

ECONOMIC IMPACT OF THE BOATING INDUSTRY IN CALIFORNIA

Prepared for the
**CALIFORNIA DEPARTMENT OF
BOATING AND WATERWAYS**

By
DAVID M. DORNBUSCH & COMPANY, INC.

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Prepared for
California Department of Boating and Waterways
Sacramento, California

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I. EXECUTIVE SUMMARY

A. Introduction

Boating is a major industry in California. More than 650,000 pleasure boats are registered with the State, and during 1986 recreational boaters engaged in an estimated 56 million boating-days. Boater spending also supports a wide range of businesses. These businesses include boat and equipment manufacturing and retailing, and many types of boating services, such as boat and engine repair services. The direct spending by boaters on goods and services stimulates the entire California economy. The purpose of this report is to evaluate the economic importance of this boating industry in California.

This report has three main components. First, it evaluates the economics of the statewide boating industry. This component estimates the total volume of business activity, payroll, employment and taxes generated by boating in California. Second, case studies were conducted of four marinas to evaluate the impact of boating on local economies. Third, the report includes an impact analysis of a hypothetical 500 berth marina. The impact analysis provides an example of the impacts on a local community from constructing and operating a new marina.

B. Boating Industry's Contribution to California's Economy

We inventoried 5,035 boating businesses throughout California, with approximately 50 percent in Southern California coastal counties, 35 percent in Northern California coastal counties and 15 percent in inland counties. In 1986, these businesses had total gross receipts of \$2.6 billion, employed 40,000 people and paid \$476 million in payroll. Southern California businesses accounted for about 53% of this economic activity.

Recreational boaters spent 55,975,000 days boating during 1986, and made purchases of about \$1.6 billion on boating trip-related items such as gasoline, groceries and lodging. Boating businesses and other businesses supporting recreational boaters paid over \$191 million in state and local taxes during 1986. Sales taxes accounted

for \$102 million of the total, with fuel taxes (\$39 million), property taxes (\$36 million), state income tax (\$7 million) and transient lodging taxes (\$7 million) also providing substantial amounts of tax revenues.

The spending in the boating industry and by recreational boaters also stimulates the rest of California's economy. Counting all the other businesses that support the boating industry in California, the total economic activity traceable to boating reached some \$6.7 billion during 1986. Over \$1.9 billion was paid in wages and salaries, and over 118,000 people were employed directly or indirectly in support of California's boating.

C. Economic Impacts of a Hypothetical 500 Berth Marina

To provide an example of the impact which a new marina would have on its local area, we determined the financial and economic profile of a typical marina having:

- 500 berths, averaging 30 feet in length
- parking for 300 vehicles
- a two-lane launching ramp with parking for 50 cars & trailers
- a harbormaster's office
- restroom buildings, and
- landscaping, lighting and slope protection of a usual scale for the marina size.

In addition, the marina is assumed to offer a full range of commercial services commonly found at larger marinas in California, including:

- restaurant
- yacht club
- boatyard
- chandlery
- boat dealer
- bait & tackle shop
- coffee shop
- charter fishing boat

Construction Impacts

Such a marina would cost about \$6.4 million for the basic facilities, not including any expenditures for land or facilities such as a breakwater or new roads. The ancillary commercial facilities would cost an additional \$2.8 million to construct.

The spending for marina and ancillary commercial construction spending would result in increased economic activity throughout the local area, amounting from \$18.0 million to \$31.1 million (including the \$9.2 million spent on the marina and commercial facilities). Of this \$18.0 million to \$31.1 million, \$5.8 million to \$10.1 million would be local employee earnings, representing 284 to 491 additional jobs. These figures include all earnings and employment directly and indirectly associated with the marina and commercial facility construction.

The range in impact will depend on the self-sufficiency of the particular area in which the marina is developed. Areas importing most of the necessary goods and services would realize economic benefits on the low end of the range. Relatively self-sufficient areas like Los Angeles would have an impact at the upper end.

Operating Impacts

The economic impacts of marina operations stem from the marina's operating budget itself, from the business activity conducted by marina lessees, and from additional boater spending. A typical array of boating and boating support businesses would produce marina gross receipts of \$4.5 million and pay annual rent to the marina of nearly \$220,000. Marina operating expenses and additional boater spending would bring the total local direct impact to \$4.9 million annually.

The initial direct spending of \$4.9 million would result in total direct plus indirect economic impacts of from \$5.8 million to \$9.1 million, depending on the capability of the local area to supply the goods and services. Total employment and earnings would range from \$2.8 million to \$3.8 million, representing from 190 to 240 jobs.

This level of marina, marina business and other boater spending would produce about \$170 thousand in annual city and county tax revenues. This includes property taxes of about \$120 thousand, hotel taxes of about \$5 thousand and sales taxes of about \$45 thousand.

II. CALIFORNIA BOATING INDUSTRY

A. Introduction and Approach

One purpose of this report is to update the last inventory of California's boating businesses. In 1976 a predecessor study (Williams-Kuebelbeck, 1977) identified 2,754 boating businesses in California. Eleven years later, in 1987, this study found 5,035 boating businesses in California. While 1,758 of these businesses are in categories not included in the 1976 study (such as boat equipment manufacturing and boating clubs), there are 3,277 businesses in categories that were included in the 1976 study, indicating about a 20 percent growth in the number of boating businesses during the intervening eleven years.

In compiling the inventory of California boating businesses this study reviewed boating industry directories, telephone directories, boating guidebooks and boating publication advertising. Once the boating industry inventory was complete data was collected on the 1986 sales for different types of boating businesses. The California Franchise Tax Board and the Board of Equalization both provided average sales per establishment data for samples of ten or more businesses in different sectors. U.S. Census Bureau data was used as supplemental information. Employment and earnings in each type of boating business were estimated from Census Bureau data on employment and earnings per dollar of sales.

The analysis of boating businesses covers only a part of the impact that boating has on California's economy. Every boating trip adds impetus to the economy from the spending on gasoline, food, restaurant meals and other goods and services that are not provided by boating businesses. This study estimated such spending by recreational boaters, and evaluated the impact that the spending has on the State's economy. The boater spending estimates are based on surveys of boaters in California.

By stimulating California's economy, the boating industry also generates state and local tax receipts. This study addresses the revenues from California's corporate

income tax (franchise tax), fuel excise tax and sales tax, and from local property taxes and transient lodging taxes.

Finally, the direct spending by boaters produces indirect effects throughout the economy. Boater purchases of goods and services in both the boating industry (such as marina berth rentals and boat repairs) and in non-boating businesses (such as restaurant meals and gasoline for automobiles) directly stimulates the businesses providing those goods and services. This study uses "input-output" method (described in Appendix B) to estimate these indirect effects.

The remainder of this chapter discusses in more detail the inventory of California's boating businesses, estimated sales, earnings and employment in boating businesses, recreational boater spending, tax revenues and the overall economic impact of recreational boating in California.

B. California Boating Business Inventory

Table 1 summarizes the results of the California boating businesses inventory. Nearly one-half of the boating businesses are retailers, primarily boat dealers and boat equipment dealers. About 30 percent are service businesses of various types, the most common being boat and engine repair businesses and boat chartering operations. The inventory also includes fish processors that purchase fish from California's small craft commercial fishing fleet.

The table shows the number of businesses in each of three regions in California and for the State as a whole. The North Coast region is comprised of all Bay Area and coastal counties from Monterey County north to the Oregon border. The South Coast region includes the six coastal counties from San Luis Obispo County south to the Mexican border. All the other counties in California are grouped into the Inland region.

Table 1 shows that about one-half of the State's boating businesses are in the South Coast region. The South Coast region has significantly more than one-half of the manufacturing, boating publications and boat transportation businesses, and significantly less than one-half of the State's marinas. The average size of the

TABLE 1
 CALIFORNIA BOATING INDUSTRY INVENTORY
 BOATING BUSINESSES BY REGION, 1987

BUSINESS TYPE	NORTH COAST	SOUTH COAST	INLAND	STATE TOTAL
MANUFACTURING				
BOAT MANUFACTURING	51	158	29	238
TRAILER MANUFACTURING	3	2	0	5
EQUIPMENT MANUFACTURING	17	110	14	141
SAILMAKING	23	40	4	67
---SUBTOTAL	94	310	47	451
RETAIL				
BOAT DEALERS	245	433	156	834
BOAT EQUIPMENT DEALERS	286	493	59	838
CANVAS & BOAT TOP	48	70	27	145
MISC. BOATING SUPPLIES	209	155	94	458
---SUBTOTAL	788	1,151	336	2,275
SERVICES				
BOAT AND ENGINE REPAIR	162	215	54	431
FUEL DEALERS	10	20	2	32
HAULING, LAUNCHING, CLEANING & STORAGE	49	93	15	157
SURVEYORS & CONSULTANTS	71	74	3	148
BOATING PUBLICATIONS	8	32	2	42
BOAT TRANSPORTATION	8	28	4	40
BOAT RENTAL/INSTRUCTION	29	69	28	126
BOAT SALVAGE	12	10	6	28
BOAT CHARTERING	152	217	35	404
CLUBS & ASSOCIATIONS	92	94	33	219
MISCELLANEOUS	10	36	1	47
---SUBTOTAL	603	888	183	1,674
MARINAS	198	140	255	593
FISH PROCESSORS	22	20	0	42
TOTAL, ALL BUSINESSES	1,705	2,509	821	5,035

SOURCE: DORNBUSCH & COMPANY INVENTORY OF BOATING BUSINESSES, 1987

South Coast marinas is larger than the state average, however, so the number of berths in the South Coast region is nearly one-half of the State total.

The inventory was compiled from Yellow Page listings of telephone books throughout California, from boating almanacs and guidebooks, from boating industry directories and rosters, and from advertisements in boating publications. About 20 sources were used to compile the inventory.

The boating businesses were classified according to their primary type of business, and firms were assigned only to one business type. A business' self-designation (in a Yellow Pages listing, for example) was used whenever possible. Otherwise, businesses were classified according to their primary activity even if they were engaged in multiple types of businesses. For example, a business that both manufactures and retails boats was classified as a boat manufacturer. A marina that sells fuel and rents boats was classified as a marina and not as a fuel dealer or boat renter.

This approach avoids double-counting business establishments but underreports the number of some types of activities to the extent they are less important than a business' principal activity.

C. Economics of California's Boating Industry

The economic characteristics of California's boating industry were estimated from several sources. Sales data was obtained from the California Franchise Tax Board and the State Board of Equalization. To keep individual business data confidential both agencies provided only aggregate data for samples of ten or more businesses in particular types of industries. The Franchise Tax Board furnished data on the average gross receipts per firm in the sample, which was used to estimate sales per business in the following sectors:

- boat manufacturing
- boat equipment manufacturing
- surveyors and boating consultants
- fish processors

In addition, because the number of trailer manufacturers identified statewide was too small a sample for the agencies to provide data, the trailer manufacturers were combined with boat equipment manufacturers for purposes of estimating sales, employment and earnings per business.

The State Board of Equalization provided average taxable sales data for retail businesses. The taxable sales data was adjusted by dividing by the percentage of sales in each type of business that are subject to sales tax. This percent varies by type of business and was estimated from U.S. Census Bureau (2) data based on the portion of sales made to end-users as opposed to other businesses. This approach of adjusting State Board of Equalization data was used for the following types of retail businesses:

- boat dealers (93.8 percent taxable)
- boat equipment dealers (80.6 percent taxable)
- canvas and boat top stores (80.6 percent taxable)
- miscellaneous boating supplies (80.6 percent taxable)
- boat fuel dealers (96.3 percent taxable)

Both the Franchise Tax Board and State Board of Equalization data are from samples of actual boating businesses. However, the variability of the sample data implies that the true average gross receipts could vary substantially from the sample mean.

Sales for three sectors were estimated directly from 1982 U.S. Census of Manufacturers and Service Industries, and updated to 1986 prices using the index of prices for Personal Consumption Expenditures (from the U.S. Bureau of Economic Analysis, 1987). These sectors are:

- sailmaking
- boating periodicals
- other boating services, including hauling, cleaning, storage, charters, rentals, instruction and transportation

The sales estimates for the "boat and engine repair" sector were derived from data on boater spending for this type of service. Annual spending of \$245.46 per boat (Jones & Stokes, 1986; updated to 1986 dollars) was multiplied by the 664,062 boats in California at the end of 1986 (California Department of Motor Vehicles, 1987) and divided by the 431 boat and engine repair businesses identified in the boating inventory. The resulting estimated average sales is \$378,187 per business.

Gross receipts for marinas was estimated based on estimated income from berth rentals, adjusted to allow for marina income from supplemental sources. First, the annual berth income was estimated by multiplying the 98,467 berths (Williams-Kuebelbeck, 1986) by an estimated average 30 feet per berth (Dornbusch & Company), by \$4.63 slip fee per foot per month (Dornbusch & Company), by 12 months, and then divided by the 593 marinas identified. In this way, we estimated the average berth rental income to be \$277 thousand per marina. This figure was then multiplied by 1.663 to account for additional income earned by the average marina (Dornbusch & Company review of case study data) to estimate the total average gross receipts of \$461 thousand per marina.

The gross receipts per boating club were estimated by multiplying the typical membership per club of 130 (Dornbusch & Company estimate from sample data) by typical annual membership dues of \$600 (Dornbusch & Company estimate from sample data) giving \$78 thousand per club.

Employment and payroll estimates for all boating sectors are based on Census Bureau data indicating the relationship between gross receipts, employment and payroll (U.S. Census Bureau, 3, 8, 10, 14; U.S. Bureau of Economic Analysis, 1987).

Table 2 shows the gross receipts, employment and payroll for each type of boating business in California. The table presents these figures both for an average sized business and for the total of all businesses of each type in California. The total volume of business receipts from all types of boating businesses is \$2.6 billion per year. Total employment is nearly 40 thousand, and total payroll is over \$476 million.

TABLE 2
CALIFORNIA BOATING INDUSTRY
GROSS RECEIPTS, PAYROLL AND EMPLOYMENT BY TYPE OF BUSINESS, 1986

BUSINESS TYPE	SOURCE	- FOR AN AVERAGE BUSINESS -			TOTAL NUMBER OF CALIFORNIA BUSINESSES	--- CALIFORNIA TOTAL ---		
		GROSS RECEIPTS (\$000)	EMPLOY- MENT (NUMBER)	PAYROLL (\$000)		GROSS RECEIPTS (\$000)	EMPLOY- MENT (NUMBER)	PAYROLL (\$000)
MANUFACTURING								
BOAT MANUFACTURING	(2)	1,004	15	246	238	239,063	3,594	58,480
TRAILER & EQPMNT MFG	(2)	629	7	127	146	91,808	1,053	18,502
SAILMAKING	(3)	405	9	123	67	27,135	619	8,232
---	SUBTOTAL				451	358,006	5,266	85,214
RETAIL								
BOAT DEALERS	(1)	593	4	67	834	494,887	3,399	55,677
BOAT EQUIPMENT DEALERS	(1)	284	4	36	838	238,092	3,258	30,468
CANVAS & BOAT TOP	(1)	211	5	64	145	30,529	697	9,261
MISC. BOATING SUPPLIES	(1)	218	4	34	458	100,010	2,016	15,416
---	SUBTOTAL				2,275	863,518	9,370	110,823
SERVICES								
BOAT AND ENGINE REPAIR	(5)	378	6	93	431	162,999	2,451	39,873
FUEL DEALERS	(1)	734	4	36	32	23,483	126	1,155
SURVEYORS & CONSULTANTS	(2)	255	7	74	148	37,770	1,090	10,885
BOATING PUBLICATIONS	(3)	2,003	15	320	42	84,122	614	13,423
CLUBS & ASSOCIATIONS	(4)	78	2	24	219	17,082	498	5,343
OTHER BOATING SERVICES *(3)		328	9	95	802	263,282	7,596	75,876
---	SUBTOTAL				1,674	588,738	12,374	146,555
MARINAS	(4)	461	13	133	593	273,282	7,884	78,757
FISH PROCESSORS	(2)	12,392	117	1,316	42	520,474	4,932	55,285
TOTAL, ALL BUSINESSES					5,035	2,604,018	39,826	476,634

*OTHER BOATING SERVICES INCLUDE HAULING, LAUNCHING, CLEANING, STORAGE, CHARTERS,
TRANSPORTATION & RENTAL.

SOURCE: (1) CALIFORNIA STATE BOARD OF EQUALIZATION, 1987
(2) CALIFORNIA FRANCHISE TAX BOARD, 1987
(3) U.S. CENSUS BUREAU (4,6,12)
(4) DORNBUSCH & COMPANY ESTIMATE
(5) JONES & STOKES, 1986

The estimated total gross receipts of \$2.6 billion is substantially larger than the comparable figure from the 1976 study, even allowing for differences in the scope of the businesses included. The figure in this study includes gross output for trailer and boat equipment manufacturing (\$92 million), surveyors and consultants (\$38 million), boating publications (\$84 million), boating clubs & associations (\$17 million), marinas (\$273 million) and fish processors (\$520 million). Even without these business types, the total boating business receipts for 1986 was \$1,579 million, compared with \$941 million in 1976, representing a 68 percent increase in sales volume for comparable portions of the boating industry.

This 68 percent increase in boating industry revenues compares with a 54 percent increase in overall California retail sales and a 79 percent increase in California's "Other Amusements and Recreational Services" sector (U.S. Census Bureau, 1980 and 1985; U.S. Bureau of Economic Analysis, 1987).

D. Recreational Boater Spending

The boating businesses account for only a part of boating's impact on the California economy. Recreational boaters spend over \$1.6 billion annually on goods and services purchases on boating trips. Much of this spending is directed to businesses outside the boating industry, such as service stations, restaurants and hotels.

Table 3 shows that boaters spend an average of \$28.70 per boating-day. Most of this spending is accounted for by groceries (\$11.50), auto repair and gasoline (\$4.80), restaurants (\$3.38), boat fees (\$3.08) and boat fuel (\$2.36). Lesser amounts are spent on equipment rental (\$0.76), lodging (\$1.54), public transport (\$0.25), and other retail goods (\$1.03).

Boaters in California spent an estimated 56 million person-days on the water during 1986. With each boater spending an average of \$28.70 per day, this results in an estimated spending by all boaters of \$1.6 billion in 1986, as shown in Table 3. Some of this spending is already counted in the boating industry analysis, particularly boat fees (counted in "Other Boating Services") and boat fuel (partially counted in "Fuel Dealers"), but the remainder represents purchases at non-boating industry businesses.

TABLE 3
 CALIFORNIA BOATING INDUSTRY
 RECREATIONAL BOATER SPENDING PROFILES, 1986

BOATING PARTICIPATION-DAYS IN 1986: 55,975,000

SPENDING CATEGORY	SPENDING PER BOATER-DAY (1986 \$)	TOTAL BOATER SPENDING
BOAT FEES	\$3.08	\$172,403,000
EQUIPMENT RENTAL	\$0.76	\$42,541,000
AUTO REPAIR/GASOLINE	\$4.80	\$268,680,000
BOAT FUEL	\$2.36	\$132,101,000
RESTAURANT	\$3.38	\$189,196,000
GROCERIES	\$11.50	\$643,713,000
LODGING	\$1.54	\$86,202,000
PUBLIC TRANSPORT	\$0.25	\$13,994,000
OTHER GOODS	\$1.03	\$57,654,000
TOTAL	\$28.70	\$1,606,484,000

 SOURCES: SPENDING PROFILES FROM DORNBUSCH, 1987; DISCUSSED IN
 APPENDIX A. PARTICIPATION-DAYS FROM ARNOLD, 1982;
 CALIFORNIA DEPT. OF MOTOR VEHICLES, 1987; AND DORNBUSCH &
 COMPANY; BOAT FUEL SPENDING FROM CALIFORNIA DEPARTMENT OF
 PUBLIC WORKS ET AL., 1972, UPDATED BY DORNBUSCH & COMPANY

E. State and Local Taxes Generated by Recreation Boating

Table 4 summarizes the state and local tax revenues generated by boating in California. In 1986, boating generated a total of over \$191 million in state and local tax revenues. Sales taxes are the single most important source of tax revenue, contributing \$102 million to state and local governments. Fuel taxes raise state tax revenues of approximately \$39 million. Property taxes, California income tax and transient lodging taxes raised about \$36 million, \$7 million and \$7 million, respectively. Boating businesses also pay various license fees, utility taxes and other minor taxes that are not addressed here.

California income tax revenues are estimated from Internal Revenue Service data showing the taxes paid to the IRS per dollar of gross revenues for different types of businesses (U.S. Internal Revenue Service, 1986). To calculate California income taxes, the IRS data was multiplied by the ratio of the top marginal California tax rate (9.6 percent) to the top marginal Federal rate in effect at the time (48 percent). The adjustment ratio was then multiplied by the gross revenues in each type of boating business to estimate the California taxes paid by each business type.

California fuel tax revenues are derived from the fuel excise tax rate of 9 cents per gallon. Fuel dollar sales were converted to gallons using a weighted average gasoline and diesel price of 89.6 cents per gallon (U.S. Energy Administration, 1987), and multiplied by the tax rate to estimate fuel tax revenues.

Sales tax revenues accrue both to the State (at a rate of 4.75 percent of taxable sales) and to local jurisdictions (at a rate of at least 1.25 percent of taxable sales). Some counties and cities have raised the local share to 1.75 or 2.25 percent). Sales tax revenues to the State and local jurisdictions were calculated by multiplying the respective rates times the taxable sales for each type of business. The percent of all sales that are subject to sales tax was estimated from Census Bureau data (2) on the percent of sales to end-users. Sailmakers, boating equipment dealers, canvas & boat top suppliers and miscellaneous boating supply stores are all assumed to have a similar percent of sales to end users as hardware stores (80.6 percent). Data on boat dealers shows 93.8 percent of sales to end-users. Data on gasoline stations indicates that 96.3 percent of sales are to end-users. Finally, it was assumed that

TABLE 4
 CALIFORNIA BOATING INDUSTRY
 STATE AND LOCAL TAXES PAID BY THE BOATING INDUSTRY AND BY RECREATIONAL BOATERS - 1986

INDUSTRY TYPE	----- STATE AND LOCAL TAX REVENUES -----					
	GROSS REVENUES	INCOME TAX	TRANSIENT LODGING TAX	SALES TAX	FUEL TAX	PROPERTY TAX
BOATING BUSINESSES						
BOAT MFG	\$239,063,000	\$709,000	\$0	\$0	\$0	\$550,000
TRAILER MFG	\$3,144,000	\$9,000	\$0	\$0	\$0	\$6,000
EQUIPMENT MFG	\$88,664,000	\$414,000	\$0	\$0	\$0	\$168,000
SAILMAKING	\$27,135,000	\$79,000	\$0	\$1,312,000	\$0	\$38,000
BOAT DEALERS	\$494,887,000	\$302,000	\$0	\$27,852,000	\$0	\$247,000
BOAT EQUIPMENT	\$238,092,000	\$345,000	\$0	\$11,514,000	\$0	\$357,000
CANVAS & BOAT TOP	\$30,529,000	\$89,000	\$0	\$1,476,000	\$0	\$43,000
MISC. BOAT SUPPLIES	\$100,010,000	\$145,000	\$0	\$4,836,000	\$0	\$230,000
BOAT REPAIR	\$162,999,000	\$380,000	\$0	\$3,775,000	\$0	\$375,000
FUEL DEALERS	\$23,483,000	-- TAX REVENUES FROM FUEL SALES INCLUDED IN "BOAT FUEL," BELOW --				
SURVEYORS	\$37,770,000	\$117,000	\$0	\$0	\$0	\$136,000
PUBLICATIONS	\$84,122,000	\$267,000	\$0	\$0	\$0	\$109,000
CLUBS	\$17,082,000	\$24,000	\$0	\$0	\$0	\$132,000
OTHER SERVICES	\$263,282,000	\$308,000	\$0	\$10,344,000	\$0	\$2,027,000
MARINAS	\$273,282,000	\$457,000	\$0	\$0	\$0	\$1,653,000
FISH PROCESSORS	\$520,474,000	\$2,148,000	\$0	\$0	\$0	\$885,000
RECREATIONAL BOATER SPENDING						
BOAT FEES	\$172,403,000	--TAX REVENUES FROM BOAT FEES INCLUDED IN "OTHER SERVICES," ABOVE--				
EQPMNT RENTAL	\$42,718,000	\$50,000	\$0	\$2,563,000	\$0	\$154,000
AUTO SERVICE	\$268,680,000	\$110,000	\$0	\$15,524,000	\$25,973,000	\$242,000
BOAT FUEL	\$132,101,000	\$54,000	\$0	\$7,633,000	\$13,264,000	\$119,000
RESTAURANTS	\$189,297,000	\$369,000	\$0	\$11,358,000	\$0	\$700,000
GROCERIES	\$643,492,000	\$656,000	\$0	\$0	\$0	\$837,000
HOTELS	\$86,445,000	\$240,000	\$6,916,000	\$0	\$0	\$1,063,000
PUBLIC TRANSPORT	\$14,123,000	\$0	\$0	\$0	\$0	\$0
OTHER GOODS	\$57,588,000	\$84,000	\$0	\$3,455,000	\$0	\$132,000
BERTH PROPERTY TAXES	\$61,455,000 (1)	\$0	\$0	\$0	\$0	\$615,000
BOAT PROPERTY TAXES	\$2,531,901,000 (1)	\$0	\$0	\$0	\$0	\$25,319,000
TOTALS		\$7,356,000	\$6,916,000	\$101,642,000	\$39,237,000	\$36,137,000

SUMMARY OF ANNUAL TAX REVENUES GENERATED BY RECREATIONAL BOATING IN CALIFORNIA

CALIFORNIA INCOME TAX REVENUES	\$7,356,000
TRANSIENT LODGING TAX REVENUES	\$6,916,000
SALES TAX REVENUES	\$101,642,000
FUEL EXCISE TAX REVENUES	\$39,237,000
PROPERTY TAX REVENUES	\$36,137,000
TOTAL MAJOR STATE AND LOCAL TAXES	\$191,288,000

(1) ASSESSED VALUES

SOURCE: DORNBUSCH, 1987; CALIFORNIA BOARD OF EQUALIZATION, 1987; CALIFORNIA FRANCHISE TAX BOARD, 1987; U.S. CENSUS BUREAU (2,4,5,6,7,9,11); INTERNAL REVENUE SERVICE, 1986; U.S. ENERGY INFORMATION ADMINISTRATION, 1987.

100 percent of rentals, restaurant meals and other retail goods were subject to sales tax.

Transient lodging taxes (hotel taxes) are levied by local jurisdictions in most recreational areas of California. A sample of 39 coastal cities and counties shows hotel taxes ranging from 6 to 10 percent, with over half at 8 percent. We have used 8 percent to estimate the lodging tax revenues in this report.

Finally, property taxes are levied by cities and counties on boats (personal property) and marina and business land and improvements (real property). The tax rate on both real and personal property is 1 percent of assessed value or slightly higher statewide.

Assessed values of boats are based on California Department of Motor Vehicles data (1987) showing the size distribution of boats statewide, and on data from the San Leandro Assessors Office showing the assessed value of boats in the San Leandro Marina. The San Leandro data was adjusted to account for boats of different sizes. In adjusting the San Leandro values, we assumed that boat prices were a constant function of weight, and that weight varied according to the cube of length. The adjustment, then, had the form:

$$V(Y) = [L(Y)/L(SL)]^3 \times V(SL), \text{ where}$$

V(Y) = value of boat Y
L(Y) = length of boat Y
L(SL) = length of average San Leandro boat
V(SL) = value of average San Leandro boat

Real property taxes on businesses serving boaters were estimated from U.S. Census Bureau (2, 4, 5, 6, 7, 9, 11) data on the gross value of depreciable assets for different types of businesses. Although the gross value of depreciable assets understates assessed values because it excludes the cost of land (since land is not depreciable), it also overstates assessed values to the extent that accumulated depreciation on improvements has reduced the assessed value. On balance it was assumed that these errors balanced out and that for purposes of estimating property

taxes, assessed values of land and improvements were equal to the gross value of depreciable assets.

About one-fifth (21.4 percent) of the berths in California are located at public marinas (Williams-Kuebelbeck, 1986). Property taxes are not levied on these marinas as they are on privately held marinas. The property taxes on marinas that are reported in Table 4 are reduced to allow for this. However, most local jurisdictions assess the value of berth leasehold possessory interest if a marina is publicly owned. The assessed value of berths at all marinas (public and private) are reported in Table 4 on the line entitled "Berth Property Taxes." Property taxes on the line entitled "Marinas" are for non-berth improvements at privately-owned marinas.

In our case study analyses, we found that the assessed value per berth foot is reasonably consistent in different parts of California (\$92 in Sacramento, \$118 in San Leandro and \$113 in Long Beach), and the assessed value per foot is generally constant for different size berths. A few jurisdictions do not assess the possessory interest in berths. We have assumed a statewide average of \$100 assessed value per foot of berth.

F. Direct and Indirect Impacts of the Boating Industry

The direct spending by the boating industry and by recreational boaters also results in a substantial secondary stimulus to California's economy. Counting all the other businesses that support the boating industry in California, the total economic activity traceable to boating reached some \$6.7 billion during 1986. Over \$1.9 billion was paid in wages and salaries, and over 118 thousand people were employed either directly or indirectly in support of California's boating. These impacts are shown in Table 5.

The economic impact on businesses that support the boating industry are estimated through "input-output" analysis. Input-output analysis determines the goods and services needed by the boating industry to produce what it sells to boaters, then traces the origins of these "inputs" to the boating industry back to the businesses that provide them. Input-output analysis can thereby estimate the total effect that

TABLE 5
 CALIFORNIA BOATING INDUSTRY
 TOTAL DIRECT AND INDIRECT IMPACT ON THE CALIFORNIA ECONOMY, 1986
 (DOLLAR AMOUNTS IN THOUSANDS)

DIRECT IMPACT CATEGORY	TOTAL AMOUNT SPENT	LESS DIRECT SPENDING TO OUT-OF-AREA	NET LOCAL DIRECT IMPACTS	----GROSS OUTPUT----		-----EARNINGS-----		----EMPLOYMENT-----	
				WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS
BOATING BUSINESSES									
BOAT MFG	\$239,063	\$0	\$239,063	2.349	\$561,463	0.759	\$181,544	31.4	7,507
TRAILER MFG	\$3,144	\$0	\$3,144	2.349	\$7,384	0.759	\$2,388	31.4	99
EQUIPMENT MFG	\$88,664	\$0	\$88,664	2.115	\$187,542	0.590	\$52,303	32.5	2,882
SAILMAKING	\$27,135	\$0	\$27,135	2.115	\$57,396	0.590	\$16,007	32.5	882
BOAT DEALERS	\$494,887	\$325,141	\$169,746	2.112	\$358,527	0.803	\$136,261	50.0	8,479
BOAT EQUIPMENT	\$238,092	\$156,426	\$81,666	2.112	\$172,489	0.803	\$65,556	50.0	4,079
CANVAS & BOAT TOP	\$30,529	\$14,040	\$16,489	2.113	\$34,845	0.725	\$11,955	43.6	719
MISC. BOAT SUPPLY	\$100,010	\$45,995	\$54,015	2.113	\$114,148	0.725	\$39,165	43.6	2,354
BOAT REPAIR	\$162,999	\$0	\$162,999	2.349	\$382,819	0.759	\$123,781	31.4	5,118
SURVEYORS & CONSL	\$37,770	\$0	\$37,770	2.336	\$88,238	0.695	\$26,254	43.1	1,628
PUBLICATIONS	\$84,122	\$0	\$84,122	2.115	\$177,935	0.590	\$49,624	32.5	2,734
CLUBS	\$17,082	\$0	\$17,082	2.336	\$39,907	0.695	\$11,874	43.1	736
OTHER SERVICES	\$263,282	\$0	\$263,282	2.336	\$615,079	0.695	\$183,007	43.1	11,347
MARINAS	\$273,282	\$0	\$273,282	2.336	\$638,441	0.695	\$189,958	43.1	11,778
FISH PROCESSORS	\$520,474	\$0	\$520,474	2.191	\$1,140,306	0.480	\$249,775	24.2	12,595
=====									
SUBTOTAL	\$2,580,535	\$541,602	\$2,038,933		\$4,576,521		\$1,339,453		72,937
RECREATIONAL BOATER SPENDING									
EQPMNT RENTAL	\$42,718	\$0	\$42,718	2.336	\$99,798	0.695	\$29,693	43.1	1,841
AUTO SERVICE	\$268,680	\$0	\$268,680	1.911	\$513,507	0.431	\$115,890	23.7	6,373
BOAT FUEL	\$132,101	\$0	\$132,101	1.911	\$252,474	0.431	\$56,979	23.7	3,133
RESTAURANTS	\$189,297	\$43,105	\$146,192	1.707	\$249,538	0.475	\$69,493	28.1	4,106
GROCERIES	\$643,492	\$295,942	\$347,550	2.141	\$744,063	0.685	\$238,045	40.6	14,094
HOTELS	\$86,445	\$0	\$86,445	2.336	\$201,953	0.695	\$60,088	43.1	3,726
TRANSPORT	\$14,123	\$0	\$14,123	1.953	\$27,586	0.283	\$3,998	11.7	165
OTHER GOODS	\$57,588	\$26,485	\$31,103	2.113	\$65,729	0.725	\$22,552	43.6	1,356
=====									
SUBTOTAL	\$1,434,444	\$365,532	\$1,068,912		\$2,154,648		\$596,738		34,795
PLUS DIRECT IMPACTS	INCLUDED	INCLUDED	INCLUDED		INCLUDED		\$76,590		10,996
=====									
TOTALS	\$4,014,979	\$907,134	\$3,107,845		\$6,731,169		\$1,936,191		118,729
=====									

SOURCES: U.S. BUREAU OF ECONOMIC ANALYSIS, 1984; U.S. BUREAU OF ECONOMIC ANALYSIS, 1977; DORNBUSCH & COMPANY.

boater spending has on the economy. (The input-output analysis is discussed in more detail in Appendix B).

III. MARINA CASE STUDIES

A. Introduction and Approach

This section addresses the boating industry's impact on specific local economies by describing four case studies of marina operations. The typical marinas in California are not simply places to store boats but are significant centers of economic activity in their own right. All marinas employ a staff to administer and maintain the marina facilities. Most marinas also lease space to clubs and commercial enterprises that are either directly or indirectly tied to the boating industry. For example, yacht clubs and boating businesses such as fuel docks, boatyards, chandleries and charter operations are commonly found at marinas. In addition, other businesses that support recreational boating, such as hotels and restaurants, are often located at marinas. Between the marina administration and the lessee operations the employment and payroll generated by a marina can be substantial.

Besides the economic activity occurring on site at a marina, other businesses in a community hosting a marina will gain sales from the recreational boaters attracted by a marina. Boaters spend a substantial amount per boating day on purchases of food, gasoline, equipment, transportation, lodging and other supplies. Much of this spending occurs on the way to or from a marina, increasing the economic impacts on a local community.

Marinas are also responsible for generating substantial local tax revenues. Most counties assess property tax on privately owned marinas or on the possessory interest of marina berthholders and lessees at publicly owned marinas. Counties also assess personal property taxes on the value of boats and lessee improvements at marinas. Many cities and counties levy a transient occupancy tax ("hotel tax") that generates revenue from the amount boaters spend on lodging. Finally, cities and counties share revenue from sales taxes on taxable spending by boaters.

The direct economic impacts of marinas and boater spending generate the indirect economic effects. Any increased spending in a local economy will increase the demand for other goods and services in a "ripple" effect. For example, spending at

a hotel will increase the demand for linen washing, cleaning supplies, accounting services, hotel staff workers, and so forth. The larger and more self-contained the economy, the greater this multiplier effect. Even the smallest economies, however, experience this effect to some extent.

1. Case Study Marinas

The marinas selected as case studies were San Leandro Marina, Sacramento Boat Harbor - Miller Park, the Long Beach Marina complex and the Crescent City Harbor District. The marinas were selected to achieve some statewide balance: one each from Southern California, the Bay Area, the North Coast and inland. Crescent City was also chosen because of its importance to small craft commercial fishermen. All the marinas studied are publicly owned. Privately owned marinas were not chosen because of the reluctance of private enterprises to disclose the detailed financial information needed to compile a case study. We believe that the economic profiles are essentially similar for public and private marinas.

All four marinas were visited to conduct the case studies. We met with harbor masters and/or administrative officers to discuss the purpose of the case studies and compile the relevant information. Each marina provided us with their current operating budget. Lessee operations were observed and some lessees interviewed.

The remainder of this introductory section describes each case study component: operating budgets, marina and lessee employment, recreational boater spending, local tax revenues and the total direct and indirect effect on local economies.

2. Operating Budget

Operating budgets for the four case study marinas have been reorganized on a comparable basis. Each budget shows revenue categories such as berth rentals, fuel sales, lessee and concession income, launching ramp fees and interest income. Expenses detail the wages and salaries, fuel, services, supplies, city overhead and special accounts. Non-operating budget items such as capital improvements, depreciation and debt service are shown separately. The net total is shown as net

increase (decrease) to a capital reserve account. All budget items are shown as both dollar amounts and dollars per berth. The dollars per berth figures are useful in comparing budgets for different size marinas.

3. Marina Lessees

All of the marinas studied had at least one concessionaire leasing space from the marina. At three of the four marinas the income from lessees was a substantial portion of the total marina income, ranging from 8 percent at Long Beach Marinas to 46 percent at San Leandro Marina. The Sacramento Boat Harbor currently has only one lessee, a snack bar, but hopes to lease space to several businesses once its expansion is complete.

The types of lessees at the case study marinas showed a pattern. All four marinas leased space to at least one restaurant. All four also had at least one fuel dock, but the docks were operated by the marina at both San Leandro and Sacramento. Three of the four had a boatyard and chandlery. Two leased space to yacht clubs, grocery or bait & tackle stores, charter operations and hotels or RV parks. Only the Long Beach Marina leased space to a boat dealer and to offices.

Financial data about the lessees was generally closely guarded. We could discern, however, the employment level at all the lessees, through interviews with the lessee and marina representatives or through visual observation. Payroll and gross receipts were estimated on the basis of these employment levels and Bureau of Economic Analysis data on payroll and gross receipts per employee.

4. Recreation Boater Spending

Recreational boaters spend money on a variety of goods and services whenever they go boating. Some of this spending is reflected in the economic activity of the marina itself or its lessees. For example, boater spending on restaurants is largely reflected in the sales by marina restaurants. However, boaters spend money on goods and services apart from those offered by marina businesses. The case studies estimate the amount of boater spending associated with each marina and separate

the amount spent in the local community from that spent at the marina itself. The derivation of the daily spending-per-person estimates is discussed in Appendix A.

Once total boater spending was calculated for each case study area, data from a survey in Texas [Ditton, 1980] was used to estimate the percent of spending in each category that typically occurs in the community where the marina was located. As expected, purchases of some goods such as boat fuel and restaurant meals is much more likely to occur near the marina than purchases of goods such as groceries.

Finally, the local spending accounted for by marina business activity was subtracted from the total local spending. The remainder provides an estimate of the spending by boaters in the local community that is additional to spending at the marina and marina businesses.

5. Local Tax Revenues

At most marinas property taxes are the most important source of tax revenue to local governments. In some locations with a high level of lessee business, however, the sales tax and hotel tax revenue can be just as large. Boaters and the boating businesses pay other types of taxes as well, such as income tax, fuel tax and license fees. These other taxes, however, are paid to California or the federal government and do not directly benefit the local jurisdictions.

Property taxes are typically levied on the boats berthed at marinas, on fixtures and improvements by marina lessees, and on the possessory interest of the berthholders and lessees. We contacted assessors in each case study county to estimate the property tax impact. Del Norte (Crescent City) and Alameda (San Leandro) counties provided complete data on assessed values of boats, berths (not taxed in Del Norte County) and lessees' property. We used this data and less complete information from Sacramento and Los Angeles counties to estimate assessed values for all four case studies.

Hotel taxes, or transient occupancy taxes, were estimated by multiplying the local tax rate by the amount spent on boating-related lodging both at the marina and in the surrounding community. Tax rates at the case study sites are:

San Leandro	-	6.5 percent
Sacramento	-	10 percent
Long Beach	-	7 percent
Crescent City	-	8 percent.

Local sales tax revenue was estimated by applying the local rate to boating-related taxable sales at the marina and in the surrounding community. The cities' share is generally a flat 1.0 percent of sales within city limits, while the counties receive that 1.0 percent of sales outside the cities and an additional 0.25 to 1.25 percent of county-wide sales as a county transportation tax.

6. Total Direct and Indirect Effect on Local Economies

The boating industry's direct effect on local economies is reflected by the economic activity shown in the marina operating budgets, the lessee business receipts and the recreational boater spending. These direct effects also have an indirect, or secondary, effect on the economy. Businesses throughout the economy increase their production in order to supply the marina, the marina lessees and the businesses providing other goods and services to boaters.

This study uses input-output analysis to trace the indirect effects through the economy. Input-output tables show how increased spending in one business results in increased activity in other businesses. The effect can be summarized in terms of input-output multipliers that show the effect of initial economic impact on the whole economy. This study uses three types of multipliers: gross output, earnings and employment. The gross output multiplier shows how the total output in all businesses change following an initial change in the output of one business. Earnings multipliers are comparable to gross output multipliers but show the extent to which earnings (wages and salaries) in all businesses would increase following an initial change in the output of one business. An employment multiplier shows how many jobs are added by an initial increase in spending.

B. San Leandro Marina

The San Leandro Marina is a 500 berth marina located on the eastern shore of San Francisco Bay, just south of the Oakland Airport. The marina celebrated its 30th anniversary during the summer of 1987. The marina has expanded several times over its 30 years and is now at its maximum planned size, although plans are being discussed for redesigning some facilities. The marina was originally completed with almost 40 percent of its berths being 24 feet or less. Since then, however, the demand for space has shifted to larger berths. Consequently, the marina has many vacancies among the shorter berths while the larger ones are filled. Sailboats predominate in the marina.

The marina facilities include a harbormaster's office on a pier overlooking the berths, a fuel dock operated by the marina, seven pairs of restrooms around the marina's perimeter, 14 covered berths as well as 486 uncovered berths and a two-lane launching ramp. The marina leases ground to seven concessionaires: three restaurants, an inn, a boatyard/chandlery and two yacht clubs. A boat dealer has operated out of a small building in the past but the location is presently vacant.

1. Operating Budget

San Leandro Marina is a well-established marina with two important financial characteristics. First, since the marina construction loans are mostly paid off, there is little debt service to pay from operating income. Second, over the years the marina has been able to attract enough lessees (and the lessees have succeeded well enough) so that nearly one-half of the marina income is from lease payments.

Table 6 shows the San Leandro Marina operating budget for the 1987/88 fiscal year. Income from berth rentals and concessions (leases) are nearly equal, with a small additional income from fuel sales. Income totals \$1,935 per berth. The salary expense of \$255 per berth supports a staff of five, with an additional 1.35 full-time-equivalents paid for from the maintenance account. The core staff of five run the marina and the harbormaster's office, operate the fuel dock on weekends, and perform some maintenance tasks.

TABLE 6
 SAN LEANDRO MARINA
 OPERATING BUDGET - 1987/88

	TOTAL AMOUNT	PER SLIP
REVENUES		
BERTH RENTALS	\$489,500	\$979
FUEL SALES	\$30,000	\$60
CONCESSIONS	\$447,800	\$896
	=====	=====
TOTAL REVENUES	\$967,300	\$1,935
OPERATING EXPENSES		
SALARIES	\$127,526	\$255
FUEL	\$24,200	\$48
SERVICES	\$25,208	\$50
SUPPLIES	\$5,231	\$10
MARINA MAINTENANCE A/C	\$178,594	\$357
INSURANCE AND O/H	\$19,109	\$38
	=====	=====
	(\$379,868)	(\$760)
LOAN SERVICE		
INTEREST	\$27,086	\$54
PRINCIPAL	\$26,220	\$52
	=====	=====
	(\$53,306)	(\$107)
CONSULTANT TO STUDY FACILITY REPLACEMENT	(\$30,000)	(\$60)
CAPITAL IMPROVEMENTS	(\$2,260)	(\$5)
	=====	=====
NET INCOME AVAILABLE FOR CAPITAL RESERVE	\$501,866	\$1,004
	=====	=====

SOURCE: SAN LEANDRO FINANCE OFFICE; DORNBUSCH & COMPANY

Excess income over expenses is added to a capital reserve account in the City of San Leandro. This account is used to pay for capital improvements and large periodic maintenance expenses such as dredging, and presumably would be used to fund any operating deficit. The budgeted addition to the capital reserve account during 1987/88 was over \$1,000 per berth.

2. Lessee and Marina Employment, Payroll and Gross Receipts

Table 7 summarizes the employment, payroll and gross receipts of the marina and its lessees. The employment levels shown were estimated from discussions with lessee and marina representatives and from on-site observations. Average and total payroll figures and gross receipts for the marina were obtained from the marina budget, while average and total payroll figures and gross receipts for the lessees were based on U.S. Census Bureau data for similar businesses.

The figures in Table 7 show how significant the economic activity is in the San Leandro Marina. The marina and its lessees are responsible for employing 382 people, with a total payroll of nearly \$3 million. Marina and lessee representatives believe that most employees live in San Leandro and essentially all in Alameda County.

In totalling gross receipts the amount that the lessees pay in rent to the marina was subtracted from the total to avoid double-counting.

3. Recreational Boater Spending

The San Leandro Marina currently leases about 385 berths, and that number was used in determining the annual boating-day total. The number of berthed boats was then multiplied by 83.5 person-days per boat. (See Appendix A for an explanation of the calculation method.) Marina representatives estimate 4,000 launched per year with an average launched boat carrying four persons. Therefore, 16,000 person-days associated with launched boats were added to the berthed boat usage to determine the total boating-days at the marina. Total boating recreation at the marina amounts to over 48,000 person-days, about 65 percent of which, or over 31,000, are by non-local boaters.

TABLE 7
 SAN LEANDRO MARINA
 LESSEE AND MARINA ESTIMATED EMPLOYMENT, PAYROLL AND GROSS RECEIPTS, 1987

	EMPLOYEES	AVG ANNUAL WAGES	TOTAL PAYROLL	GROSS RECEIPTS
MARINA ADMINISTRATION	5	\$23,941	\$119,707	\$937,300
MARINA FUEL DOCK	1	\$7,819	\$7,819	\$30,000
MARINE CENTER	16	\$15,598	\$249,568	\$1,020,311
RESTAURANTS	330	\$6,965	\$2,298,450	\$8,802,949
HOTEL	30	\$10,652	\$319,560	\$2,135,000
YACHT CLUBS	0	NA	\$0	\$36,000
(LESS LESSEE PAYMENTS TO MARINA)				(\$447,800)
TOTAL	382		\$2,995,104	\$12,513,760

SOURCE: EMPLOYMENT ESTIMATED FROM ON-SITE INSPECTION AND FROM CONVERSATIONS WITH MARINA AND LESSEE REPRESENTATIVES. PAYROLL AND GROSS OUTPUT BASED ON U.S. CENSUS BUREAU DATA ON PAYROLL AND GROSS RECEIPTS PER EMPLOYEE.

The spending profiles at the San Leandro Marina were adjusted to delete spending for boat fees since no boat rental or charter operations are located in the marina. (See Appendix A for an explanation of this adjustment.)

Table 8 shows the derivation of the number of boating-days and the spending profiles associated with the San Leandro Marina. The \$25.63 daily spending per person was first separated into spending categories. Then each category was multiplied by a factor indicating how much of that spending is local. The factors indicating local spending are from a survey of boaters in Texas (Ditton, 1980), and are explained in Appendix A. Total local spending by category was then calculated by multiplying boating-days times spending per day times the local spending in each category. The amount of spending at marina businesses was subtracted from total local spending to derive the portion of local spending that is made in addition to spending at the marina.

The "Net Additional Local Spending" column in Table 8 indicates recreational boater spending occurring in the local area but away from the marina. Examples are gasoline purchases at a service station near the marina, boating and fishing supplies at a bait & tackle shop and bus or taxi fare to reach the marina. This additional spending of nearly \$250 thousand represents a direct impact by San Leandro boaters on the local economy.

4. Local Taxes Generated By Recreational Boating

Recreational boating contributes three main types of tax revenues to Alameda County and San Leandro: property, hotel and sales taxes. Property taxes are paid on the value of boats berthed at the marina (\$8.1 million assessed value) and the value of lessee's fixtures and improvements (\$8.4 million assessed value). Since the marina is publicly owned, Alameda County does not assess the value of the marina or its improvements. However, the County does assess the value of the possessory interest that berthholders (\$1.5 million) and leaseholders (\$1.1 million) have in this public property. Total property tax revenues of nearly \$200 thousand are generated annually by these marina-related properties.

TABLE 8
SAN LEANDRO MARINA
SPENDING PER VISITOR-DAY AND TOTAL RECREATION SPENDING IN 1986

ESTIMATED NUMBER OF PERSON-DAYS IN 1986:

BERTHS: 385 OCCUPIED BERTHS @ 83.5 VISITOR-DAYS PER BOAT:	32,148
LAUNCHING RAMP USERS: 4000 LAUNCHINGS/YEAR @4 PERSONS/BOAT:	16,000
TOTAL BOATING-DAYS DURING 1986:	48,148
PERCENT ORIGINATING FROM OUT-OF-LOCAL-AREA:	64.99%
TOTAL VISITOR-DAYS ORIGINATING FROM OUTSIDE THE LOCAL AREA:	31,291

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SPENDING CATEGORY	TOTAL BOATER SPENDING BY NON-LOCALS (1)	PERCENT SPENT LOCALLY (2)	TOTAL LOCAL SPENDING (3)	LESS SPENDING AT MARINA BUSINESSES (4)	NET ADDITIONAL LOCAL SPENDING (5)
BOAT FEES	\$0	NA	\$0	\$0	\$0
EQUIPMENT RENTAL	\$23,880	100%	\$23,880	\$0	\$23,880
AUTO REPAIR/GASOLINE	\$150,197	50%	\$75,099	\$0	\$75,099
BOAT FUEL (6)	\$73,847	79%	\$58,023	\$30,000	\$28,023
RESTAURANT	\$105,820	64%	\$67,302	\$67,302	\$0
GROCERIES	\$359,724	29%	\$103,960	\$0	\$103,960
LODGING	\$48,324	100%	\$48,324	\$48,324	\$0
PUBLIC TRANSPORT	\$7,895	80%	\$6,316	\$0	\$6,316
OTHER GOODS	\$32,192	61%	\$19,740	\$9,870	\$9,870
TOTAL	\$801,880		\$402,645		\$247,149

- (1) VISITOR-DAYS TIMES SPENDING PROFILES FROM APPENDIX A
- (2) FROM DITTON, 1980; AND DORNBUSCH & COMPANY
- (3) BOATER SPENDING TIMES PERCENT SPENT LOCALLY
- (4) AMOUNT OF LOCAL SPENDING ACCOUNTED FOR IN MARINA AND LESSEE BUSINESSES
- (5) NET SPENDING ADDITIONAL TO MARINA AND LESSEE BUSINESSES
- (6) LOCAL COMPONENT OF BOAT FUEL IS 100% FOR BERTHED BOATS AND 36% FOR LAUNCHED BOATS.

The City of San Leandro levies a 6.5 percent transient occupancy tax on hotel room receipts in the City, and this applies to the Marina Inn. We have estimated the Inn's annual room receipts at \$2.1 million based on its average room rate and on the California average occupancy rate as reported in the 1982 Census of Service Industries. On this basis, we calculated annual transient occupancy tax receipts of about \$140 thousand.

A portion of the State sales tax is returned to the cities and counties where taxable sales are made. San Leandro receives 1.0 percent of the taxable sales and Alameda County receives 1.25 percent for its transportation fund. Applied to taxable sales of \$9.3 million, the sales tax produces local revenues exceeding \$210 thousand.

Table 9 shows the local taxes generated by recreational boating at the San Leandro Marina. The table shows that over \$548 thousand of tax revenue is generated by boating-related activities.

5. Total Direct and Indirect Impact on the Local Economy

Tables 6, 7, and 8, above, summarize the direct impact that the boating industry has on the local economy. These direct effects, however, also create an indirect effect on the economy. The increased economic activity in the boating industry results in increased purchases of employee services, supplies etc. by that industry. These indirect, or secondary, effects were estimated using input-output multipliers applied to the portion of direct spending that occurs in the local area. (Appendix B discusses the use of input-output multipliers.)

Table 10 itemizes the direct spending for the marina, for its lessees and for the off-marina businesses that sell goods and services to boaters. Payments that are made out of the area are subtracted from this spending, and the remainder is multiplied by the input-output multipliers to determine the total (direct plus indirect) impact on the local economy. The direct plus indirect effects in each row were added to obtain the total direct plus indirect effects for the local area; gross output (total production or sales), earnings (total payroll) and employment (number of jobs).

TABLE 9
 SAN LEANDRO MARINA
 LOCAL TAXES GENERATED BY RECREATIONAL BOATING IN 1986

CATEGORY	TAX BASE	RATE	TAX
=====			
PROPERTY TAXES - ALAMEDA COUNTY			
BERTH POSSESSORY INTEREST	\$1,494,200	1.0457%	\$15,625
BOAT PERSONAL PROPERTY	\$8,110,680	1.0457%	\$84,813
LESSEE POSSESSORY INTEREST	\$1,073,350	1.0457%	\$11,224
LESSEE FIXTURES AND IMPROVEMENTS	\$8,361,596	1.0457%	\$87,437
=====			
TOTAL PROPERTY TAX REVENUES			\$199,099
HOTEL TAX - SAN LEANDRO	\$2,135,000	6.5000%	\$138,775
=====			
TOTAL HOTEL TAX REVENUES			\$138,775
31 SALES TAX			
RESTAURANT SALES	\$8,802,750		
RETAIL SALES	\$404,156		
AUTO & BOAT FUEL SALES	\$133,122		
=====			
TOTAL TAXABLE SALES	\$9,340,028		
SALES TAX - SAN LEANDRO SHARE		1.0000%	\$93,400
SALES TAX - ALAMEDA CO. TRANSPORTATION SHARE		1.2500%	\$116,750
=====			
TOTAL LOCAL SALES TAX REVENUES			\$210,151
=====			
TOTAL LOCAL TAX RVENUES			\$548,025
=====			

SOURCE: SAN LEANDRO FINANCE OFFICE; CALIFORNIA BOARD OF EQUALIZATION;
 ALAMEDA COUNTY ASSESSORS OFFICE; DORNBUSCH & COMPANY

TABLE 10
 SAN LEANDRO MARINA
 TOTAL DIRECT AND INDIRECT IMPACT ON LOCAL ECONOMY IN 1986

DIRECT IMPACT CATEGORY	TOTAL AMOUNT SPENT	LESS DIRECT SPENDING TO OUT-OF-AREA	NET LOCAL DIRECT IMPACTS	----GROSS OUTPUT----		-----EARNINGS-----		----EMPLOYMENT-----	
				WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS
MARINA OPERATIONS									
PAYROLL	\$127,526	\$0	\$127,526	1.333	\$169,992	0.401	\$51,189	23.9	3
FUEL	\$24,200	\$0	\$24,200	2.240	\$54,211	0.315	\$7,634	13.9	0
SERVICES	\$25,208	\$0	\$25,208	3.374	\$85,052	1.004	\$25,306	62.2	2
SUPPLIES	\$5,231	\$2,749	\$2,482	3.147	\$7,811	1.118	\$2,775	68.0	0
MAINTENANCE	\$178,594	\$9,290	\$169,304	2.582	\$437,128	0.590	\$99,905	33.4	6
CAPITAL IMPV	\$2,260	\$1,188	\$1,072	3.147	\$3,374	1.118	\$1,199	68.0	0
CONSULTING	\$30,000	\$0	\$30,000	3.374	\$101,220	1.004	\$30,116	62.2	2
SUBTOTAL	\$393,019	\$13,227	\$379,792		\$858,788		\$218,125		13
LESSEE OPERATIONS									
RESTAURANTS	\$8,802,750	\$3,305,733	\$5,497,017	1.982	\$10,892,536	0.545	\$2,996,957	32.3	178
HOTEL	\$2,135,000	\$0	\$2,135,000	3.374	\$7,203,490	1.004	\$2,143,286	62.2	133
BOATYARD	\$1,020,311	\$0	\$1,020,311	2.747	\$2,802,794	0.888	\$906,260	36.7	37
YACHT CLUBS	\$36,000	\$0	\$36,000	3.374	\$121,464	1.004	\$36,140	62.2	2
(LESS RENTAL)	(\$447,800)	\$0	(\$447,800)	2.510	(\$1,123,978)	0.292	(\$130,890)	21.2	-9
SUBTOTAL	\$11,546,261	\$3,305,733	\$8,240,528		\$19,896,307		\$5,951,753		341
OTHER LOCAL BOATER SPENDING									
EQPMNT RENTAL	\$23,880	\$0	\$23,880	3.374	\$80,571	1.004	\$23,973	62.2	1
AUTO SERVICE	\$75,099	\$0	\$75,099	2.561	\$192,295	0.612	\$45,956	34.3	3
BOAT FUEL	\$28,023	\$0	\$28,023	2.561	\$71,754	0.612	\$17,148	34.3	1
GROCERIES	\$103,960	\$53,968	\$49,992	3.008	\$150,372	1.030	\$51,495	62.3	3
TRANSPORT	\$6,316	\$0	\$6,316	2.739	\$17,300	0.397	\$2,507	16.4	0
OTHER GOODS	\$9,870	\$5,188	\$4,682	3.148	\$14,736	1.119	\$5,237	68.1	0
SUBTOTAL	\$247,148	\$59,156	\$187,992		\$527,027		\$146,316		9
PLUS DIRECT IMPACTS	INCLUDED	INCLUDED	INCLUDED		INCLUDED		\$3,361,617		336
TOTALS	\$12,186,428	\$3,378,116	\$8,808,312		\$21,282,122		\$9,677,812		698

SOURCES: U.S. BUREAU OF ECONOMIC ANALYSIS, 1984; U.S. BUREAU OF ECONOMIC ANALYSIS, 1977; DORNBUSCH & COMPANY

The result of the input-output analysis indicates that the initial direct boating industry impact is \$12.2 million. Direct and indirect impacts are \$21.3 million. The direct plus indirect effects include \$9.7 million in payroll and 698 jobs that are tied to the boating industry at San Leandro Marina.

C. Sacramento Boat Harbor - Miller Park

The Sacramento Boat Harbor at Miller Park is a 267 berth marina off-channel on the east bank of the Sacramento River one-half mile southwest of the downtown business district. The marina is located within Miller Park and is owned and operated by the City of Sacramento. The existing marina was constructed in the 1950's and was originally operated by a franchisee. Since 1977 the marina has been operated by the City. All slips are rented and about 300 names are on a waiting list.

Existing facilities include a harbormaster's office with a small convenience store, a fuel dock, sewage pumpout station, three restroom pairs, a four-lane launching ramp, pull-through parking for 50 cars and trailers, and parking for approximately 200 vehicles. The 267 existing slips include 226 that are covered and 41 uncovered. Powerboats are the primary type of boat in the marina. The only concessionaire at the marina is a snack bar near the harbormaster's office.

The marina is presently undergoing a major expansion that will double its size. Approximately 1 million cubic yards has been excavated from an area adjacent to the existing marina to create a second basin for berths. The two basins will be connected by a channel, leaving a peninsula between the two basins. A new harbormaster's office, parking and commercial facilities are planned to be located on the peninsula. A total of 284 new berths will be constructed in the second basin, including 178 covered berths. Additional restrooms and parking spaces will also be added.

1. Operating Budget

Because the Sacramento Boat Harbor is undergoing its expansion, we have summarized two operating budgets for comparison, one for the last full year at its

old capacity (1986/87) and one for the first year at new capacity (1988/89). Table 11 shows the budgets for the two years, both in total amounts and on a per slip basis.

Total annual revenues are projected to more than double from \$543,000 to \$1,176,000 as a result of the expansion. The berth rental revenues per slip increase from \$1,176 to \$1,485 due to two factors. First, the new slips average 30.6 feet in length compared to the existing average of 25 feet. Since berth rates are charged per foot, each new berth will generate more income from its larger size. Second, the marina has recently reviewed berth rental rates in the area and has begun to phase in rent increases that will bring Miller Park more into line with other marinas. Total revenues per slip will increase only slightly from \$2,034 to \$2,135 because the higher per slip rental income will be partly offset by lower projected per slip fuel sales and miscellaneous income. The projected revenues, however, do not include any income from concessionaires (restaurants, etc.) that may locate near the new harbormaster's office. Experience at other marinas shows that this source could contribute significant additional revenue.

Operating expenses show a more dramatic difference between the existing and expanded marinas. Although service & supplies and security expenses are projected to remain roughly constant on a per slip basis, all the other operating expenses will decline from \$1,830 to \$1,176 on a per slip basis. Most significantly, the total expense for on-site employee salaries is expected to rise only slightly after expansion is complete, halving the per slip expense for employee salaries, from \$683 to \$342.

After expansion is complete the net operating income should rise from about \$200 per slip to nearly \$1,000 per slip. Once the initial three-year deferral on debt service has expired, however, nearly all of this income will be used to pay interest and principal on the expansion debt. The figures in the 1988/89 budget do not yet reflect the stable annual debt service, which will reach \$1,032 per slip in 1991/92.

TABLE 11
 SACRAMENTO BOAT HARBOR - MILLER PARK
 OPERATING BUDGET - 1986/87 (EXISTING MARINA) AND 1988/89 (EXPANDED MARINA)

	1986/87 TOTAL	1986/87 PER SLIP (267 SLIPS)	1988/89 TOTAL	1988/89 PER SLIP (551 SLIPS)
REVENUES				
BERTH RENTALS	\$314,000	\$1,176	\$818,300	\$1,485
FUEL SALES	\$145,000	\$543	\$225,000	\$408
INTEREST INCOME	\$49,000	\$184	\$106,256	\$193
MISCELLANEOUS	\$35,000	\$131	\$27,000	\$49
TOTAL REVENUES	\$543,000	\$2,034	\$1,176,556	\$2,135
OPERATING EXPENSES				
SALARIES	\$182,464	\$683	\$188,611	\$342
SERVICES & SUPPLIES	\$54,113	\$203	\$109,661	\$199
FUEL	\$124,000	\$464	\$192,414	\$349
CITY O/H & INSURANCE	\$110,000	\$412	\$120,000	\$218
SECURITY	\$18,000	\$67	\$37,146	\$67
TOTAL EXPENSES	(\$488,577)	(\$1,830)	(\$647,832)	(\$1,176)
CAPITAL IMPROVEMENTS & LOAN SERVICE				
CAPITAL IMPROVEMENTS	\$4,177,000	\$15,644	\$1,114,000	\$2,022
LESS RELATED INCOME	(\$1,032,000)	(\$3,865)	\$0	\$0
OPERATING TRANSFER	\$0	\$0	\$28,000	\$51
INTEREST EXPENSE	\$11,302	\$42	\$123,000	\$223
PRINCIPAL PAYMENTS (NET)	(\$2,997,000)	(\$11,225)	(\$941,611)	(\$1,709)
TOTAL CAPITAL & LOAN ACCOUNTS	(\$159,302)	(\$597)	(\$323,389)	(\$587)
NET INCOME AVAILABLE FOR CAPITAL RESERVE	(\$104,879)	(\$393)	\$205,335	\$373

SOURCE: SACRAMENTO DEPARTMENT OF PARKS AND COMMUNITY SERVICES; DORNBUSCH & COMPANY

2. Lessee and Marina Employment Payroll and Gross Receipts

Table 12 shows the number of full-time-equivalent employees at the marina and its only lessee, the snack bar. The 6.4 marina employees are comprised of four full-time employees (a harbormaster, two marina attendants and a clerk) and six part-time seasonal employees who each work about 800 hours per year.

Marina payroll figures are from the marina budget, while the payroll for the snack bar is based on U.S. Census Bureau data for restaurant employees, updated to 1986 dollars. Gross receipts figures are all from the marina budget.

3. Recreational Boater Spending

Recreational boater spending at Sacramento Boat Harbor was estimated from the boating-days associated with both the berthed boats in the harbor and the launching ramp. Annual boating-days from berthed boats were estimated from the 267 boats times 83.5 boating-days per boat. (See Appendix A for an explanation of the calculation method.) Boats using the launching ramp was estimated at 6 thousand launches per year, and the average launched boat had three persons. Therefore, the total boating recreation use was estimated at over 40 thousand boating-days per year.

Table 13 shows boating-days and spending profiles for the Sacramento Boat Harbor. Spending for boat rentals is excluded from the Sacramento Boat Harbor profile since no rentals or charters are available at the marina. An estimated \$354 thousand is spent by boaters who use the Miller Park marina, plus an additional \$79 thousand by transient boaters purchasing fuel from the marina. Of these amounts about \$190 thousand is spent at the marina itself for fuel, snacks and convenience store purchases. The remaining \$243 thousand is spent in the local area for gasoline, restaurant meals, groceries, equipment, lodging and so forth.

4. Local Taxes Generated By Recreational Boating

Because of the scarcity of boating and boating support businesses in the Sacramento Boat Harbor, the primary source of local tax revenues is the property tax on the

TABLE 12
 SACRAMENTO BOAT HARBOR - MILLER PARK
 LESSEE AND MARINA ESTIMATED EMPLOYMENT, PAYROLL AND GROSS RECEIPTS
 1986/87

	EMPLOYEES	AVG ANNUAL WAGES	TOTAL PAYROLL	GROSS RECEIPTS
MARINA ADMINISTRATION	6.4	\$28,510	\$182,464	\$398,000
MARINA FUEL DOCK	---INCLUDED IN ABOVE FIGURES---			\$145,000
SNACK BAR (LESS LESSEE PAYMENTS TO MARINA)	1	\$6,965	\$6,965	\$20,000 (-\$3,000)
TOTAL	7.4		\$189,429	\$560,000

SOURCE: EMPLOYMENT ESTIMATED FROM ON-SITE INSPECTION AND FROM CONVERSATIONS WITH BOAT HARBOR REPRESENTATIVES. LESSEE PAYROLL AND GROSS OUTPUT BASED ON U.S. CENSUS BUREAU DATA ON PAYROLL AND GROSS RECEIPTS PER EMPLOYEE. MARINA PAYROLL FROM SACRAMENTO DEPARTMENT OF PARKS AND COMMUNITY SERVICES

TABLE 13
SACRAMENTO BOAT HARBOR - MILLER PARK
SPENDING PER VISITOR-DAY AND TOTAL RECREATION SPENDING IN 1986

ESTIMATED NUMBER OF BOATING-DAYS IN 1986:

BERTHS: 267 OCCUPIED BERTHS @ 83.5 VISITOR-DAYS PER BOAT:	22,295
LAUNCHING RAMP USERS: 6000 LAUNCHINGS/YEAR @3 PERSONS/BOAT:	18,000
TOTAL BOATING-DAYS DURING 1986:	40,295
PERCENT ORIGINATING FROM OUT-OF-LOCAL-AREA:	64.99%
TOTAL VISITOR-DAYS ORIGINATING FROM OUTSIDE THE LOCAL AREA:	26,187

SPENDING CATEGORY	TOTAL BOATER SPENDING BY NON-LOCALS(1)	PERCENT SPENT LOCALLY(2)	TOTAL LOCAL SPENDING(3)	LESS SPENDING AT MARINA BUSINESSES(4)	NET ADDITIONAL LOCAL SPENDING(5)
BOAT FEES	\$0	NA	\$0	\$0	\$0
EQUIPMENT RENTAL	\$19,985	100%	\$19,985	\$0	\$19,985
AUTO REPAIR/GASOLINE	\$125,699	50%	\$62,850	\$0	\$62,850
BOAT FUEL (6) (7) (8)	\$92,703	71%	\$145,000	\$145,000	\$0
RESTAURANT	\$88,561	64%	\$56,325	\$20,000	\$36,325
GROCERIES	\$301,052	29%	\$87,004	\$15,000	\$72,004
LODGING	\$40,443	100%	\$40,443	\$0	\$40,443
PUBLIC TRANSPORT	\$6,607	80%	\$5,286	\$0	\$5,286
OTHER GOODS	\$26,942	61%	\$16,521	\$10,300	\$6,221
TOTAL	\$701,992		\$433,413		\$243,113

- (1) VISITOR-DAYS TIMES SPENDING PROFILES FROM APPENDIX A
(2) FROM DITTON, 1980; DORNBUSCH & COMPANY
(3) BOATER SPENDING TIMES PERCENT SPENT LOCALLY
(4) AMOUNT OF LOCAL SPENDING ACCOUNTED FOR IN MARINA AND LESSEE BUSINESSES
(5) NET SPENDING ADDITIONAL TO MARINA AND LESSEE BUSINESSES
(6) LOCAL COMPONENT OF BOAT FUEL IS 100% FOR BERTHED BOATS AND 36% FOR LAUNCHED BOATS.
(7) FUEL SPENDING ASSUMED 50% HIGHER THAN STATEWIDE AVERAGE DUE TO PREDOMINANCE OF POWERBOATS
(8) ADDITIONAL FUEL SPENDING OF \$78,999 FROM TRANSIENT BOATERS.

possessory interest in the berths and on the boats themselves. Nearly 90 percent of the \$45 thousand in tax revenues accruing to the city and county governments derives from this tax. Table 14 shows the estimated revenues from property taxes (\$37.5 thousand), the hotel tax (\$4 thousand) and sales taxes (\$3.5 thousand).

The Sacramento Assessor's Office provided data on the assessed value of the berth possessory interest. Although the Assessor's Office could not provide assessed values for the boats at the marina, boat assessed values were available from the San Leandro Marina case study. Therefore, personal property taxes on boats at the marina were estimated by adjusting the average value per boat at the San Leandro Marina for the smaller size at the Sacramento Boat Harbor. The assessed value of the snack bar's possessory interest was estimated by capitalizing 75 percent of the snack bar's annual lease payment (allowing 25 percent for the expenses associated with the lease), a method commonly used by assessors in various counties.

Hotel tax revenues were calculated by multiplying boater spending on lodging (from Table 13) by Sacramento's hotel tax rate of 10 percent.

The local share of sales taxes was estimated by multiplying restaurant and retail sales by the Sacramento City and County tax rates, 1.0 percent and 0.25 percent, respectively.

5. Total Direct and Indirect Impact on the Local Economy

Table 15 summarizes the direct boating economic activity shown in Tables 11, 12, and 13, and also shows the resulting indirect and total impact on the Sacramento area economy.

Table 15 shows that during the 1986/87 budget year the direct impacts of \$3.9 million produced total direct plus indirect impacts of over \$7.9 million in increased local output, \$2.7 million in increased earnings and 136 jobs. Much of this activity is associated with the construction spending of \$3.1 million during the period. If only the impacts from operations were included, the direct spending would be \$749 thousand. Direct plus indirect impacts would be \$1,084 thousand in output, \$532 thousand in employee earnings and 28 jobs.

TABLE 14
 SACRAMENTO BOAT HARBOR - MILLER PARK
 LOCAL TAXES GENERATED BY RECREATIONAL BOATING IN 1986

CATEGORY	TAX BASE	RATE	TAX
=====			
PROPERTY TAXES - SACRAMENTO COUNTY			
BERTH POSSESSORY INTEREST	\$611,750	1.2000%	\$7,341
BOAT PERSONAL PROPERTY	\$2,495,911	1.2000%	\$29,951
LESSEE POSSESSORY INTEREST	\$18,305	1.2000%	\$220
	=====		
TOTAL PROPERTY TAX REVENUES			\$37,512
HOTEL TAX - SACRAMENTO	\$40,443	10.0000%	\$4,044
	=====		
TOTAL HOTEL TAX REVENUES			\$4,044
40 SALES TAX			
RESTAURANT SALES	\$56,325		
RETAIL SALES	\$16,521		
AUTO & BOAT FUEL SALES	\$207,850		
	=====		
TOTAL TAXABLE SALES	\$280,696		
SALES TAX - SACRAMENTO CITY SHARE		1.0000%	\$2,807
SALES TAX - SACRAMENTO CO. TRANSPORTATION SHARE		0.2500%	\$702
	=====		
TOTAL LOCAL SALES TAX REVENUES			\$3,509
			=====
TOTAL LOCAL TAX REVENUES			\$45,065
			=====

SOURCE: SACRAMENTO DEPARTMENT OF PARKS AND COMMUNITY SERVICES; CALIFORNIA BOARD OF EQUALIZATION; SACRAMENTO COUNTY ASSESSORS OFFICE; TABLE 23; DORNBUSCH & COMPANY

TABLE 15
 SACRAMENTO BOAT HARBOR - MILLER PARK
 TOTAL DIRECT AND INDIRECT IMPACT ON LOCAL ECONOMY IN 1986

DIRECT IMPACT CATEGORY	TOTAL AMOUNT SPENT	LESS DIRECT SPENDING TO OUT-OF-AREA	NET LOCAL DIRECT IMPACTS	----GROSS OUTPUT----		-----EARNINGS-----		-----EMPLOYMENT-----	
				WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS
MARINA OPERATIONS									
PAYROLL	\$182,464	\$0	\$182,464	1.333	\$243,225	0.401	\$73,241	23.9	4
SERVICES	\$72,113	\$0	\$72,113	2.553	\$184,104	0.760	\$54,777	47.1	3
FUEL	\$124,000	\$120,738	\$3,263	2.080	\$6,786	0.301	\$984	12.5	0
CITY O/H & INRMC	\$110,000	\$0	\$110,000	2.525	\$277,770	0.735	\$80,889	45.7	5
CAPITAL IMPV	\$3,145,000	\$0	\$3,145,000	2.175	\$6,840,375	0.704	\$2,215,184	34.3	108
SUBTOTAL	\$3,633,577	\$120,738	\$3,512,840		\$7,552,260		\$2,425,074		121
LESSEE OPERATIONS									
SNACK BAR	\$20,000	\$6,418	\$13,582	1.672	\$22,706	0.472	\$6,404	28.1	0
(LESS RENTAL)	(\$3,000)	\$0	(\$3,000)	1.941	(\$5,823)	0.226	(\$678)	16.4	0
SUBTOTAL	\$17,000	\$6,418	\$10,582		\$16,883		\$5,726		0
OTHER LOCAL BOATER SPENDING									
RESTAURANT	\$36,325	\$13,301	\$23,024	1.696	\$39,049	0.477	\$10,972	28.4	1
EQPMNT RENTAL	\$19,985	\$0	\$19,985	2.553	\$51,022	0.760	\$15,181	47.1	1
AUTO SERVICE	\$62,850	\$42,128	\$20,722	2.505	\$51,905	0.942	\$19,521	58.5	1
GROCERIES	\$72,004	\$35,043	\$36,961	2.498	\$92,341	0.816	\$30,157	48.6	2
HOTELS	\$40,443	\$0	\$40,443	2.553	\$103,251	0.760	\$30,721	47.1	2
TRANSPORT	\$5,286	\$0	\$5,286	2.080	\$10,995	0.301	\$1,594	12.5	0
OTHER GOODS	\$6,221	\$3,679	\$2,542	2.443	\$6,210	0.897	\$2,281	55.2	0
SUBTOTAL	\$243,114	\$94,151	\$148,963		\$354,772		\$110,425		7
PLUS DIRECT IMPACTS	INCLUDED	INCLUDED	INCLUDED		INCLUDED		\$206,158		9
TOTALS	\$3,893,691	\$221,307	\$3,672,384		\$7,923,915		\$2,747,383		136

SOURCES: U.S. BUREAU OF ECONOMIC ANALYSIS, 1984; U.S. BUREAU OF ECONOMIC ANALYSIS, 1977; DORNBUSCH & COMPANY

D. Long Beach Marinas

The name "Long Beach Marinas" is used here to refer collectively to the several marinas in Long Beach that are owned and operated by the Marine Bureau in the City of Long Beach. These marinas include Alamitos Bay Marina (2,005 slips), Downtown Shoreline Marina (1,603 slips) and Shoreline Harbor Marina (131 slips). The total of 3,829 makes this group of marinas the largest in the State under one management.

Alamitos Bay Marina was approved by Long Beach voters in 1956 and is the oldest of the three Long Beach marinas. Its facilities include dry storage for 148 boats, guest ties for 62 boats, and three sets of boat launching facilities. Alamitos Bay Marina leases space to office tenants, a chandlery, a boat dealer, a retail/restaurant development, a boatyard, a Coast Guard base, several separate restaurants and three yacht clubs.

The Downtown Shoreline Marina and Shoreline Harbor Marina are located together off downtown Long Beach and were constructed in the early 1980's. The marinas lease space to the Shoreline Village complex of approximately 40 restaurants and retail outlets, and to a fuel dock. The Marine Bureau administration building is located at the Downtown Shoreline Marina.

1. Operating Budget

Table 16 shows the operating budget for fiscal year 1986/87. The rental income per slip of \$2,828 is much greater than the other marinas studied in this report, for two reasons. First, the average slip size is 33.3 feet, somewhat larger than the other recreational boat marinas reviewed. Second, marinas in Southern California charge significantly more per foot than do marinas in the Bay Area or inland. As of September 1, 1987, the Long Beach Marinas charged from \$6.44 to \$7.17 per foot per month. Typical rates in both the Bay Area and inland range from \$3 to \$5 per foot per month, with a few inland marinas even less and a few Bay Area marinas up to \$7.

TABLE 16
LONG BEACH MARINAS
OPERATING BUDGET - 1986/87

	TOTAL AMOUNT	PER SLIP
REVENUES		
SLIP RENTAL	\$10,544,784	\$2,828
INTEREST	\$2,248,934	\$603
RENTALS AND CONCESSIONS	\$1,172,672	\$314
LAUNCHING RAMP FEES	\$341,406	\$92
GUEST MOORING FEES	\$213,143	\$57
MISCELLANEOUS FEES	\$177,091	\$47
SLIP WAITING LIST FEES	\$43,107	\$12
	=====	=====
	\$14,741,137	\$3,953
OPERATING EXPENSES		
WAGES - MARINA	\$4,075,245	\$1,093
CITY CHARGES	\$2,846,966	\$763
UTILITIES	\$594,831	\$160
OPERATIONS	\$281,042	\$75
	=====	=====
	(\$7,798,084)	(\$2,091)
CAPITAL ITEM	(\$307,430)	(\$82)
LOAN SERVICE		
STATE LOANS	\$1,167,911	\$313
BONDED DEBT	\$3,921,273	\$1,052
	=====	=====
	(\$5,089,184)	(\$1,365)
PRIOR YEAR ADJUSTMENT	(\$6,726)	(\$2)
	=====	=====
NET INCOME AVAILABLE FOR CAPITAL RESERVE	\$1,539,713	\$413

SOURCE: LONG BEACH MARINE BUREAU; DORNBUSCH & COMPANY

Interest income of \$2,249,000 to the Long Beach Marinas is substantial because of their obligation to bond holders to set aside a percent of revenues each year as a capital reserve. Rental and concession income of \$1,173,000 reflects the large amount of commercial activity at Alamitos Bay and Shoreline Village. On a per slip basis, however, it is less than 40 percent of San Leandro Marina's lessee income. The Long Beach Marinas also receive significant amounts of income from launching fees (\$341,000), waiting list fees (\$43,000), and guest mooring fees (\$213,000).

Debt service of \$5,089,000 (\$1,365 per slip) is approximately one-third of total expenditures and reflects the recent timing of constructing the Downtown Shoreline and Shoreline Harbor Marinas.

2. Lessee and Marina Employment Payroll and Gross Receipts

Table 17 shows an estimated 109 employees at the marinas and 1156 at the lessee's businesses. Marina employment numbers were provided by the Marine Bureau and are separated by function. Marina payroll and gross receipts figures are from the marina budgets.

Lessee employment was estimated by several methods. Interviews with lessees and marina representatives provided employment numbers for several lessees. Others were determined by dividing gross receipts estimates by U.S. Census Bureau ratios of gross receipts per employee. Gross receipts were estimated either from employment numbers or from Marine Bureau lease payment records.

The lessees are grouped into four categories: (1) food & beverage (restaurants, coffee shops, lounges), (2) retail & service (shops, charters, boatyard, boat dealer, fuel dock), (3) clubs & government (yacht clubs, scouting, Coast Guard), and (4) offices & miscellaneous (marine insurance etc.). Of these categories food & beverage produces about two-thirds of the total lessee gross revenues and provides about 80 percent of the total lessee employment.

TABLE 17
 LONG BEACH MARINAS
 LESSEE AND MARINA ESTIMATED EMPLOYMENT, PAYROLL AND GROSS RECEIPTS
 1986/87

NAME	EMPLOYEES	AVG ANNUAL WAGES	TOTAL PAYROLL	GROSS RECEIPTS
LONG BEACH MARINAS		\$37,388	\$4,075,245	\$14,741,137
ADMINISTRATION	7			
MAINTENANCE	46			
OPERATIONS	9			
PATROL	37			
SAFETY	10			
MARINA SUBTOTAL	109		\$4,075,245	\$14,741,137
LESSEES				
FOOD & BEVERAGE	927	\$6,965	\$6,455,947	\$24,723,544
RETAIL & SERVICE	138	\$13,639	\$1,876,590	\$11,852,893
CLUBS & GOVMNT	66	\$9,385	\$619,442	\$1,968,237
OFFICES & MISC.	25	\$21,329	\$533,232	\$1,377,224
(LESS LESSEE PAYMENTS TO MARINA)				(\$1,172,672)
LESSEE SUBTOTAL	1,156		\$9,485,211	\$38,749,226
TOTAL	1,265		\$13,560,456	\$53,490,363

SOURCE: MARINA DATA FROM LONG BEACH MARINE BUREAU. LESSEE EMPLOYMENT ESTIMATED FROM ON-SITE INSPECTION AND FROM CONVERSATIONS WITH MARINA AND LESSEE REPRESENTATIVES. PAYROLL AND GROSS OUTPUT BASED ON U.S. CENSUS BUREAU DATA ON PAYROLL AND GROSS RECEIPTS PER EMPLOYEE.

3. Recreational Boater Spending

Boating-days at the Long Beach Marinas are calculated as follows: 3,829 occupied berths times 83.5 boating-days per berthed boat; 68,281 boat launches times 4 persons per launched boat; and 62 guest boat spaces times 80 percent occupancy, times 1.5 persons per guest boat. (See Appendix A for an explanation of the calculation method.)

Adjustments were made to several categories of daily boater spending. Per day spending on boat fuel was assumed to be 20 percent higher than the state average because of the larger than average size boats in the marinas, and because marina fuel sales were about 20 percent higher than expected just from the number of boats berthed in the marina. It was assumed that one-half of the local equipment rentals and purchases of miscellaneous goods was from marina businesses, and that 20 percent of local grocery purchases was from marina businesses.

Table 18 shows the boating-day calculations and the boater spending profiles. An estimated \$4.1 million is spent annually by boaters in the local area, in addition to spending at marina businesses.

4. Local Taxes Generated by Recreational Boating

The primary type of local tax revenue generated by boating in Long Beach is property taxes. Personal property taxes on the boats in Long Beach Marinas raises \$681 thousand over one-third of the total estimated local tax revenues from boating of \$1,810 thousand.

The Los Angeles County Assessor's Office provided data on the assessed value of the possessory interest in berths, by size of berth. No data was available on the assessed value of boats at the marinas, however, so values were estimated from data at the San Leandro Marina. The assessed value of boats in dry storage at the Long Beach Marinas was included.

Based on an interview with the Los Angeles County Assessor's Office, assessed values of the lessee's possessory interest were estimated by capitalizing 75 percent

TABLE 18
LONG BEACH MARINAS
SPENDING PER VISITOR-DAY AND TOTAL RECREATION SPENDING IN 1986

ESTIMATED NUMBER OF BOATING-DAYS IN 1986:

BERTHS: 3829 OCCUPIED BERTHS @ 83.5 VISITOR-DAYS PER BOAT:	319,722
GUEST TIES: 62 SPACES X 365 DAYS/YR @80% @1-2 PERSONS/BOAT:	27,156
LAUNCHING RAMP USERS: 68281 LAUNCHINGS/YEAR @4 PERSONS/BOAT:	273,125
TOTAL BOATING-DAYS DURING 1986:	620,002
PERCENT ORIGINATING FROM OUT-OF-LOCAL-AREA:	64.99%
TOTAL VISITOR-DAYS ORIGINATING FROM OUTSIDE THE LOCAL AREA:	402,939

SPENDING CATEGORY	TOTAL BOATER SPENDING BY NON-LOCALS (1)	PERCENT SPENT LOCALLY (2)	TOTAL LOCAL SPENDING (3)	LESS SPENDING AT MARINA BUSINESSES (4)	NET ADDITIONAL LOCAL SPENDING (5)
47 BOAT FEES	\$1,241,054	100%	\$1,241,054	\$150,000	\$1,091,054
EQUIPMENT RENTAL (6)	\$307,508	100%	\$307,508	\$153,754	\$153,754
AUTO REPAIR/GASOLINE	\$1,934,110	50%	\$967,055	\$0	\$967,055
BOAT FUEL (7) (8)	\$1,141,125	69%	\$784,762	\$784,762	\$0
RESTAURANT	\$1,362,665	64%	\$866,655	\$866,655	\$0
GROCERIES (9)	\$4,632,217	29%	\$1,338,711	\$267,742	\$1,070,968
LODGING	\$622,280	100%	\$622,280	\$0	\$622,280
PUBLIC TRANSPORT	\$101,666	80%	\$81,333	\$0	\$81,333
OTHER GOODS (6)	\$414,547	61%	\$254,200	\$127,100	\$127,100
TOTAL	\$11,757,170		\$6,463,556		\$4,113,543

- (1) VISITOR-DAYS TIMES SPENDING PROFILES FROM APPENDIX A
- (2) FROM DITTON, 1980; AND DORNBUSCH & COMPANY
- (3) BOATER SPENDING TIMES PERCENT SPENT LOCALLY
- (4) AMOUNT OF LOCAL SPENDING ACCOUNTED FOR IN MARINA AND LESSEE BUSINESSES
- (5) NET SPENDING ADDITIONAL TO MARINA AND LESSEE BUSINESSES
- (6) ASSUME ONE-HALF LOCAL PURCHASE FROM MARINA BUSINESSES
- (7) LOCAL COMPONENT OF BOAT FUEL IS 100% FOR BERTHED BOATS AND 36% FOR LAUNCHED BOATS.
- (8) PER BOAT FUEL PURCHASES ASSUMED 20% ABOVE STATE AVERAGE DUE TO LARGER BOATS
- (9) ASSUME 20% LOCAL PURCHASES FROM MARINA BUSINESSES

of the lease payments over 30 years at 12 percent. Assessed values for lessee's fixtures and improvements were estimated by multiplying the number of employees at Long Beach Marina businesses times the per-employee assessed value of lessee's fixtures and improvements at San Leandro Marina businesses.

Hotel tax revenues of \$44 thousand were estimated on boater spending on lodging times the Long Beach transient occupancy tax rate of 7 percent.

Sales tax revenues of \$601 thousand were estimated by multiplying boating spending on auto and boat fuel, restaurant meals and retail sales times the Long Beach and Los Angeles County tax rates of 1.0 percent and 0.75 percent, respectively.

Table 19 summarizes the local tax revenues generated by boating associated with the Long Beach Marinas.

5. Total Direct and Indirect Impact on the Local Economy

Table 20 presents the direct economic activity by the Long Beach Marinas, by the marinas' lessee enterprises and by off-marina businesses providing goods and services to boaters. The table also indicates the direct plus indirect (total) impact initiated by this direct activity. The direct economic activity of \$51 million induced total economic activity of \$104 million, with employee earnings of over \$43 million and over 2,700 jobs in the local area.

E. Crescent City Harbor District

The Crescent City Harbor District owns and operates the only harbor in Crescent City. Inside the main harbor is an "inner boat basin" further protected by a secondary breakwater and a small peninsula. This inner boat basin offers year-round shelter to a large small-craft fishing fleet. The harbor owns and operates its own dredge year-round in order to manage its siltation problem.

The size of the fishing fleet varies by season. Dungeness crab season opens in December, attracting many boats to the area for approximately two to three months. The shrimp season runs from April through October, and the salmon season

TABLE 19
 LONG BEACH MARINAS
 LOCAL TAXES GENERATED BY RECREATIONAL BOATING IN 1986

CATEGORY	TAX BASE	RATE	TAX
=====			
PROPERTY TAXES - LOS ANGELES COUNTY			
BERTH POSSESSORY INTEREST	\$14,435,300	1.016251%	\$146,699
BOAT PERSONAL PROPERTY	\$67,005,621	1.016251%	\$680,945
LESSEE POSSESSORY INTEREST	\$7,476,357	1.016251%	\$75,979
LESSEE FIXTURES AND IMPROVEMENTS	\$25,707,460	1.016251%	\$261,252

TOTAL PROPERTY TAX REVENUES			\$1,164,875

HOTEL TAX - LONG BEACH CITY	\$640,450	7.0000%	\$44,832

TOTAL HOTEL TAX REVENUES			\$44,832

49 SALES TAX			
RESTAURANT SALES	\$24,723,544		
RETAIL SALES	\$7,848,808		
AUTO & BOAT FUEL SALES	\$1,751,817		

TOTAL TAXABLE SALES	\$34,324,169		

SALES TAX - LONG BEACH SHARE		1.0000%	\$343,242
SALES TAX - LA CO. TRANSPORTATION SHARE		0.7500%	\$257,431

TOTAL LOCAL SALES TAX REVENUES			\$600,673

TOTAL LOCAL TAX REVENUES			\$1,810,379

SOURCE: LONG BEACH MARINE BUREAU; CALIFORNIA BOARD OF EQUALIZATION;
 LOS ANGELES COUNTY ASSESSORS OFFICE; DORNBUSCH & COMPANY

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TABLE 20
LONG BEACH MARINAS
TOTAL DIRECT AND INDIRECT IMPACT ON THE LOCAL ECONOMY IN 1986

DIRECT IMPACT CATEGORY	TOTAL AMOUNT SPENT	LESS DIRECT SPENDING TO OUT-OF-AREA	NET LOCAL DIRECT IMPACTS	----GROSS OUTPUT----		-----EARNINGS-----		----EMPLOYMENT-----	
				WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS
MARINA OPERATIONS									
PAYROLL	\$4,075,245	\$0	\$4,075,245	1.333	\$5,432,302	0.401	\$1,635,803	23.9	97
SERVICES	\$2,846,966	\$0	\$2,846,966	3.670	\$10,448,365	1.092	\$3,108,749	67.7	193
SUPPLIES	\$281,042	\$138,483	\$142,559	3.404	\$485,339	1.187	\$169,270	71.8	10
UTILITIES	\$594,831	\$0	\$594,831	3.007	\$1,788,657	0.436	\$259,238	18.0	11
CAPITAL IMPV	\$307,430	\$151,486	\$155,944	3.404	\$530,910	1.187	\$185,164	71.8	11
SUBTOTAL	\$8,105,514	\$289,970	\$7,815,544		\$18,685,573		\$5,358,224		322
LESSEE OPERATIONS									
RESTAURANTS	\$24,723,544	\$8,881,314	\$15,842,230	2.133	\$33,787,998	0.579	\$9,173,718	34.1	540
RETAIL & SERVICES	\$11,852,893	\$2,899,001	\$8,953,892	3.558	\$31,860,075	1.143	\$10,235,791	56.5	506
CLUBS & GOVT	\$1,968,237	\$0	\$1,968,237	3.513	\$6,913,586	1.045	\$2,056,388	64.7	127
OFFICES & MISC.	\$1,377,224	\$0	\$1,377,224	2.672	\$3,679,943	0.311	\$428,539	22.5	31
(LESS RENTAL)	(\$1,172,672)	\$0	(\$1,172,672)	2.672	(\$3,133,380)	0.311	(\$364,890)	22.5	-26
SUBTOTAL	\$38,749,226	\$11,780,315	\$26,968,911		\$73,108,222		\$21,529,546		1178
OTHER LOCAL BOATER SPENDING									
BOAT FEES	\$1,091,054	\$0	\$1,091,054	3.670	\$4,004,168	1.092	\$1,191,378	67.7	74
EQPMT RENTAL	\$153,754	\$0	\$153,754	3.670	\$564,277	1.092	\$167,892	67.7	10
AUTO SERVICE	\$967,055	\$0	\$967,055	3.516	\$3,400,489	0.761	\$736,172	41.3	40
GROCERIES	\$1,070,968	\$521,213	\$549,755	3.279	\$1,802,843	1.086	\$597,164	65.1	36
HOTELS	\$622,280	\$0	\$622,280	3.670	\$2,283,768	1.092	\$679,500	67.7	42
TRANSPORT	\$81,333	\$0	\$81,333	3.007	\$244,568	0.436	\$35,446	18.0	1
OTHER GOODS	\$127,100	\$62,638	\$64,462	3.405	\$219,471	1.188	\$76,561	71.8	5
SUBTOTAL	\$4,113,544	\$583,851	\$3,529,693		\$12,519,584		\$3,484,112		208
PLUS DIRECT IMPACTS INCLUDED	INCLUDED	INCLUDED	INCLUDED		INCLUDED		\$13,175,172		1046
TOTALS	\$50,968,284	\$12,654,136	\$38,314,148		\$104,313,379		\$43,547,055		2755

SOURCES: U.S. BUREAU OF ECONOMIC ANALYSIS, 1984; U.S. BUREAU OF ECONOMIC ANALYSIS, 1977; DORNBUSCH & COMPANY

generally opens in May or June. Bottom fishing is carried out year-round, but only occupies a minority of the boats. The year-round average number of commercial fishing boats is around 250 boats.

In addition to the year-round commercial fishing fleet, the Crescent City harbor hosts a large seasonal recreational fishing fleet. Boaters come from all over the state and neighboring states to Crescent City. Many keep their boats in seasonal berths in the "outer harbor," and some launch their boats at the harbor's launching ramp. During the peak summer season, the harbor can accommodate approximately 350 30-foot to 70-foot boats in the inner harbor and 500 smaller boats in the outer harbor.

The size of the fishing fleet accords with Crescent City's importance as a fishing port. Over the past five years Crescent City has accounted for 56 percent of California's Dungeness crab landings and 53 percent of California's Pacific shrimp landings, by weight. In 1986, landings in Crescent City were valued at over \$12 million.

Catches are landed in Crescent City either at one of ten hoists on Citizens Dock or at one of two fish processors in the harbor. Fish landed at the hoists can be processed at other local processing plants, trucked to Eureka or Santa Rosa and processed there, or trucked to fresh markets in the Bay Area.

The harbor district's facilities include a harbormaster's office, two restroom buildings, the dredge, Citizens Dock, and a two-lane launching ramp. The harbor district leases space to three restaurants, a fuel dock, an ice plant, two RV parks, an operator for the outer boat basin, a chandlery, three charter operations, a boatyard, an art gallery and the Coast Guard, in addition to the ten fish hoists and two fish processors mentioned above.

1. Operating Budget

Crescent City Harbor District's operating budget differs from the recreational marinas' in several respects. First, Crescent City's income from berth rentals is substantially less than the recreational marinas, especially considering that the average size of the year-round vessel in Crescent City Harbor is around 40 feet, compared to about 30 to 33 feet for the recreational marinas. A direct comparison would be misleading, however, because fishermen in the Crescent City Harbor generate income for the District in several ways. In addition to their berth rental they pay an extra amount for harbor services. More importantly, the fishermen provide the fish landings that are the basis for the lease and wharfage fees paid by the fish processors and fish hoists. More indirectly, the presence of the fishermen is ultimately what attracts most of the other lessees to the harbor.

The second major difference in the Crescent City Harbor District budget is that because the harbor is operated as a district, it receives property tax revenues amounting to \$676 per year-round berth. The case studies demonstrate that all marinas generate substantial property tax revenues, but Crescent City is the only case study site that actually benefits directly from these revenues.

A third difference in Crescent City's budget is that its operating expenses are higher per berth (\$2,455 per year-round berth) than in the other case studies. Several factors explain this. First, the Crescent City Harbor is exposed to severe winter weather and requires more upkeep than would more sheltered harbors. Second, the silting problem requires year-round dredging. Third, as mentioned before, the average boat is larger, so there is more lineal feet of berth per boat to maintain than in the other marinas. Fourth, the denominator used to calculate income and expenses per berth (300 year-round berths) is somewhat misleading. As many as 800 or more boats can fill the harbor during the peak summer season. And fifth, the outer basin berths are taken out and replaced yearly as demand fluctuates, requiring more labor than in a marina where the berths are in place all year.

Table 21 shows the 1986/87 operating budget for Crescent City Harbor District.

TABLE 21
 CRESCENT CITY HARBOR DISTRICT
 OPERATING BUDGET - 1986/87

	TOTAL AMOUNT	PER YEAR-ROUND BERTH
REVENUES		
BERTH RENTAL - INNER BASIN	\$98,559 (300 YEAR-ROUND BERTHS)	\$329
BERTH RENTAL - OUTER BASIN	\$62,554 (500 SUMMER-ONLY SLIPS)	\$209
INTEREST	\$17,535	\$58
RENTALS AND CONCESSIONS	\$247,298	\$824
LAUNCHING RAMP FEES	\$9,808	\$33
TRANSIENTS & WHARFAGE	\$32,129	\$107
MISCELLANEOUS FEES	\$72,567	\$242
DEL NORTE COUNTY TAXES	\$202,782	\$676
GRANTS	\$202,972	\$677
HARBOR SERVICES	\$45,555	\$152
	=====	=====
	\$991,759	\$3,306
OPERATING EXPENSES		
WAGES, SALARIES & BENEFITS	\$298,250	\$994
SERVICES	\$264,895	\$883
SUPPLIES	\$162,219	\$541
FUEL	\$11,008	\$37
	=====	=====
	(\$736,372)	(\$2,455)
NON-CASH EXPENSE (DEPRECIATION)	(\$245,770)	(\$819)
LOAN SERVICE		
PRINCIPAL	\$42,000	\$140
INTEREST	\$66,155	\$221
	=====	=====
	(\$108,155)	(\$361)
NET INCOME AVAILABLE FOR CAPITAL RESERVE	=====	=====
	(\$98,538)	(\$328)

SOURCE: CRESCENT CITY HARBOR DISTRICT; DORNBUSCH & COMPANY

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2. Lessee and Marina Employment, Payroll and Gross Receipts

Table 22 shows the number of people employed by the harbor and its lessees, including the fishermen who operate from the harbor. Employment was estimated through discussions with harbor district personnel and with lessees. The Harbor District itself employs 11 people, including administrative and maintenance personnel and a full-time dredge operator. The two fish processors employ a total of approximately 140 people, although the seasonal peaks are substantially higher. The fish hoists typically employ two per hoist and the fishing boats average about two men per boat, the captain and a mate. The restaurants employ an estimated 77 people. Finally, the Coast Guard base has 14 men stationed there, and other retail and service businesses total an estimated 52 employees.

Payroll and gross receipts were estimated from harbor district budgets, from information provided by lessees and from U.S. Census Bureau data. When calculating total direct economic impact, we subtracted payments between lessees and the harbor district and those between lessees to avoid double-counting.

3. Recreational Boater Spending

Recreation-days at Crescent City Harbor are predicated on the seasonal small boat users, not on the year-round commercial fishermen. The boating-day estimates are based on 500 boats berthed in the outer basin, times 83.5 boating-days per berthed boat, plus 2,452 boat launches times 3 persons per launched boat. The number of boating-days per boat was not adjusted for the short season there, because the boaters who come to Crescent City use their boats much more frequently during the short season than do boaters who have access to their boats all year. The two effected were judged to cancel each other.

The boater spending profiles for Crescent City were adjusted in three ways. First, Crescent City is used almost entirely by fishermen, and the spending profiles based should reflect fishermen's spending patterns. To adjust the spending profile from general boating recreation to that of fishing required adjusting some spending categories and adding a bait, tackle & ice category of \$8.89 per person-day

TABLE 22
 CRESCENT CITY HARBOR
 HARBOR AND LESSEE ESTIMATED EMPLOYMENT, PAYROLL AND GROSS RECEIPTS, 1986

NAME	EMPLOYEES	AVG ANNUAL WAGES	TOTAL PAYROLL	GROSS RECEIPTS
CRESCENT CITY HARBOR DISTRICT	11	21,260	233,858	991,759
LESSEES				
FOOD & BEVERAGE	77	6,965	536,305	1,913,119
RETAIL & SERVICES	52	10,168	528,715	2,262,008
FISH PROCESSORS	140	5,714	800,000	6,503,277
(LESS PURCHASES FROM FISHERMEN)				(4,941,700)
FISH HOISTS	20	19,964	399,280	8,495,119
(LESS PURCHASES FROM FISHERMEN)				(7,442,067)
FISHERMEN	600	9,857	5,914,487	12,383,767
(LESS PURCHASES FROM HARBOR BUSINESSES)				(1,393,491)
MISC.	14	14,547	203,656	220,256
LESS LEASE PAYMENTS TO HARBOR DISTRICT				(247,298)
LESS WHARFAGE AND SERVICE PAYMENTS TO HARBOR DIST.				(62,687)
LESS COMMERCIAL BERTH PAYMENTS TO HARBOR DISTRICT				(98,559)
TOTAL NET DIRECT ECONOMIC IMPACT	914		8,616,301	18,583,504

SOURCE: CRESCENT CITY HARBOR DISTRICT; DAVID M. DORNBUSCH & COMPANY

(Dornbusch, 1987). Second, it was assumed that one-half of equipment rental and bait, tackle & ice purchases and 20 percent of grocery purchases are made from harbor businesses. Third, the local component of boat fuel was reduced to 50 percent for berthed boats, because many local boaters buy fuel in Brookings, Oregon, where it is cheaper.

Table 23 shows that the average boater spends \$33.73 per boating-day in Crescent City, mostly on food and fishing supplies. This results in local spending totaling \$622 thousand annually, mostly at Harbor businesses. About \$250 thousand of that total is spent at local businesses outside the Harbor District.

4. Local Taxes Generated by Boating

Property taxes account for about two-thirds of the local tax revenues of \$134 thousand attributable to the Crescent City Harbor District. Fishing boats are assessed at 4 percent of their market value, so the \$868 thousand assessed value reported in Table 24 represents a market value of over \$21 million. The Del Norte County Assessor's Office provided assessed values for boats and lessees in the Harbor District. These assessed values total \$8.5 million, resulting in property taxes of over \$87 thousand.

Crescent City levies a hotel tax of 8 percent. The hotel tax revenues estimated to result from boating-related lodging expenses total over \$6 thousand.

Sales taxes on auto and boat fuel sales and on local restaurant and retail spending associated with boating exceed \$40.6 thousand with approximately \$32.5 thousand going to Crescent City and \$8.1 thousand to the Del Norte County transportation fund.

Table 24 summarizes all three types of local tax revenues.

5. Total Direct and Indirect Impact on the Local Economy

Direct economic activity by category is shown in Table 25 for the Harbor District for its lessees and for other local businesses where boaters purchase goods and

TABLE 23
CRESCENT CITY HARBOR
SPENDING PER VISITOR-DAY AND TOTAL RECREATION SPENDING IN 1986

ESTIMATED NUMBER OF BOATING-DAYS IN 1986:

BERTHS: 500 OCCUPIED BERTHS @ 83.5 VISITOR-DAYS PER BOAT:	41,750
LAUNCHING RAMP USERS: 2452 LAUNCHINGS/YEAR @3 PERSONS/BOAT:	7,356
TOTAL RECREATIONAL BOATING-DAYS DURING 1986:	49,106
PERCENT ORIGINATING FROM OUT-OF-LOCAL-AREA:	64.99%
TOTAL VISITOR-DAYS ORIGINATING FROM OUTSIDE THE LOCAL AREA:	31,914

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SPENDING CATEGORY	TOTAL BOATER SPENDING BY NON-LOCALS (1)	PERCENT SPENT LOCALLY (2)	TOTAL LOCAL SPENDING (3)	LESS SPENDING AT MARINA BUSINESSES (4)	NET ADDITIONAL LOCAL SPENDING (5)
BOAT FEES	\$98,295	100%	\$98,295	\$98,295	\$0
EQUIPMENT RENTAL (6)	\$47,065	100%	\$47,065	\$23,533	\$23,533
AUTO REPAIR/GASOLINE	\$153,187	50%	\$76,594	\$0	\$76,594
BOAT FUEL (7)	\$75,317	48%	\$36,025	\$36,025	\$0
RESTAURANT	\$76,179	64%	\$48,450	\$48,450	\$0
GROCERIES (8)	\$258,963	29%	\$74,840	\$14,968	\$59,872
LODGING	\$76,872	100%	\$76,872	\$76,872	\$0
PUBLIC TRANSPORT	\$7,002	80%	\$5,602	\$0	\$5,602
BAIT, TACKLE ETC (6)	\$283,561	56%	\$158,794	\$79,397	\$79,397
TOTAL	\$1,076,441		\$622,537		\$244,997

- (1) VISITOR-DAYS TIMES SPENDING PROFILES FROM APPENDIX A
- (2) FROM DITTON, 1980; AND DORNBUSCH & COMPANY
- (3) BOATER SPENDING TIMES PERCENT SPENT LOCALLY
- (4) AMOUNT OF LOCAL SPENDING ACCOUNTED FOR IN MARINA AND LESSEE BUSINESSES
- (5) NET SPENDING ADDITIONAL TO MARINA AND LESSEE BUSINESSES
- (6) ASSUME ONE-HALF LOCAL PURCHASE FROM HARBOR BUSINESSES
- (7) LOCAL COMPONENT OF BOAT FUEL IS 50% FOR BERTHED BOATS AND 36% FOR LAUNCHED BOATS.
- (8) ASSUME 20% LOCAL PURCHASES FROM HARBOR BUSINESSES

TABLE 24
 CRESCENT CITY HARBOR
 LOCAL TAXES GENERATED BY RECREATIONAL BOATING AND SMALL CRAFT COMMERCIAL FISHING, 1986

CATEGORY	TAX BASE	RATE	TAX
=====			
PROPERTY TAXES - DEL NORTE COUNTY			
FISHING BOAT PERSONAL PROPERTY (1)	\$868,136	1.032684%	\$8,965
BOAT PERSONAL PROPERTY	\$1,786,319	1.032684%	\$18,447
LESSEE POSSESSORY INTEREST	\$1,784,944	1.032684%	\$18,433
LESSEE FIXTURES AND IMPROVEMENTS	\$4,028,210	1.032684%	\$41,599
=====			
TOTAL PROPERTY TAX REVENUES			\$87,444
HOTEL TAX - CRESCENT CITY AND DEL NORTE COUNTY	\$76,872	8.0000%	\$6,150
=====			
TOTAL HOTEL TAX REVENUES			\$6,150
SALES TAX			
RESTAURANT SALES	\$1,913,119		
RETAIL SALES	\$1,052,493		
AUTO & BOAT FUEL SALES	\$286,939		
=====			
TOTAL TAXABLE SALES	\$3,252,551		
SALES TAX - CRESCENT CITY SHARE		1.0000%	\$32,526
SALES TAX - DEL NORTE CO. TRANSPORTATION SHARE		0.2500%	\$8,131
=====			
TOTAL LOCAL SALES TAX REVENUES			\$40,657
=====			
TOTAL LOCAL TAX RVENUES			\$134,250
=====			

(1) COMMERCIAL FISHING BOATS ASSESSED AT 4% OF MARKET VALUE

SOURCE: CRESCENT CITY HARBOR DISTRICT; CALIFORNIA BOARD OF EQUALIZATION;
 DEL NORTE COUNTY ASSESSORS OFFICE; DORNBUSCH & COMPANY

TABLE 25
CRESCENT CITY HARBOR
TOTAL DIRECT AND INDIRECT IMPACT ON LOCAL ECONOMY IN 1986

DIRECT IMPACT CATEGORY	TOTAL AMOUNT SPENT	LESS DIRECT SPENDING TO OUT-OF-AREA	NET LOCAL DIRECT IMPACTS	----GROSS OUTPUT----		-----EARNINGS-----		----EMPLOYMENT----	
				WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS
HARBOR OPERATIONS									
PAYROLL	\$233,858	\$0	\$233,858	1.333	\$311,733	0.401	\$93,871	23.9	6
SERVICES	\$329,287	\$0	\$329,287	2.299	\$757,031	0.684	\$225,243	42.4	14
SUPPLIES	\$162,219	\$79,933	\$82,286	2.155	\$177,321	0.759	\$62,420	46.0	4
FUEL	\$11,008	\$0	\$11,008	1.939	\$21,345	0.281	\$3,094	11.6	0
DEPRECIATION	\$0	\$0	\$0	NA	\$0	NA	\$0	NA	0
=====									
SUBTOTAL	\$736,372	\$79,933	\$656,439		\$1,267,429		\$384,627		23
LESSEE OPERATIONS									
RESTAURANTS	\$1,913,119	\$747,446	\$1,165,673	1.612	\$1,879,463	0.455	\$530,073	27.1	32
RETAIL & SERVICE	\$2,482,264	\$517,942	\$1,964,322	1.981	\$3,890,570	0.627	\$1,232,483	31.9	63
FISH PROCESSORS	\$6,503,277	\$0	\$6,503,277	1.994	\$12,967,534	0.437	\$2,840,440	22.0	143
FISH HOISTS	\$8,495,119	\$0	\$8,495,119	1.588	\$13,492,049	0.531	\$4,513,602	31.6	268
(LESS RENTAL)	(\$408,544)	\$0	(\$408,544)	1.690	(\$690,439)	0.197	(\$80,403)	14.2	-6
=====									
SUBTOTAL	\$18,985,235	\$1,265,388	\$17,719,847		\$31,539,178		\$9,036,195		500
OTHER LOCAL BOATER SPENDING									
EQUIPMENT RENTAL	\$23,533	\$0	\$23,533	2.299	\$54,102	0.684	\$16,097	42.4	1
AUTO SERVICE	\$76,594	\$0	\$76,594	0.750	\$57,483	0.282	\$21,598	17.5	1
GROCERIES	\$59,872	\$29,138	\$30,734	2.187	\$67,210	0.723	\$22,208	43.2	1
TRANSPORT	\$5,602	\$0	\$5,602	1.939	\$10,862	0.281	\$1,574	11.6	0
BAIT, TACKLE ETC.	\$79,397	\$39,129	\$40,268	2.173	\$87,504	0.744	\$29,979	44.9	2
=====									
SUBTOTAL	\$244,998	\$68,267	\$176,731		\$277,162		\$91,456		6
PLUS DIRECT IMPACTS	INCLUDED	INCLUDED	INCLUDED		INCLUDED		\$1,567,463		122
=====									
TOTALS	\$19,966,605	\$1,413,588	\$18,553,017		\$33,083,768		\$11,079,742		651
=====									

SOURCES: U.S. BUREAU OF ECONOMIC ANALYSIS, 1984; U.S. BUREAU OF ECONOMIC ANALYSIS, 1977; DORNBUSCH & COMPANY

services. For the purposes of tracing the impact of direct spending on the local economy, the non-cash Harbor District depreciation expense was excluded from the analysis.

Table 25 shows that the \$20 million in direct spending associated with the Harbor District results in \$33 million in total economic activity in the region. This activity includes an employee earning impact of over \$11 million and over 651 jobs.

IV. IMPACTS OF A HYPOTHETICAL 500 BERTH MARINA DEVELOPMENT

A. Introduction

This section provides an example of the economic impacts that a new marina would be expected to have on its local area. It includes a framework for evaluating the impacts and applies the framework to a hypothetical 500 berth marina.

The scope of the impacts considered reflects the scope of the impacts discussed in the case studies. (See Section III of this report.) The direct effects from a new marina derive from the construction expenditures, the marina operating budget, the marina lessees' businesses income and additional boater spending. Total impacts include overall business activity, payroll, employment and taxes generated either directly or indirectly.

B. Facilities and Features

A generalized 500 berth marina is hypothesized for the purpose of demonstrating the impact framework. The hypothesized marina consists of a full range of facilities and provides space for several commercial lessees that are often found at marinas. The marina's facilities include:

- 500 berths, averaging 30 feet, totalling 60,000 sq. ft. of floating dock
- parking for 300 vehicles
- a two-lane launching ramp with parking for 50 cars & trailers
- a harbormaster's office
- three restroom buildings
- landscaping and lighting

Table 26 shows the specific assumptions made about the marina's features and facilities. Based on a review of recent bids and proposals for marinas in northern and central California the estimated construction cost for such a marina is \$6.4 million. Note that while this estimate includes some assumed costs for dredging or excavation and for slope protection, the actual costs will depend largely on the

TABLE 26
 HYPOTHETICAL 500 BERTH MARINA
 FACILITIES AND FEATURES

FACILITY OR FEATURE	SIZE
SITE CLEARING, DREDGING AND EXCAVATION	200,000 CU. YD.
BREAKWATER	NONE ASSUMED
SLOPE PROTECTION	20,000 TONS
BERTHING SYSTEM	60,000 SQ. FT.
GRADING AND PAVING	300 SPACES
HARBORMASTER BUILDING	1,000 SQ. FT.
RESTROOM BUILDINGS	1,000 SQ. FT.
LANDSCAPING AND LIGHTING	100,000 SQ. FT.
LAUNCHING RAMP	2 LANES

TOTAL ESTIMATED COST FOR ABOVE FACILITIES: \$6,400,000

NOTE: THE ABOVE COST IS REPRESENTATIVE OF A GENERALIZED 500 BERTH MARINA, BUT INDIVIDUAL MARINAS ENCOUNTER SPECIFIC PROBLEMS THAT MAY INCREASE THEIR COSTS.

SOURCE: DORNBUSCH & COMPANY REVIEW OF ACTUAL AND PROPOSED DEVELOPMENT COSTS AT SAN FRANCISCO SOUTH BEACH MARINA, SACRAMENTO BOAT HARBOR EXPANSION, ANTIOCH MARINA, FOSTER CITY MARINA AND PETALUMA MARINA.

specific site selected. Factors such as the range between expected high and low water elevation, and the currents and waves the marina must be protected against can greatly affect the costs. The estimated cost does not include any expenditures for a breakwater, for relocating roads, or providing access roads - cost elements that can be substantial if needed at a particular site. The cost estimate also does not include any charge for land.

Most larger marinas in California provide a variety of commercial services in addition to boat storage. It is common at marinas to find coffee shops and restaurants, for example, in addition to marine services and supplies. The hypothetical 500 berth marina evaluated in this report is assumed to include the following ancillary commercial facilities:

- restaurant
- yacht club
- boatyard
- chandlery
- boat dealer
- bait & tackle shop
- coffee shop
- charter fishing boat

Table 27 shows for each of these businesses the assumed facility size and their estimated cost of construction. The construction costs are based on data from the "Means Square Foot Cost 1988" cost estimating manual but could vary depending on the specific location and the method of construction.

C. Construction Impacts

The direct cost of \$9.2 million for constructing the marina and ancillary commercial facilities will stimulate even larger indirect effects on the local economy. Direct payments to contractors, engineers etc. will induce spending by them on supplies, services, wages, taxes etc. This spending in turn produces more rounds of spending. The total effect on the economy can be summarized in an "input-output multiplier" that shows the sum of all the direct and indirect spending effects that are initiated

TABLE 27
 HYPOTHETICAL 500 BERTH MARINA
 CONSTRUCTION COST FOR ANCILLARY COMMERCIAL FACILITIES (1986\$)

POTENTIAL LESSEES FOR MARINA	SIZE	CONSTRUCTION COST
RESTAURANT	10,000 SQ. FT.	\$900,000
YACHT CLUB	6,000 SQ. FT.	\$480,000
BOATYARD	200,000 SQ. FT.	
BUILDING	20,000 SQ. FT.	\$1,000,000
CHANDLERY	3,000 SQ. FT.	\$180,000
BOAT DEALER	500 SQ. FT.	\$30,000
BAIT & TACKLE SHOP	1,000 SQ. FT.	\$60,000
COFFEE SHOP	1,000 SQ. FT.	\$90,000
CHARTER FISHING BOAT	200 SQ. FT.	\$12,000
TOTAL CONSTRUCTION COST		\$2,752,000

SOURCE: R.C. MEANS COMPANY, "MEANS SQUARE FOOT COSTS 1988," 1987;
 DORNBUSCH & COMPANY.

by a specific change in the economy (in this case, marina construction). As explained in Appendix B, the input-output multipliers differ for each economic area, mainly because of the different mix of industries in each area. The more an area is self-sufficient, like the Los Angeles area, the higher the multiplier.

The impact analysis of construction costs uses three sets of multipliers, a high, medium and low. The high multipliers show the impacts that might be expected in a very large, self-sufficient area like the San Francisco Bay Area or the Los Angeles area. The low multipliers show likely impacts in less populated areas such as the north coast (Mendocino County and northward) and north inland California. The medium set of multipliers are more representative for the remainder of the state, including the central coast, the San Diego area, Sacramento and the Delta.

Table 28 shows the high, medium and low multipliers and the total direct plus indirect effects associated with marina and ancillary commercial construction. The multipliers and impacts are shown for gross output, worker earnings and employment. Gross output refers to the total production in all industries affected by the marina and commercial facility construction, and indicates total economic activity generated by the project. The total impacts range from \$18.0 million to \$31.1 million. Total direct plus indirect worker earnings generated by the marina and commercial facility construction range from \$5.8 million to \$10.1 million. Employment generated by the project range from 284 to 491 person-years. These employment numbers are expressed in person-years, because of the short-term nature of construction. For example, over a two-year construction period 200 person-years would represent 100 full-time jobs each lasting two years. Most of these jobs would be in the construction industry itself. The impacts shown in Table 28 represent the total effects on all industries from the direct spending on construction plus the consequential indirect effects.

D. Marina Operating Budget

Table 29 shows a typical operating budget for a 500 berth marina. Berth rental income is based on an assumed \$4 per foot per month. This figure is representative for much of the state, but is slightly high for some non-metropolitan areas, perhaps slightly low for the Bay Area and much too low for the Los Angeles area. The

TABLE 28
 HYPOTHETICAL 500 BERTH MARINA
 CONSTRUCTION COST AND IMPACT (1986\$)

	LOW (1)	MEDIUM (2)	HIGH (3)
MARINA CONSTRUCTION COST			
Marina	\$6,400,000	\$6,400,000	\$6,400,000
Ancillary Commercial	\$2,752,000	\$2,752,000	\$2,752,000
Total Construction Cost	\$9,152,000	\$9,152,000	\$9,152,000
GROSS OUTPUT MULTIPLIER			
	1.968	2.199	3.404
Total direct and indirect Economic activity generated By marina construction	\$18,011,136	\$20,127,536	\$31,148,832
PAYROLL MULTIPLIER			
	0.637	0.712	1.102
Total direct and indirect Payroll generated by Marina construction	\$5,832,717	\$6,518,091	\$10,087,222
EMPLOYMENT MULTIPLIER			
	31.0	34.7	53.7
Total direct and indirect Employment generated by Marina construction (Person-years)	284	317	491

NOTES: (1) REPRESENTATIVE OF LESS POPULATED AREAS SUCH AS NORTH COAST AND NORTH CENTRAL CALIFORNIA.
 (2) REPRESENTATIVE OF MOST AREAS IN CALIFORNIA.
 (3) REPRESENTATIVE OF THE BAY AREA AND LOS ANGELES AREA.

SOURCE: BUREAU OF ECONOMIC ANALYSIS, 1977; BUREAU OF ECONOMIC ANALYSIS, 1985; DORNBUSCH & COMPANY

TABLE 29
 HYPOTHETICAL 500 BERTH MARINA
 MARINA OPERATING BUDGET (1986\$)

	TOTAL	PER BOAT
REVENUES		
BERTH RENTALS (1)	\$720,000	\$1,440
FUEL SALES	\$50,000	\$100
LESSEE PAYMENTS (2)	\$219,900	\$440
MISCELLANEOUS	\$25,000	\$50
LAUNCHING RAMP FEES	\$0	\$0
	<hr/>	<hr/>
	\$1,014,900	\$2,030
EXPENSES		
SALARIES & BENEFITS	\$198,000	\$396
SERVICES & SUPPLIES	\$100,000	\$200
FUEL	\$40,000	\$80
INSURANCE & O/H	\$50,000	\$100
	<hr/>	<hr/>
	\$388,000	\$776
LOAN SERVICE (3)	\$402,201	\$804
	<hr/>	<hr/>
NET INCOME AVAILABLE FOR CAPITAL RESERVE	\$224,699	\$449

- (1) ASSUMES 100% OCCUPANCY @\$4 PER FOOT PER MONTH @30' AVERAGE
 (2) SEE ITEMIZED LIST ON TABLE 29.
 (3) ANNUAL PRINCIPAL + INTEREST ON \$6,400,000 LOAN FOR 4.7%
 AND 30 YEARS.

SOURCE: DORNBUSCH & COMPANY REVIEW OF OPERATING BUDGETS
 AT CASE STUDY MARINAS.

berth rental income also assumes a 100% occupancy rate, which is realistic in many parts of the state but not in others.

Fuel sales income and expenses represent an active marina with mostly sailboats and with a launching facility. Inland marinas catering to powerboats could expect significantly larger fuel sales.

The lessee payments are based on a full range of lessee services, including a restaurant, yacht club, boatyard, chandlery, boat dealer, bait & tackle shop, coffee shop and charter fishing boat. Many larger, well-established marinas host such a full range of boating support businesses, but it would be optimistic to expect a marina to develop the full complement of services during the first few years of operation. The income figures are discussed in the next subsection.

Some marinas charge an access or parking fee for using the launching ramp. Many, however, do not charge, and the budget in Table 29 assumes no income from the launching ramp.

The salary expense is based on a staff of eight, including a harbormaster, assistant harbormaster, secretary/administrative assistant, three full-time maintenance and fuel dock employees, and two full-time equivalent part-time/seasonal employees.

Service & supplies and insurance & overhead expenses are based on a review of budgets for other similar marinas.

The loan service amount is predicated on a California Department of Boating & Waterways loan for the full \$6.4 million construction cost, payable over 30 years at 4.7 percent interest. The 4.7 percent rate is a below-market rate of interest that the legislature allows the Department of Boating and Waterways to charge on loans for marina and Harbor improvements.

The net income figure represents the cash earnings of the marina. This amount must cover any cost for land, as well as any capital projects at the marina. It would be appropriate for the marina budgets to include either a depreciation expense to account for the deterioration of facilities or a sinking fund to

accumulate funds for facility replacement or repair. The closest most marina budgets come to accounting for depreciation, however, is to transfer any operating surplus to a capital reserve account. This system is adequate so long as the capital reserve account grows at a rate sufficient to provide for facility maintenance and replacement. But the system lacks an explicit analysis of how much is needed for that purpose.

E. Marina Lessees

The operating budget includes lease payments from eight types of businesses commonly found at marinas. Marinas sometimes build facilities themselves, then rent out space to lessees. More common is a ground lease to the businesses, where a business leases ground for a long term (e.g., 30 years), then builds its own facility. The figures in Table 30 reflect a ground lease approach.

Table 30 shows the typical size, employment, payroll, gross receipts and lease payments for each type of lessee. The specific market conditions at a particular marina will affect the lessee characteristics and the mix of businesses. Marinas commonly have several of a few types of businesses (e.g., restaurants or yacht clubs) and none of some other types.

The ratios of employment to payroll and payroll to gross receipts are based on U.S. Census Bureau data, indexed to 1986 prices. The square footage, the business volume and lease terms are based on data from the case studies, Franchise Tax Board and Board of Equalization sample data, and on Census Bureau data. These factors will vary substantially by location and should not be considered appropriate for all locations.

Table 30 shows total marina income from lessees at nearly \$220 thousand. This represents \$440 per berth, about the midrange of the four case studies.

F. Recreation Boater Spending

Recreational boaters who keep their boats at a marina or launch their boats at its launching ramp add a considerable amount of spending to the local economy. Some

TABLE 30
 HYPOTHETICAL 500 BERTH MARINA
 MARINA LESSEES (1986\$)

POTENTIAL LESSEES FOR MARINA	TYPICAL LESSEE CHARACTERISTICS				
	SIZE	EMPLOYMENT	PAYROLL	RECEIPTS	LEASE PYMT
RESTAURANT	10,000 SQ. FT.	75	\$522,251	\$2,000,000	\$100,000
YACHT CLUB	6,000 SQ. FT.	1	\$10,732	\$80,000	\$5,000
BOATYARD	200,000 SQ. FT.	15	\$244,622	\$1,000,000	\$20,000
CHANDLERY	3,000 SQ. FT.	5	\$64,324	\$420,000	\$25,200
BOAT DEALER	500 SQ. FT.	4	\$65,253	\$580,000	\$46,400
BAIT & TACKLE SHOP	1,000 SQ. FT.	2	\$19,195	\$150,000	\$7,500
COFFEE SHOP	1,000 SQ. FT.	5	\$35,252	\$135,000	\$10,800
CHARTER FISHING BOAT	200 SQ. FT.	3	\$28,819	\$100,000	\$5,000
TOTALS	221,700 SQ. FT.	110	\$990,447	\$4,465,000	\$219,900

SOURCE: U.S. CENSUS BUREAU, 1982 CENSUSES OF RETAIL TRADE,
 WHOLESALE TRADE, MANUFACTURERS AND SERVICE INDUSTRIES;
 PERSONAL CONSUMPTION EXPENDITURES INDEX FROM FROM PRESIDENT'S
 ECONOMIC REPORT TO CONGRESS, JAN. 1987; DORNBUSCH & COMPANY

of this spending is accounted for in the business volume at marina businesses, but much of this boater spending takes place away from the marina at other businesses in the community. Table 31 develops the estimated number of boater-days associated with a hypothetical 500 berth marina, and shows the local spending by boaters.

The boating-day calculations assume that each berthed boat generates 83.5 boating-days of use, based on data from the California Department of Parks and Recreation and from the California Department of Motor Vehicles, as discussed in Appendix A. The boating-day figures also include 4,000 boat launches per year and four people per launched boat. Together, berthed and launched boats generate 57,750 boating-days at the marina.

Only a portion of these boating-days impact the local economy, however. The boaters who live near the marina might have made their recreation expenditures locally even if the marina were not in place, and 35 percent of the boating-trips are subtracted from the total to account for close-to-home trips. The data on trip length is from Arnold (1982) and is discussed in Appendix A.

The generated trips are multiplied by a spending profile that indicates the average spending per boating trip. Finally, the local spending already accounted for by marina spending is subtracted from the total local boater spending. The remainder, therefore, includes only the spending by boaters in the local community that is additional to spending at marina businesses. Table 31 shows our estimate that an additional \$314 thousand would be spent by boaters.

G. Local Taxes Generated by Recreational Boating*

Recreational boating at the hypothetical marina would contribute three main types of local tax revenues. Most important are the property taxes levied on boats and lessee's improvements at the marina, and on the possessory interest in berthholders and leaseholders. Table 32 shows that nearly \$120 thousand in property taxes would be paid annually. This figure assumes that the marina would be owned by a public (non-taxed) entity. If the marina were privately owned the property owner would pay taxes on the full value of the land and improvement (land value plus the \$6.4

TABLE 31
 HYPOTHETICAL 500 BERTH MARINA
 SPENDING PER VISITOR-DAY AND TOTAL RECREATION SPENDING (1986\$)

ESTIMATED ANNUAL NUMBER OF BOATING-DAYS:

BERTHS: 500 OCCUPIED BERTHS @ 83.5 VISITOR-DAYS PER BOAT:	41,750
LAUNCHING RAMP USERS: 4000 LAUNCHINGS/YEAR @4 PERSONS/BOAT:	16,000
TOTAL ANNUAL BOATING-DAYS:	57,750
PERCENT ORIGINATING FROM OUT-OF-LOCAL-AREA:	64.99%
TOTAL VISITOR-DAYS ORIGINATING FROM OUTSIDE THE LOCAL AREA:	37,532

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SPENDING CATEGORY	TOTAL BOATER SPENDING BY NON-LOCALS (1)	PERCENT SPENT LOCALLY (2)	TOTAL LOCAL SPENDING (3)	LESS SPENDING AT MARINA BUSINESSES (4)	NET ADDITIONAL LOCAL SPENDING (5)
BOAT FEES	\$115,492	100%	\$115,492	\$100,000	\$15,492
EQUIPMENT RENTAL (6)	\$28,643	100%	\$28,643	\$14,321	\$14,321
AUTO REPAIR/GASOLINE	\$180,152	50%	\$90,076	\$0	\$90,076
BOAT FUEL (7)	\$88,575	82%	\$72,751	\$50,000	\$22,751
RESTAURANT	\$126,925	64%	\$80,724	\$80,724	\$0
GROCERIES (8)	\$431,467	29%	\$124,694	\$31,173	\$93,520
LODGING	\$57,962	100%	\$57,962	\$0	\$57,962
PUBLIC TRANSPORT	\$9,470	80%	\$7,576	\$0	\$7,576
OTHER GOODS (6)	\$38,613	61%	\$23,677	\$11,839	\$11,839
TOTAL	\$1,077,298		\$601,596		\$313,538

- (1) VISITOR-DAYS TIMES SPENDING PROFILES FROM APPENDIX A
- (2) FROM DITTON, 1980; AND DORNBUSCH & COMPANY
- (3) BOATER SPENDING TIMES PERCENT SPENT LOCALLY
- (4) AMOUNT OF LOCAL SPENDING ACCOUNTED FOR IN MARINA AND LESSEE BUSINESSES
- (5) NET SPENDING ADDITIONAL TO MARINA AND LESSEE BUSINESSES
- (6) ASSUMES ONE-HALF LOCAL PURCHASES MADE AT MARINA BUSINESSES
- (7) LOCAL COMPONENT OF BOAT FUEL IS 100% FOR BERTHED BOATS AND 36% FOR LAUNCHED BOATS.
- (8) ASSUMES ONE-QUARTER OF LOCAL PURCHASES MADE AT MARINA BUSINESSES

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TABLE 32
 HYPOTHETICAL 500 BERTH MARINA
 LOCAL TAXES GENERATED BY RECREATIONAL BOATING (1986\$)

CATEGORY	TAX BASE	RATE	TAX
=====			
PROPERTY TAXES - PAID TO COUNTY			
BERTH POSSESSORY INTEREST	\$1,682,000	1.000%	\$16,820
BOAT PERSONAL PROPERTY	\$6,377,655	1.000%	\$63,777
LESSEE POSSESSORY INTEREST	\$1,328,501	1.000%	\$13,285
LESSEE FIXTURES AND IMPROVEMENTS	\$2,446,212	1.000%	\$24,462
			=====
TOTAL PROPERTY TAX REVENUES			\$118,344
HOTEL TAX - PAID TO CITY OR COUNTY	\$57,962	8.000%	\$4,637
			=====
TOTAL HOTEL TAX REVENUES			\$4,637
SALES TAX			
RESTAURANT SALES	\$2,135,000		
RETAIL SALES	\$1,500,666		
AUTO & BOAT FUEL SALES	\$162,827		
			=====
TOTAL TAXABLE SALES	\$3,798,493		
SALES TAX - CITY SHARE		1.000%	\$37,985
SALES TAX - COUNTY TRANSPORTATION SHARE		0.250%	\$9,496
			=====
TOTAL LOCAL SALES TAX REVENUES			\$47,481
			=====
TOTAL LOCAL TAX REVENUES			\$170,462
			=====

 SOURCE: CASE STUDIES; CALIFORNIA BOARD OF EQUALIZATION; DORNBUSCH & COMPANY

million development costs. In that case the possessory interest would not be assessed. Total property tax revenues would increase by approximately \$34 thousand.

The assessed values for boats at the marina are based on the assessed values at the San Leandro Marina, adjusted for the smaller average size of 30 feet at the hypothetical marina.

Most cities and counties where marinas are likely to be located levy a tax on transient occupancy (a hotel tax). The statewide average of such taxes is approximately 8 percent, which would produce about \$4.6 thousand in annual tax revenue when levied on the base of \$58 thousand in boater lodging expenditures.

Sales taxes are levied on most non-grocery retail sales. Cities or counties are returned 1.0 percent of taxable sales within their jurisdictions. County transportation funds receive an additional 0.25 percent to 1.25 percent, depending on the county. Most counties in the state levy the minimum 0.25 percent, so Table 32 reflects that rate. Total sales tax revenues to the local jurisdictions amount to over \$47 thousand.

Local tax revenues from all sources would reach \$170 thousand annually.

H. Total Direct and Indirect Effect on Local Economy

The impact analysis of the marina operations is based on input-output multipliers, similar to the case of construction impacts. No single industry multiplier adequately represents the array of businesses affected by recreational boating. The impact analysis, therefore, itemizes the major types of economic activity directly stimulated by boating, and applies a multiplier to each type. Table 33 shows how the framework is used in the case of the hypothetical marina.

The last row in Table 33 shows that the marina's annual direct spending total of \$4,946 thousand results in a total direct plus indirect economic effect of \$6,277 thousand total worker earnings impact of \$3,001 thousand and total employment impact of 198 jobs. These jobs are expressed in terms of full-time equivalent.

TABLE 33
 HYPOTHETICAL 500 BERTH MARINA
 TOTAL DIRECT AND INDIRECT IMPACT ON THE LOCAL ECONOMY (1986\$)

DIRECT IMPACT CATEGORY	TOTAL AMOUNT SPENT	LESS DIRECT SPENDING TO OUT-OF-AREA	NET LOCAL DIRECT IMPACTS	----GROSS OUTPUT----		-----EARNINGS-----		----EMPLOYMENT----	
				WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS	WEIGHTED AVERAGE MULTIPLIER	DIRECT + INDIRECT IMPACTS
MARINA OPERATIONS									
PAYROLL	\$198,000	\$0	\$198,000	1.333	\$263,934	0.401	\$79,477	23.9	5
SERVICES	\$50,000	\$0	\$50,000	2.505	\$125,250	0.745	\$37,266	46.2	2
SUPPLIES	\$50,000	\$29,565	\$20,435	2.397	\$48,983	0.879	\$17,968	54.1	1
FUEL	\$40,000	\$38,875	\$1,125	2.081	\$2,341	0.302	\$339	12.5	0
INSURANCE & O/H	\$50,000	\$29,565	\$20,435	2.397	\$48,983	0.879	\$17,968	54.1	1
SUBTOTAL	\$388,000	\$98,005	\$289,995		\$489,492		\$153,018		9
LESSEE OPERATIONS									
RESTAURANTS	\$2,135,000	\$871,478	\$1,263,522	1.700	\$2,147,874	0.476	\$601,530	28.4	36
RETAIL	\$1,150,000	\$679,995	\$470,005	2.397	\$1,126,619	0.879	\$413,261	54.1	25
SERVICES	\$1,100,000	\$0	\$1,100,000	2.132	\$2,345,500	0.684	\$751,933	29.7	33
CLUB	\$80,000	\$0	\$80,000	1.896	\$151,680	0.221	\$17,664	16.0	1
(LESS RENTAL)	(\$219,900)	\$0	(\$219,900)	1.896	(\$416,930)	0.221	(\$48,553)	16.0	-4
SUBTOTAL	\$4,245,100	\$1,551,473	\$2,693,627		\$5,354,743		\$1,735,835		92
OTHER LOCAL BOATER SPENDING									
BOAT FEES	\$15,492	\$0	\$15,492	2.505	\$38,807	0.745	\$11,547	46.2	1
EQPMNT RENTAL	\$14,321	\$0	\$14,321	2.505	\$35,874	0.745	\$10,674	46.2	1
AUTO SERVICE	\$90,076	\$60,378	\$29,698	2.452	\$72,815	0.921	\$27,362	57.2	2
BOAT FUEL	\$22,751	\$15,250	\$7,501	2.452	\$18,391	0.921	\$6,911	57.2	0
GROCERIES	\$93,520	\$54,617	\$38,903	2.429	\$94,493	0.856	\$33,298	52.2	2
HOTELS	\$57,962	\$0	\$57,962	2.505	\$145,195	0.745	\$43,200	46.2	3
TRANSPORT	\$7,576	\$0	\$7,576	2.081	\$15,766	0.302	\$2,285	12.5	0
OTHER GOODS	\$11,839	\$7,001	\$4,838	2.397	\$11,597	0.880	\$4,255	54.1	0
SUBTOTAL	\$313,537	\$137,246	\$176,291		\$432,938		\$139,531		9
PLUS DIRECT IMPACTS	INCLUDED	INCLUDED	INCLUDED		INCLUDED		\$972,116		88
TOTALS	\$4,946,637	\$1,786,724	\$3,159,913		\$6,277,173		\$3,000,500		198

SOURCES: U.S. BUREAU OF ECONOMIC ANALYSIS, 1984; U.S. BUREAU OF ECONOMIC ANALYSIS, 1977; DORNBUSCH & COMPANY

Because some full-time positions are sometimes split between two part-time employees (especially in restaurants and recreation services) the actual number of people employed could be larger.

APPENDIX A: RECREATIONAL BOATER SPENDING

Recreational boaters purchase a variety of goods and services whenever they go boating. While much of this spending goes to boating businesses, such as purchases of boat fuel and rentals of equipment, a large amount of boater spending is directed to non-boating businesses. For example, boaters spend substantial amounts on groceries, restaurant meals, gasoline for their automobiles and lodging. These purchases extend the economic effects of recreational boating to well beyond the boating industry itself.

A. Daily Boater Spending

Total boater spending was estimated in several steps. First, a profile of daily boater spending developed in an earlier study (Dornbusch, 1987) was updated. Spending was indexed to 1986 prices using the index of Personal Consumption Expenditures (Economic Report of the President, 1987). All spending categories were reviewed against other available data (e.g., spending surveys from other states and California estimates of fuel tax revenues from boating-related fuel purchases) to check for similarity of spending on various items. Most spending categories compared reasonably well with other data sources reviewed. However, two spending categories differed so much from other studies that they were revised. These two categories are auto repair/gasoline purchases and boat fuel purchases.

A better estimate of auto repair/gasoline spending was made based on data for the average travel time for recreational boating trips, the average speed of travel and the variable cost of operating an automobile (all data from Dornbusch, 1987). The calculation was made as follows:

Average travel time	50.7 minutes
Times: variable cost/mile	X \$.142
Times: average travel speed	X 40 miles per hour
Times: round trip factor	X 2
Divided by: average persons/vehicle	<u>/ 2</u>
Equals: average auto repair/gasoline cost per person	= \$4.80

Per trip spending on boat fuel was calculated from estimates of total boating fuel purchases divided by the estimated annual number of boating-days in California. Data for fuel gallons-purchased data for 1986 are from the California Department of Boating & Waterways. Statewide average price per gallon is from the U.S. Energy Information Administration, 1987, and annual boating days for 1986 was estimated from California Department of Parks and Recreation data. The calculation is as follows:

Average of 1985-86 and 1986-87 boating fuel consumption	141,645,958 gallons
Times: 1986 average price/gallon	X \$.931
Divided by: 1986 estimated boating- days in California	/ 55,975,000
	<hr/>
Equals: average boat fuel cost/per person	= \$2.36

The resulting boater spending profiles are shown in Table A-1. The table shows that statewide average boater spending is estimated at \$28.70 in 1986. Groceries comprise the single largest spending category (\$11.50), followed by auto repair/gasoline (\$4.80), restaurant (\$3.38), boat fees (\$3.08) and boat fuel (\$2.36). Several other smaller categories complete the spending profile.

These statewide profiles were used in the estimate of statewide recreational boater spending (Tables 3 and 4), and in the estimate of spending effects from a hypothetical marina (Table 30). In the case study analyses the statewide spending profiles were used as a starting point for the boater spending effects analysis. However, some adjustments were made to the statewide spending profile to adapt it to the particular characteristics of the case study marinas, as shown in Table A-1.

In the San Leandro Marina and Sacramento Boat Harbor case studies, spending on boat fees were eliminated because neither marina offers any boat charter or rental services. The Sacramento Boat Harbor is filled primarily with power boats, and the Harbor's financial records show fuel sales substantially in excess of what would be

TABLE A1
CALIFORNIA BOATING INDUSTRY
RECREATIONAL BOATER SPENDING PROFILES (1986\$)

SPENDING PER BOATER-DAY

SPENDING CATEGORY	STATEWIDE AVERAGE	CASE STUDY MARINAS			
		SAN LEANDRO	LONG BEACH	SACRAMENTO HARBOR	CRESCENT CITY (3)
BOAT FEES	\$3.08	NA	\$3.08	NA	\$3.08
EQUIPMENT RENTAL	\$0.76	\$0.76	\$0.76	\$0.76	\$1.47
AUTO REPAIR/GASOLINE	\$4.80	\$4.80	\$4.80	\$4.80	\$4.80
BOAT FUEL (1) (2)	\$2.36	\$2.36	\$2.83	\$3.54	\$2.36
RESTAURANT	\$3.38	\$3.38	\$3.38	\$3.38	\$2.39
GROCERIES	\$11.50	\$11.50	\$11.50	\$11.50	\$8.11
LODGING	\$1.54	\$1.54	\$1.54	\$1.54	\$2.41
PUBLIC TRANSPORT	\$0.25	\$0.25	\$0.25	\$0.25	\$0.22
OTHER GOODS	\$1.03	\$1.03	\$1.03	\$1.03	\$8.89
TOTAL	\$28.70	\$25.62	\$29.17	\$26.80	\$33.73

- (1) ASSUMED 20% HIGHER IN LONG BEACH DUE TO LARGER THAN AVERAGE SIZE BOATS
(2) ASSUMED 50% HIGHER IN SACRAMENTO DUE TO PREDOMINANCE OF POWER BOATS
(3) CRESCENT CITY SPENDING REFLECTS FISHING AS PRIMARY BOATING PURPOSE

SOURCES: SPENDING PROFILES FROM DORNBUSCH, 1987; BOAT FUEL SPENDING FROM CALIFORNIA DEPARTMENT OF PUBLIC WORKS ET AL., 1972, UPDATED BY DORNBUSCH & COMPANY

expected at an average marina of that size. For these reasons the boat fuel spending estimate was increased by 50 percent at the Sacramento Boat Harbor.

In the Long Beach Marinas the average boat size, at over 33 feet, is significantly above the state average of approximately 29 feet. Also, fuel sales at the marinas exceed what would be expected just from the number of boats there. Therefore, the boat fuel spending estimate was increased by 20 percent to allow for these factors.

In Crescent City, fishing is the predominate use of recreational boats. We have based the spending profile in Crescent City on the fishing-trip profile (from Dornbusch, 1987) to reflect the particular spending pattern of fishermen. The main difference in the profile is the large increase in spending on "Other Goods," which includes bait, tackle, ice and related fishing purchases.

B. Boating Person-Days

The second step in determining boater spending was to estimate the number of days people are engaged in recreational boating. The statewide average person-days per boat was estimated by dividing the number of recreational boating-days (from Arnold, 1982, updated by Dornbusch & Company) by the number of registered boats in California (from the California Department of Motor Vehicles), producing an estimate of 83.5 person-days per boat. If 2.5 to 3 persons use a boat at the same time, on the average, this implies that the average boat is used 28 to 33 days per year. This result is consistent with estimates from other studies. An Oregon study of recreational boating found that the average boat was used 28.4 days per year (Vars, 1979). A Delaware study estimated 34 days per year for the average boat (Falk, 1987). And, a 1972 California study that surveyed 8,900 boat owners shows median boat use of 28 days per year and mean use of 38 days per year (California Department of Public Works, 1972).

In each case study area, the number of person-days of recreational boating was determined both for berthed boats and for launched boats trailered in from outside the marina. Use of berthed boats was estimated by multiplying the number of berthed boats times the average use of 83.5 person-days per boat. The number of

launches was estimated separately at each case study marina, either from financial records (if there was a fee for launching) or from discussions with the harbormaster's office. The harbormasters also estimated the average number of people per launched boat, and this number was multiplied by the number of launchings to derive person-days using launched boats.

In determining how recreational boater spending affects local economies, the next step was to estimate the proportion of boating person-days that have a net impact on the local economy. Some of the person-days represent trips by people who live in the local community. We assume that these local people might make their recreational expenditures locally even if the marina were not there. Hence, for the purpose of calculating the economic impact of boating on the local community these local recreation trips are excluded. A California Department of Parks and Recreation survey (Arnold, 1982) found that approximately 35 percent of all boating trips originated locally, or within one hour of their destination. We have used this data to determine the proportion of non-local boating trips (64.99 percent.)

C. Total Boater Spending

The total boater spending that impacts the local economies were calculated by multiplying the daily spending profiles for each marina by the number of non-local boating person-days at that marina. The resulting spending estimates show the amounts spent on various goods and services as a direct consequence of the marina's presence in the local community. These estimates are presented in Tables 8, 13, 18, and 23.

D. Percent Spent Locally

The total boater spending defined above includes all spending by non-local boaters engaged in boating. Some of this spending, such as some grocery purchases, typically occurs close to home (hence, away from the marina). Other boater spending, such as boat fuel purchases, typically occurs closer to the marina. We used data from a survey of Texas coastal boaters (Ditton, 1980) to determine the percentage of each type of spending category that occurs close to the marina, and thereby impacting the local economy. The percentages for each category are:

<u>Spending Category</u>	<u>Percent Spent Locally</u>
Boat Fees	100%
Equipment Rental	100%
Auto Repair/gasoline	50%
Boat fuel (berthed boats)	100%
Boat fuel (trailerred boats)	36%
Restaurant	64%
Groceries	29%
Lodging	100%
Public Transport	80%
Other goods	61%

Total boater spending was multiplied by the above percentages spent locally to calculate the total local spending.

APPENDIX B: INPUT-OUTPUT ANALYSIS

Recreational boaters purchase goods and services both from the boating-related businesses (e.g., boat dealers, marinas, and boating supply stores) and from non-boating business outlets (e.g., restaurants, grocery stores, gasoline service stations, and hotels). All of this spending results in a "direct" effect on California's economy, and the direct economic effects are reported in the main text of this study and in the tables on "Lessee and Marina Estimated Employment, Payroll and Gross Receipts" and "Spending Per Visitor-Day and Total Recreational Spending."

The direct spending, however, also results in increased purchases from other companies that supply the businesses serving boaters. For example, a boating supply store purchases its merchandise from a variety of suppliers of goods and services such as utilities, insurance companies, banks, real estate companies, etc. All of the purchases indirectly stimulate the economy; hence, these effects are known as "indirect" effects of the original boater spending.

Input-output analysis provides a systematic means for evaluating the indirect effects of boater spending. In input-output analysis, all of the "inputs" to (purchases by) a business are traced to the "outputs" (sales) of the firms that produce those inputs. The firms producing goods or services that are used by boating industry businesses in turn need to purchase services and supplies themselves. Input-output analysis traces all rounds of purchases, thereby determining the total direct plus indirect effect of boater purchases.

Input-output analysis is used to show three types of direct plus indirect effects. First, it shows the overall change in business activity (gross output) caused by direct boater spending. This overall change includes both direct and indirect effects - that is, both the effects on boating businesses and non-boating businesses serving boaters, as well as the effects on all the companies that service and supply these directly affected businesses. The direct plus indirect effects on business activity are summarized as a "gross output multiplier." For example, a gross output multiplier of 2.0 would indicate that for every additional \$100,000 of boater spending, the total output of all industries in the area would increase by \$200,000.

Second, input-output analysis shows the direct plus indirect effects on employee earnings. An "earnings multiplier" shows the effect that boater spending has on earnings in all industries within the relevant area. For example, an earnings multiplier of 0.9 would indicate that additional boater spending of \$100,000 would increase employee earnings in all industries by \$90,000.

Third, input-output analysis shows the direct plus indirect effects on employment with "employment multipliers." Employment multipliers indicate how many jobs are created for each \$1,000,000 of new spending. For example, an employment multiplier of 30 implies that \$100,000 in boater spending would generate 3 new jobs within the region.

Input-output multipliers are specific to each economic area. Businesses in large, relatively self-sufficient economic areas such as the Los Angeles area can find local sources for nearly every service and supply they need. There is little that they need to "import" from outside the Los Angeles area. In contrast, smaller economic areas such as the Eureka-Arcata-Crescent City area produce a much smaller percentage of the overall assortment of goods and services that their local businesses require. Hence, many of the goods and services bought by local businesses are supplied by companies outside the local area, and the money paid to those non-local companies "leaks" from the local economy and is not available to sustain other local industry. For this reason the multipliers in less self-sufficient areas are smaller than those in larger, more self-sufficient areas. In evaluating the economic impacts for the case studies, this report uses input-output multipliers developed by the U.S. Bureau of Economic Analysis for regions throughout the United States. California is divided into eight regions that reflect the various subeconomies in the state. Each of the four case studies falls in a different region so the multipliers are different for each case study. Table B-1 shows the input-output multipliers used in this study for different regions of California.

The gross output multipliers in Table B-1 are from the Bureau of Economic Analysis report on sub-state economic areas (1977). That report did not provide earnings and employment multipliers, so we developed these from a more recent Bureau of Economic Analysis report covering California as a whole (1986). The statewide

TABLE B-1
CALIFORNIA BOATING INDUSTRY
INPUT-OUTPUT MULTIPLIERS IN CASE STUDY AREAS

CASE STUDY AREA	MULTIPLIER TYPE	SECTORS									
		FISH PROCESSING	FOOD PROCESSING	PETRO- LEUM	TRANSPN EQUIPMENT	OTHER MNFG	TRANSP/ COMM/UTIL	TRADE	F.I.R.E.	SERVICES	HOUSEHOLDS
LONG	GROSS OUTPUT	2.070	2.920	3.551	3.652	3.294	3.007	3.478	2.672	3.670	1.333
BEACH	EARNINGS	0.709	0.640	0.499	1.181	0.919	0.436	1.356	0.311	1.092	0.401
	EMPLOYMENT	41.9	32.3	22.1	48.8	50.6	18.0	84.8	22.5	67.7	23.9
SAN	GROSS OUTPUT	1.959	2.363	2.223	2.747	2.853	2.739	3.284	2.510	3.374	1.333
LEANDRO	EARNINGS	0.671	0.518	0.313	0.888	0.796	0.397	1.281	0.292	1.004	0.401
	EMPLOYMENT	39.7	26.1	13.8	36.7	43.8	16.4	80.1	21.2	62.2	23.9
SACRAMENTO	GROSS OUTPUT	2.175	2.485	1.587	2.032	2.060	2.080	2.536	1.941	2.553	1.333
	EARNINGS	0.704	0.544	0.223	0.657	0.575	0.301	0.989	0.226	0.760	0.401
	EMPLOYMENT	34.3	27.4	9.9	27.2	31.7	12.5	61.9	16.4	47.1	23.9
CRESCENT CITY	GROSS OUTPUT	1.545	1.994	1.614	1.935	1.883	1.939	2.301	1.690	2.299	1.333
	EARNINGS	0.529	0.437	0.227	0.626	0.525	0.281	0.897	0.197	0.684	0.401
	EMPLOYMENT	31.3	22.0	10.1	25.9	28.9	11.6	56.1	14.2	42.4	23.9

SOURCE: U.S. BUREAU OF ECONOMIC ANALYSIS, 1984; U.S. BUREAU OF ECONOMIC ANALYSIS, 1977; DORNBUSCH & COMPANY

earnings and employment multipliers for each sector were adapted to each region by multiplying them by the ratio of each region's gross output multiplier to the statewide gross output multiplier. For example, the Sacramento area earnings multiplier in the "Services" sector is derived by multiplying the statewide earnings multiplier for "Services" times the ratio of the Sacramento gross output multiplier for "Services," divided by the statewide gross output multiplier for "Services":

California earnings multiplier for services:	.695
times: Sacramento gross output multiplier for services:	X 2.553
<u>divided by: California gross output multiplier for services:</u>	<u>/ 2.336</u>
equals: Sacramento earnings multiplier for services:	.760

This method essentially assumes that earnings and employment maintain a constant relationship to gross output across the State -- a common assumption made in input-output analysis.

Household multipliers for each region were not available from the Bureau of Economic Analysis report on substate multipliers (1977). The statewide household multipliers from the 1986 Bureau of Economic Analysis are used in all regions.

In Table B-1 the multipliers for each sector generally reflect the size of the economy in which the case study marina is located. The Long Beach area multipliers, reflecting the Los Angeles area economy, are the largest in all sectors. San Leandro's multipliers, representing the Bay Area, are typically second-largest, followed by Sacramento's and Crescent City's. In food processing, however, Sacramento's multipliers exceed San Leandro's, due to the concentration of agricultural industry around Sacramento.

Many of the boating industry's receipts are represented adequately by one of the sectors shown in Table B-1. For example, boat manufacturing is represented by the "Transportation Equipment" sector, and boat rentals by the "Service" sector. For some boating businesses, however, no single sector for which multipliers were available is sufficiently representative. The spending in these sectors was split into components that could themselves be represented by the sectors in Table B-2.

Retail outlets especially, such as retail sales, restaurants and fuel dealers must be divided into their components. One reason is the way input-output analysis treats retail sales. Only the "margin" or value-added in retail sales is assigned to the "trade" sector. The value of the goods purchased by the stores and later resold is assigned to "manufacturing," and the value of shipping is assigned to "transportation." Table B-2 presents the percentage breakdown of "direct" sector receipts by "constituent" sectors according to data provided by the U.S. Bureau of Economic Analysis.

Table B-2
DIRECT SECTOR COMPOSITION OF CONSTITUENT SECTORS

DIRECT SECTOR		CONSTITUENT SECTORS
---------------	--	---------------------

RESTAURANTS	28.82%	Food processing
	3.71%	Other manufacturing
	4.14%	Transportation
	5.82%	Trade
	4.12%	Finance, insurance, real estate
	5.59%	Service
	40.46%	Households
	11.74%	Miscellaneous
RETAIL	65.70%	Other manufacturing
	1.50%	Transportation
	2.80%	Trade
FUEL DEALERS	67.03%	Petroleum refining
	2.25%	Transportation
	30.72%	Trade
GROCERIES	65.70%	Food processing
	1.50%	Transportation
	32.80%	Trade

Source: U.S. Bureau of Economic Analysis, Survey of Current Business, 1984.

Note also that in Table B-2 a substantial portion of "Restaurant" purchases are from the "Household" sector. These purchases represent wages, salaries and profits paid to employees and owners of restaurants. In the case studies, marina expenditures are also divided into constituent sectors, including households. These payments to households generate indirect effects when the wage-earners spend their earnings on goods and services.

For all businesses that are represented by an input-output sector (such as boat manufacturing being represented by transportation equipment manufacturing) the input-output multipliers will reflect the degree to which service and supply purchases are made within the local economy. But the retail outlets above are separated into their components before being entered into the input-output model (as per Table B-2), and we must provide the degree to which these business constituents are purchased locally. For example, grocery businesses are treated as being composed of 65.7 percent food processing, 1.5 percent transportation and 32.8 percent trade.

The local component is essentially 100 percent for many of the above constituent sectors. The trade and transportation was considered to be 100 percent local, although some minor amounts may in fact be purchased from outside the area. For the manufacturing and food processing sectors, however, the local content is considerably below 100 percent and differs by area. The local components used for food processing, other manufacturing, and petroleum refining for the case studies analyses are shown in Table B-3:

The input-output analysis of the hypothetical marina uses the same local components as those for the Sacramento case study.

**Table B-3
PROPORTION OF LOCAL CONTENT**

Case Study Area	-----Component Sector-----		
	Food Processing	Other Mfg	Petroleum Refining
San Leandro	0.20	0.20	1.00
Sacramento	0.10	0.10	0.00
Long Beach	0.25	0.25	1.00
Crescent City	0.10	0.05	0.00
Statewide CA	0.30	0.30	1.00

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