initiates such rounds of economic impact.

For example, the marketing of boat-related goods and services from this region calls forth additional activity among the suppliers of necessary inputs as well as among distributors of boat-related products, warehouses, and retailers. The impact of the sale of a dollar of boat-related goods and services, generates activity not only for the retail sector, but also indirectly generates economic activity for suppliers, accountants and programmers whose employment supports the operation of the retail enterprise. In an analogous way, the activities of boat-related marketers and consumers will generate multiple rounds of economic activity.

As mentioned above, economic impact analysis is an attempt to provide an estimate of the total impact of any economic activity in any region, including, not only the primary economic impact, but also secondary and tertiary impacts.

The IMPLAN Model

Many economic impact studies use information from the regional inter-industry impact models such as “IMPLAN.” This model was developed using a combination of direct survey data obtained through national surveys of inter-industry interaction, and then, “sharing down” the inter-industry relationships to the local or regional level, based upon the structure or employment structure of industries in the state or region. The

IMPLAN model used herein includes industry linkages specific to the City of Norfolk as well as the state of Virginia.

From these government derived regional inter-industry relationships, output, income and employment multipliers are estimated.

Thus, in terms of simple analysis of the aggregate impacts of activity on the regional economy, published government estimates of the multiplier are used. The use of the IMPLAN multipliers for the present analysis is considered reasonable.

To perform the impact analysis, initial information on the level of primary or “basic” economic activity, for the industry studied is needed. As mentioned above, measuring the total economic impact of any product or service such as the Boat Show first requires an estimate of the volume of the goods sold by virtue of the Show.

The direct economic impact begins with the infusion of “outside” dollars into the region. Again, for the sake of this study there are two economic *study regions* modeled: “Norfolk-Hampton Roads” as a region; and, the state of Virginia. As outlined above, these dollars come from two sources:

- Purchases of marine products from companies within these regions, and
- Expenditures of non-local visitors and exhibitors associated with the Show.

Marine Product Sales

The total value of marine product sales at the Show in 2005 was estimated to be \$5.8 million for all exhibitors. Exhibitors located in the study regions made much of those sales, with Virginia companies contributing in excess of \$4.0 million in sales of marine products.⁴ A total of 69% of exhibitors were Virginia companies; and overall 50% were located in Hampton Roads.

The information on origin of Show sales was utilized to adjust the gross Show sales information for economic impact assessment. Such a “sharing” of sales to within and outside of the study areas is required for realistic estimates of net impacts on local areas, such as the three regions used herein.

⁴ Mail, telephone and in-person surveys was administered by NMMA, Inc. personnel and the author following the Show during October 2005. The survey was on Show-generated exhibitor expenditure and product sales information. The post show survey had a response rate of 41% (48 complete responses) of the 118 exhibitors at the 2005 Show. The results noted here is an expansion of that survey information, which reported \$ 2.1 million in Show sales including non-Virginia companies.

Similarly, the fact that the sale of a fabricated good is made by a firm within the study area does not mean that all of the impacts of the sale accrue to that region. The IMPLAN model assesses the industry sector and computes from the gross output, or sales amount, how much of the necessary expenditures to produce the good are locally acquired for the sake of multiplier analysis. The purchases of inputs from outside the study area, in a sense, are “leakages” from the local economy.

TABLE 1. SALES ATTRIBUTED TO THE SHOW BY EXHIBITOR’S BUSINESS LOCATION			
<i>Total Show Sales</i>	<i>Hampton Roads</i>	<i>Virginia</i>	<i>Out-of-Virginia</i>
\$5,800,000	\$2,900,000	\$1,100,000	\$1,800,000

Expenditures by Exhibitors and Visitors to the Show

Show exhibitors expended an estimated \$204,000 on related goods and services such as hotel rooms, meals, local transportation, etc. Adding to this direct expenditure impact was another \$369,000 in similar expenditures by visitors attending the Show.⁵ Together with the marine product sales, these sources of “new dollars” generate direct economic output in Hampton Roads and throughout Virginia.⁶

⁵ Data on average visitor expenditures was provided by the “Festevents.”

⁶ For allocation of the marine product sales by region the location of the exhibitors and relative sales were obtained from the survey responses and estimated from the official “Show Directory & Boaters Guide.”

TABLE 2: EXPENDITURES BY SHOW EXHIBITORS BY TYPE OF SPENDING	
Category	Total
Lodging	\$43,576
Meals & Entertainment	\$44,611
Local Transportation	\$12,233
Local Service incl. part-time help (decorator, etc.)	\$43,503
Other (ex: local advertising, etc.)	\$60,573
Total Exhibitor Expenditures	\$204,496

TABLE 3: EXPENDITURES BY SHOW VISITORS	
Category	Total
Total Visitor Expenditures ⁷	\$368,669

Direct Economic Impacts of the Show

The direct impact on economic output of the Show manifests itself in other economic growth measures as well. For example, total direct employment (full time equivalent jobs) associated with the output in Norfolk-Hampton Roads was 90 jobs which are included in the estimated overall direct employment impact for the state of 98 full time equivalent jobs.

⁷ Surveys of Show Patrons conducted on behalf of Festevents indicated that visitors spent on average \$35.90 locally, but outside of the event. Research Cited (page 17) #2 - The price of admission to the Show was an added \$10.00 per adult and \$8.00 for military. Average visitor expenditures within the Show were not detailed as to type of expenditure. Rather than double count exhibitor sales for impact analysis, the visitor expenditures outside the Show were solely used for impact estimation; this likely understates the overall economic activity associated with the 2005 Show.

Similarly the direct impacts include increases in labor incomes earned throughout the region. For the same regions the labor income associated with the Show sales activity was \$3.12 million in Hampton Roads and \$3.22 million statewide.

By virtue of the fact that businesses receive increased sales, and households receive increased incomes, more taxes are paid. The overall measure of “Indirect Business Taxes” includes items such as sales taxes and reflects the business generated by the Show. These direct taxes initially amounted to \$.57 million for the State as a whole.

Table 4 below summarizes these types of direct economic impacts of the Show, and further distributes, as a hierarchy, the impacts to each the two study regions using five traditional economic base indicators. For all measures the impacts of the smaller region are “nested” in the larger region. For example, the Virginia measured impacts include the Tri-County region impacts.

TABLE 4: DIRECT ECONOMIC IMPACTS 2005 VIRGINIA IN-WATER BOAT EXPO — BY REGION—		
<i>Impact Type</i>	<i>Hampton Roads</i>	<i>Virginia</i>
Output	5,800,000	\$5,821,000
Employment (#FTEs)	90	98
Labor Income	\$3,124,000	\$3,223,000
Total Value-Added	\$3,900,000	\$4,004,000
Indirect Business Taxes	\$571,000	\$589,000

Indirect Economic Impacts of the Show

Having calculated the first (“direct”) effects of the Show on various measures noted above, the further “ripple” effect of the initial change can be quantified using the input-output model.

Based upon information on the interrelationships among the sectors of the regional economy, the values of the inter-industry “multipliers” are generated by the IMPLAN. That is, quantifying from which industries the subject sector buys its production inputs, and to which sectors its final products are sold, enables estimates of the multiplier effects to be made. Understanding both the purchases of inputs and sale of goods and services by

the marine products sectors allows the “forward” and “backward” linking of the sector’s economic activity. This permits the tracing of expenditures as they “multiply” throughout directly and indirectly impacted sectors.

TABLE 5: INDIRECT ECONOMIC IMPACTS 2005 VIRGINIA IN-WATER BOAT EXPO — BY REGION —		
<i>Impact Type</i>	<i>Hampton Roads</i>	<i>Virginia</i>
Output	\$1,673,000	\$1,949,000
Employment (# FTEs)	5	6
Labor Income	\$173,000	\$231,000
Total Value-Added	\$275,000	\$368,000
Indirect Business Taxes	\$22,482	\$29,363

The “indirect” impacts are realized across many economic sectors. Businesses such as “Other Business Services” (clerical), “Wholesale Trade,” “Banking,” “Real Estate” etc. all are impacted by the direct activity in the boat-related sectors.

To summarize, in addition to direct impacts, two other types of impacts are estimated:

- *indirect* impacts which measure the change in output production in “backward linked” industries caused by the changing input needs of directly effected industries;
- *induced* impacts that measure the change in regional household expenditure patterns caused by changes in household in the direct and indirect sectors.

Induced Economic Impacts of the Show

As a result of the added employees’ compensation and personal income directly generated from Show sales, and similar growth in the indirect (supply) industries, overall household incomes throughout the region rise. That growth in disposable household incomes then further “induces” consumer expenditures and economic activity through retail purchases, financing, and sales of added goods and services.

TABLE 6: INDUCED ECONOMIC IMPACTS 2005 VIRGINIA IN-WATER BOAT EXPO — BY REGION—		
<i>Impact Type</i>	<i>Hampton Roads</i>	<i>Virginia</i>
Output	\$2,571,490	\$2,726,928
Employment (# FTEs)	5	14
Labor Income	\$132,837	\$410,132
Total Value-Added	\$225,333	\$720,164
Indirect Business Taxes	\$23,417	\$76,729

Table 6 illustrates the impacts of the increased household incomes which in turn bring about economic activity in non-boating sectors such as “Owner-Occupied Dwellings,” “Eating & Drinking Establishments,” “Banking,” “Hospitals,” “Real Estate,” etc. These sectors also feel the impacts of added output, employment, incomes, etc.

TOTAL ECONOMIC IMPACT OF THE VIRGINIA IN-WATER BOAT EXPO

In reality, most of the input-output model’s 528 sectors are either directly, indirectly or through induced expenditures, impacted by the boat industry related business resulting at the Show.

Summing up the direct, indirect and induced impacts, an estimate for the total economic impact of the Show in 2005 is illustrated in Table 7 below.

TABLE 7: TOTAL ECONOMIC IMPACTS 2005 VIRGINIA IN-WATER BOAT EXPO — BY REGION—		
<i>Impact Type</i>	<i>Hampton Roads</i>	<i>Virginia</i>
Output	\$10,639,709	\$11,071,049
Employment (# FTEs)	107	110
Labor Income	\$3,430,957	\$3,865,212
Total Value-Added	\$4,384,528	\$5,130,148
Indirect Business Taxes	\$617,408	\$695,555

Qualifications and Conclusions

Any estimate of economic impacts is only as good as the basic information entered into the input-output model. In performing the research, the best information available was used to attempt to fully characterize the level and mix of spending generated by the Show. There is nothing more detrimental to the overall value of research of this nature than exposure to claims of partiality or subjectivity, or the appearance of deliberate bias. To maintain the integrity of this study, the author has been careful to impart a downward bias to our estimated Show impacts.

While attempting to account for all potential spending generated by the Show, caution was exercised in order not to artificially bias the estimated economic activity upward with unrealistic or unfounded assumptions.

Perhaps one of the major problems with utilizing “off-the-shelf” models such as IMPLAN and others is the lack of specificity to account for sectors such as Virginia’s boat dealers. For example, IMPLAN allocates boat dealers to an “Auto Dealers & Service Stations” sector. Such aggregation may understate the local economic impacts of relatively specialized merchandising such as recreational boat dealers.

Another aspect of the Show’s positive impact, which is not reflected herein, is the role of the Show for promotions. Numerous respondents suggested that they do not intend to sell at the Show, but rather attend to obtain quality leads for follow-up in the following months. Certain respondents with sales at the Show indicated that beyond the Show sales, the meaningful contacts would lead to greater sales in the future. Comments such as “sales from the Show are currently \$400,000 and climbing” illustrate the short-term accounting provided by this report. Another exhibitor reported an *expected* \$600,000 in sales will likely result from their investment in exhibiting. Such expressed estimates were not included in these economic impact calculations, but do provide testimony to other positive, long term, economic benefits of the Show.

Clearly the demographic information collected at the 2005 event depicted an attendance that consisted of qualified and motivated buyers with 36% of attendees reporting annual household income in excess of \$100,000. The median household income for attendees at the Show was \$81,579, significantly higher than the income levels of other Norfolk events. Whether sales transactions occurred, or resulted in the months following the event was considered to be very positive exposure by most exhibitors. Similarly the patrons of the Show ranked the overall experience very high. Together these results establish not only a useful benchmark, but also an optimistic beginning.

While the analysis is in a sense a “snapshot” of the economic activity which arose due to the inaugural “Virginia In-Water Expo,” its significant economic potential to the industry and the community is clearly demonstrated as it provides a showcase for Virginia trade to efficiently promote its product to an audience of qualified buyers. Similarly the very positive experiences of visitors to the Show (and to the City of Norfolk) provide additional insight into the ancillary values of the event in terms of marketing the City as a destination. A total of 22% of the visitors to the Show indicated that the event represented their first visit to Town Point Park.

ECONOMIC IMPACT DEFINITIONS & GLOSSARY OF TERMS

Terms are presented in groups within a logical rather than alphabetical order.

Region defines the geographic area for which impacts are estimated. Regions are generally an aggregation of one or more counties. This analysis includes estimates for the City of Norfolk including Hampton Roads and the state of Virginia.

Sector is a grouping of industries that produce similar products or services. Most economic reporting and models in the U.S. are based on the Standard Industrial Classification system (SIC code) or the North American Industrial Classification System (NAICS).

Impact analysis estimates the impact of a change in output or employment resulting from a change in final demand to households, governments or exports.

Input-Output (I-O) model. An input-output model is a representation of the flows of economic activity between industry sectors within a region. The model captures what each business or sector must purchase from every other sector in order to produce its output of goods or services. Using such a model, flows of economic activity associated with any change in spending may be traced either forwards (e.g., spending generates employee wages which induces further spending) or backwards (e.g., purchases of plants that leads growers to purchase additional inputs -- fertilizers, containers, etc.). Multipliers for a region may be derived from an input-output model of the region's economy.

IMPLAN is a micro-computer-based input output modeling system and Social Accounting Matrix (SAM). With IMPLAN, one can estimate I-O models of up to 528 sectors for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the model. The current version of the software is *IMPLAN Pro 2.0*.

Measures of economic activity. **Sales or output** is the dollar volume of a good or service produced or sold. **Final Demand** is sales to final consumers, including households, governments, and exports. **Intermediate sales** are sales to other industrial sectors. **Income** is the money earned within the region from production and sales. Total income includes personal income (wage and salary income, including income of sole proprietor's profits and rents). **Jobs** or employment is a measure of the number of jobs required to produce a given volume of sales/production, usually expressed as full time equivalents (FTEs), or as the total number including part time and seasonal positions. **Value Added** is the sum of total income and indirect business taxes. Value added is the most commonly used measure of the contribution of a region to the national economy, as it avoids double counting of intermediate sales and captures only the "value added" by the region to final

products. **Indirect Business Taxes** consist primarily of excise and sales taxes paid by individuals to businesses. These taxes are collected during normal operation of these businesses but do not include taxes on profit or income.

Final Demand is the term for sales to final consumers (households or government). Sales between industries are termed **intermediate sales**. Economic impact analysis generally estimates the regional economic impacts of final demand changes.

Direct effects are the changes in economic activity during the first round of spending. **Secondary effects** are the changes in economic activity from subsequent rounds of re-spending. There are two types of secondary effects: **Indirect effects** are the changes in sales, income or employment within the region in backward-linked industries supplying goods and services to businesses. For example, the increased sales in input supply firms resulting from more nursery industry sales is an indirect effect. **Induced effects** are the increased sales within the region from household spending of the income earned in the direct industry and supporting industries. Employees in the direct industry and supporting industries spend the income they earn on housing, utilities, groceries, and other consumer goods and services. This generates sales, income and employment throughout the region's economy. **Total effects** are the sum of direct, indirect and induced effects.

Multipliers capture the size of the secondary effects in a given region, generally as a ratio of the total change in economic activity in the region relative to the direct change. Multipliers may be expressed as ratios of sales, income or employment, or as ratios of total income or employment changes relative to direct sales. Multipliers express the degree of interdependency between sectors in a region's economy and therefore vary considerably across regions and sectors. **Type I** multipliers include only direct and indirect effects. **Type II** multipliers also include induced effects. **Type SAM** multipliers used by IMPLAN additionally account for capital investments and transfer payments such as welfare and retirement income. A **sector-specific multiplier** gives the total changes to the economy associated with a unit change in output or employment in a given sector. **Aggregate multipliers** sum multiplier effects across many sectors with a single number. They are based on an assumed distribution of spending across these economic sectors, i.e., a weighted average of sector specific multipliers with the percentage of spending in each sector as the weighting factor.

Purchaser prices are the prices paid by the final consumer of a good or service. **Producer prices** are the prices of goods at the factory or production point. For manufactured goods the purchaser price equals the producer price plus a retail margin, a wholesale margin, and a transportation margin. For services, the producer and purchaser prices are equivalent.

Margins. The retail, wholesale and transportation margins are the portions of the purchaser price accruing to the retailer, wholesaler, and grower, respectively. Only the retail margins of many goods purchased by consumers accrue to the local region, as the wholesaler, shipper, and manufacturer often lie outside the local area.

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