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ECONOMIC IMPACT OF BLUEBELTING INCENTIVES ON THE MARINA INDUSTRY IN FLORIDA

by

Frederick W. Bell



**FLORIDA
SEA
GRANT**
COLLEGE PROGRAM

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EXECUTIVE SUMMARY

In 1983, a Blue Ribbon Marina Committee was appointed by the governor of Florida to investigate problems encountered by water-dependent activities in the state with an emphasis on marinas and recreational boating. They concluded that more and more of the waterfront is being developed for private as opposed to public access. The Committee recommended that the legislature establish a "Bluebelt" ad valorem tax relief mechanism for the encouragement of water-dependent facilities to offset the conversion of the waterfront to value-enhanced activities such as condominiums and restaurants. The main focus of this report is to investigate the economic benefits, cost and limitations of all forms of bluebelting for the marinas in the State of Florida.

The term bluebelting is derived from the practice of granting tax relief to farmers to preserve agricultural land. The tax relief is termed greenbelting. This practice started in Maryland in 1956 and granted farmers differential property tax assessment. Many lessons can be learned from greenbelting in applying the concept to marinas. Although use-value assessment is the most common in greenbelting, other tax relief schemes are also available. Use-value assessment attempts to establish the value of land in a particular use rather than the highest and best use sometimes called just value. Preferential tax assessments in agriculture can be given in conjunction with deferred taxation or restrictive agreements. In the former case, taxes must be repaid (sometimes with interest) if the agricultural producer converts the land to nonagricultural uses. This is called a rollback. Restrictive agreements require the landowner to enter a contract for a specified time period, agreeing that the land will be maintained in agriculture in exchange for use-value assessment. A rather recent development in greenbelting is the Purchase of Development Rights (PDR) where

the government pays the difference between the market value and the agricultural value of the land. Farmers may be attracted to such a program because they can retain ownership of the land, sell their development rights and use the money from the sale as they desire. These greenbelting alternatives will be applied to the marina industry in Florida.

A survey of the 23 U.S. coastal states revealed that only one actual bluebelting law exists. The Boatyard Preservation Act was enacted by the State of Massachusetts in 1986. Borrowing from greenbelting incentives, this act uses PDRs as a method to preserve water-dependent activities. No preferential tax incentive in the form of use-value assessment is provided in this act. That is, boatyards would still continue to be assessed on the property's highest and best use. Rhode Island is moving in the PDR direction while Connecticut favors use-value taxation although neither has passed laws regarding water-dependent activities as of the writing of this report. Florida has some small incentives for water-dependent activities that give unrestricted access to the public in the form of reducing submerged land fees. Also, Florida's new Comprehensive Planning Act dictates that priorities should be established to provide for siting water-dependent uses such as marinas. In essence, few states have moved toward bluebelting as revealed by the survey.

There are an estimated 1,982 marinas in Florida, of which 1,545 are characterized as saltwater. The average occupancy rate at saltwater marinas in Florida is 85.5 percent and considerably below those found by the Blue Ribbon Marina Committee. However, 28 percent of marinas in Florida had waiting lists, indicating excess demand in some areas for particular marinas. Marinas reported that land prices have increased about 12 percent annually over the last 10 years. This presents a two edged sword of an appreciating asset, with increased property taxes impinging upon marina profits. Over the next five years, one-third of marina owners thought they would sell their marina land to other

interests to realize capital gains. Over a third of the marina owners felt wet slip expansion was next to impossible. The remainder of the marina owners felt that traditional "mom and pop marina" was an endangered species and to adjust to increasing land prices would mean either adding new profit centers or merging with non-water-dependent activities.

Five forms of bluebelting were considered. Preferential property tax incentives would reduce property taxes for the typical Florida marina by almost 80 percent using a capitalization rate of 10.39 percent. The effect would be to raise the rate of return on assets from 2.13 to 3.39 percent. With a 25 percent net worth (equity) this would raise the rate of return on equity from 8.52 to 13.56, which might induce many marinas to remain as water-dependent activities.

The bluebelting option of a restrictive agreement which is patterned after the greenbelting Williamson Act in California would be especially attractive to marina operators that do not need instant liquidity. Under this agreement, the marina operator would receive preferential tax assessment for a defined period such as 10 years. The operator could give second notice to end the agreement at the end of, for example, the second year and preferential tax incentive would be phased out, becoming zero in the seventh year. This type of restrictive agreement has two important advantages. First, there is no tax rollback. Second, the property will continue to appreciate during the period of the contract. In exchange for these concessions, the marina owner cannot convert his property for 10 years from the date of non-renewal and the tax savings are progressively diminished from such date.

Exclusive water-dependent zoning even with preferential tax assessment would probably result in net losses for the marina owner since he would be precluded from selling or converting his property to other uses. Any capital gains would be lost.

Nonexclusive zoning would be more advantageous to marina owners, but the uncertainty of zoning boards introduces business risk.

The PDR is already in practice in Massachusetts. Government would pay the difference between the just value and the water-dependent value of a marina. This has many advantages for the marina owner. First, he gets instant liquidity from his marina that can be reinvested elsewhere. Second, he keeps the profits presently derived from all marina assets even though the government may have bought 80 to 90 percent of such assets. The rate of return on equity will increase considerably. This effect will go a long way in off-setting the inability to sell the marina to non-water-dependent activities.

The fiscal impact of preferential tax assessment would be a reduction in the tax base of the counties throughout Florida. The largest reduction in the tax base would be the Southwest and South Florida planning regions where marinas now constitute an estimated 2.53 and 1.04, percent respectively, of the tax base. These percentages would drop to .23 and .14 under preferential tax assessment. On a statewide basis, the tax base would drop from .76 percent to .14 percent. Such an impact would not be too severe for county governments since their property tax base does not provide all revenues (e.g., state). From a fiscal impact standpoint, PDRs would be the most expensive to counties in the initial few years while other schemes would cost more in the long run.

Finally, a preliminary benefit-cost analysis was made of the preferential tax assessment scenario suggested by the Blue Ribbon Marina Committee. On the cost side, it was assumed that all marinas would participate in the tax reduction without a rollback. This was viewed as reasonable since all farmers in Florida that have qualified agricultural land participate. The annual cost was estimated at about \$23 million of tax relief for marinas. If a bluebelting program were in place, what benefits

would accrue to boaters? This critically depends on the number of marinas that would gradually reduce boater access via selling out or merging with activities that restrict boater access (dockominiums). We assumed that 50 percent would be in this category and then calculated the number of boater days that would be diverted from marinas to boat ramps without bluebelting. The estimated figure was 11.3 million days multiplied by the difference in user value (i.e., value of a recreational day's attributes) between the use of a marina as opposed to a boat ramp of \$2.94 per day. Benefits were estimated at \$33.2 million with a benefit cost ratio of 1.45.

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During the course of this research, we conducted a workshop for marina owners, government officials and those interested in marina research. Drs. Marion Clark and Charles Adams were very helpful in organizing this workshop. The attendees were very responsive to the interim results of the bluebelting study. Mr. Neil Ross, President of the International Marina Institute, served as an inspiring catalyst for this workshop. Finally, Dr. James Cato, Florida Sea Grant Director, was very helpful in encouraging this project as a natural progression of the Blue Ribbon Marina Committee of which he chaired. Dr. Cato is certainly the father of the term "bluebelting" as it applies to marinas. Also, thanks go out to Daniel R. Talhelm of Michigan State University, who was one of the two peers who

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Dr. Frederick W. Bell

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CHAPTER 1
Introduction

Florida is a boating state. In 1987, Florida had 644,813 registered pleasure boats which ranked it fourth in the United States in boats registered trailing only Michigan, California and Minnesota (NMMA, 1988). There is one Florida registered boat for each eight households. The coastal areas and inland waters of Florida have created immense recreational opportunities for fishing, diving, skiing and cruising not only for the resident population, but for a large number of tourists as well. The recreational boating industry has generated income and jobs for Floridians (this is discussed in some detail in Chapter 4). In addition to the recreational industry, Florida manufactures and sells pleasure boats, ranking number one in sales in the nation. In 1987, the National Marine Manufacturer Association (NMMA), (1988), reported that Florida sold over \$1 billion in boats, outboard motors, boat trailers, and marine accessories.

There has been a growing concern over one obstacle to the growth in boating recreational opportunities, specifically boater access to the waterways. For example, the First National Boating Water Access Conference was held in 1986 (Proceedings, September 14-16, 1986, Roseville, Michigan). Rounds (1986) has argued that the national demand on a peak day for boat lanes (ramps) is nearly 72 percent greater than supply. Of course, boaters may gain access to waterways via marina storage as well as trailering their boats to boat ramps. Thus, marinas may serve both a storage and a boating access function. In 1983, a Florida Blue Ribbon Marina Committee (1983) concluded:

"Florida's coastline, and the shoreline of the state's navigable lakes, rivers, and streams represent an extremely valuable asset. The resources provide recreational opportunities for the public and are renewable in many ways. However, Florida's environment is limited in its capacity to support human activities without some damage to the environment." (p. 5)

The Blue Ribbon Marina Committee cited some preliminary studies of the marina industry in Florida. For example, in 1981, the wet slip occupancy rate in public marinas was over 95 percent and for private marinas 93 percent. The Committee concluded that this occupancy rate indicates complete wet slip utilization. Like most other waterfront users, the marina industry faces competition for land on which it relies. Despite the expansion in boating, the marina industry has experienced escalating land values and it is alleged that use of the waterfront areas for marinas is unprofitable. Thus, it is further alleged that more and more of the waterfront is being developed for private as opposed to public access. Over the two-year time period of 1980-81, Milon et al (1983, a) reported that a sample of Florida marinas earned less than one percent on the market value of their net worth. From other Gulf of Mexico states, Crompton and Ditton (1975) report that "...the primary restriction upon the future development of marinas along the Texas gulf coast is the unsatisfactory level of return on capital invested." (p. 9).

The very existence of private marinas has been threatened by two fundamental factors. First, the escalating land prices have brought with them an increasing tax burden for waterfront facilities. For example, land cost for residential development has increased 54 percent in Monroe County, Florida over the last seven years. As early as 1975, the rise in land prices, and particularly their present high levels, represented one of the major factors restricting the development of new marina facilities according to Crompton and Ditton (1975). Second, condominiums and other residential waterfront developments are anticipated to displace marinas via outright purchase and/or rendering marina services relatively unprofitable through the competition for land. This situation has been observed in Texas as well as Florida. According to Crompton and Ditton (1975), they state, "In light of this evidence the only type of marina likely to be promoted by private enterprise is one that is

associated with real estate development." "...the potential of these marinas is lost as many are for the exclusive use of the resort property owners." (p. 9).

The Blue Ribbon Marina Committee recommended that a statewide marina policy be adopted that recognizes the tremendous value of the submerged lands of the state. They said it should be the policy of the state to preserve the ability of the states' waters and submerged lands to meet public demand for food, recreation and transportation. However, by 1970, Florida began to lease submerged lands which impacted the marina industry in terms of rising land cost. The Committee recognized that there should be a differential between water-dependent and non-water-dependent uses, with substantially higher charges for non-water-dependent uses.

In an attempt to mitigate the submerged land fees and encourage water-dependent activities, the Blue Ribbon Marina Committee recommended,

"...that the Legislature establish a "Bluebelt" ad valorem tax relief mechanism for the encouragement of water dependent facilities and in recognition of the fact that land management for sovereign lands resides primarily at the state rather than at the local level. Improvements located on sovereign lands under authorization by the Trustees of the Internal Improvement Trust Fund should be exempted from ad valorem taxation." (p. 21).

The term bluebelting is derived from the practice of greenbelting in agriculture where property assessment of farmland is based on its value for agricultural production rather than its highest value use (i.e., market value). According to Dunford and Marousek (1981), 47 states had enacted greenbelting to discourage the conversion of farmland to more intensive use. As used here, the term bluebelting applies to preferential property assessment for marinas and other water-dependent economic activities based upon value in present use (i.e., marina services) rather than market value. The definition of

bluebelting may also include prioritizing land use where marinas are given higher priority ranking in waterfront areas and the PDRs for marinas by state government as alternatives to ad valorem tax relief. Such bluebelting variations are considered in Chapter 3. Finally, what is the economic justification for bluebelting? Why cannot boaters via marinas compete for waterfront space? Boaters are not poor people, especially those who have crafts large enough to require wet slips. That is, why cannot rental rates and other marina services be priced such that marinas are competitive for space with condominiums? Economists argue that there is a rationale for parks and other public goods uses (e.g., viewing or walking along the waterfront). Such opposing views to bluebelting are considered in Chapter 8.

The rationale for this report is to evaluate the economic impact of bluebelting laws in resolving financial problems facing the private marinas, and more generally, the boating public that relies on access through marinas and other means (e.g., boat ramps) to public water. In Chapter 2, we shall look at the experience in agriculture with various forms of greenbelting. This will give us some idea of what we can learn from agriculture. In Chapter 3, we shall review some proposed and enacted forms of bluebelting from a survey of other states. Next, Chapter 4 will make an analysis of the economic importance of the marina industry in the State of Florida. To adequately address the marina industry, Chapter 5 provides a profile of the Florida boater and assesses the degree to which boaters rely on marinas for storage and access to the waterway. In Chapter 6, future marina demand in Florida is estimated and how it may influence public access to the waterways. Chapter 7 discusses marina adjustment to escalating land prices without bluebelting incentives. Finally, if bluebelting laws are introduced, how will such incentives impact the marina industry and boater access? This is the subject matter of Chapter 8.

CHAPTER 2

Land Use Policy in Agriculture

Introduction

Land use policy is not a new phenomena in the field of economics. For example, in the early 19th century, agriculture accounted for a major portion of the United States and world output. Early resource economists concluded that a county's economic growth might be adversely impacted if agricultural lands were reduced. This argument has given way to other reasons why land use policy should give agriculture special consideration. It is argued that farmers pay a disproportionate amount of property taxes compared to other groups. This is because income from farming is low relative to the amount of land required and farmers use proportionally less of the public services provided from tax revenue. The market price of farm land is frequently above the price that could be justified solely on income generated from agriculture. This is especially true at the urban fringe where urban development competes with agricultural use. This situation was disturbing not just to farmers who saw the sale of their land as the only escape from rising taxes, but also to community leaders who viewed the conversion to urban development as destructive of desirable open spaces and an inducement to urban sprawl. Conceptually, the transition of agricultural land to forms of urban development is similar to the conversion of water-dependent activities such as marinas, boat repair yards, and commercial fish packing houses to condominiums, dockominiums and restaurants. Hushak (1975) has developed a demand function for land at the urban-rural fringe and its implication for zoning.

To insulate farms from the real estate market and to achieve some degree of land use planning, many states have enacted use-value assessment programs to balance the amount of property

taxes paid with the ability to pay. Beginning with Maryland's initial effort in 1956 to reduce tax burdens through differential property tax assessments on its farmers, state and local governments have undertaken 25 years of creative experimentation in ways to protect farms and agricultural land. Nearly all of the activity has taken place since 1970. The purpose of this chapter is to see what we may learn from various forms of greenbelting which may be applicable to the analogous concept of bluebelting which deals with the land competition between water-dependent activities (e.g., marinas) and water-enhanced activities such as condominiums.

Use Value Assessment

Preferential property assessment have been authorized in 17 states according to Clouser and Mulkey (1982). Land eligible for agricultural assessment is taxed according to income-earning potential in agriculture rather than according to market (just) value. Coughlin et al (1978) argue that differential assessment programs are partially offset by increases in tax rates necessary to make up potential losses in revenues. They say, "If it complements other measures, differential assessment may be useful keeping land in open uses -- by itself, it is not sufficient." (p. 165).

In Florida, the income approach or capitalization of net earnings to land as an indication of value is that recommended to appraise those properties given agricultural classification in accordance with Section 193.461, Florida Statutes (F.S.) (1975). The capitalization rate expresses the relationship between net income to the land and value. To estimate the capitalization rate, the State of Florida recommends the Band-of-Investment method. This method uses mortgage debt financing information to estimate a capitalization rate by weighing the fractional rates of mortgage and equity. An example of the Band-of-Investment method can be illustrated as follows using hypothetical figures:

<u>Kind of Investment</u>	<u>Percent of Total Investment</u>		<u>Yield on Investment</u>		<u>Weighted Yield</u>
Mortgage	70%	X	10%	=	7.0%
Equity	30%	X	14%	=	<u>4.2%</u>
Total Capitalization Rate					11.2%

Data to estimate the capitalization rate can be obtained from the Federal Land Bank.¹ To arrive at net income, subtract the production cost per acre (TC/A) from the gross income per acre (Y/A) to arrive at the net income per acre (NY/A). Clouser and Muraro (1983) suggest that a five-year average of income and costs be used to derive a representative net income in citrus production. They further indicate that interest on the citrus grove investment and county ad valorem taxes shall not be included in production cost since these cost items are reflected in the capitalization rate (see footnote 1). The value of the land in agricultural use can now be estimated as follows:

$$\text{Value Per Acre} = \frac{(Y/A) - (TC/A)}{\text{Capitalization Rate}} \quad (1)$$

Equation (1) is the basic formula used to implement use-value assessment. This basic equation could be used for any economic pursuit such as running a marina (discussed in Chapter 8).

¹ The individual county ad valorem millage rate, expressed as a percentage, should be added to the discount or capitalization rate unless ad valorem taxes are handled as an expense item when estimating net income.

According to Clouser and Mulkey (1982), it was estimated that preferential agricultural tax assessment in Florida reduced ad valorem property tax payments on the state's classified agricultural land by \$117 million in 1979. This entire tax deduction did not accrue to agriculture producers since many land parcels that are eligible for this tax break were not involved in commercial agricultural production. Dunford and Marousek (1981) indicate that nonparticipating property in rural areas with extensive greenbelting incurred a larger tax increase due to the use-value assessment program than nonparticipating property in urban areas of the same county in the state of Washington. Such equity effects should be noted from this literature.

There have been other variations on the preferential tax assessment technique such as (1) deferred taxation and (2) restrictive agreements. With deferred taxation, the agricultural producer will receive use-value assessment until he converts the land to nonagricultural uses. At this point, the agricultural producer must pay the difference between taxes that would have been paid without use-value assessment and taxes actually paid with the tax break. This is called a rollback and it is also enacted with a repayment of taxes with interest. Florida does not have a rollback provision with its use value assessment program. Restrictive agreements require the landowner to enter a contract for a specified time period, agreeing that the land will be maintained in agriculture in exchange for use-value assessment. For example, California's Williamson Act of 1967 attempts to preserve farmland by entering into a contract whereby farmers receive tax relief in exchange for a written agreement to keep their land in agriculture for 10 years. Milon, Clayton and Graham (1980) state that this "... legislation has had little impact on the rate of land conversion." (p.3). This conclusion is also reached by Schwartz et al (1976) especially at the urban fringe. Finally, Carman and Polson (1971) indicate that most land under the Williamson Act was probably in no danger of being converted to nonagricultural use. They say "The small

proportions of land sign-ups adjacent to incorporated areas indicate that the Williamson Act is not yet accomplishing its objective..." (p. 455). Farmers near the urban fringe regard the 10-year provision as unduly restrictive which may preclude the sale of agricultural lands for capital gains. The California experience is similar to that existing in many states and especially Florida. Population growth has increased the market value of agricultural land. Use-value assessment programs have failed to offset the economic benefits from land appreciation to agricultural land owners; therefore, little land retention has been achieved. This is an important lesson from agriculture that must be considered when analyzing the effectiveness of bluebelting for marinas.

Exclusive Agricultural Zoning

Zoning represents another alternative land maintenance program offered by the government. Coughlin et al (1977) identified 27 state legislatures enacting legislation granting local units of government the authority to establish exclusive agricultural zones. Such zones may be exclusive or nonexclusive. In the latter case, such zoning does not prevent the conversion of farmland to other uses, as long as such conversion is approved by a local zoning board. Exclusive zones often permit land use that does not compete with agriculture or provide a service of value to the agricultural zone. After a survey of such zoning, Coughlin et al (1977) concluded that the success of agricultural zoning can be attributed to a low level of demand for land development. The major monetary benefit to agricultural producers is reduced property taxes through participation in the program, if the exclusive zoning program is linked to tax relief. Milon, Clayton and Graham (1980) state, "It is not unreasonable to assume that loss of land market options for agricultural producers through restricted sales would result in financial cost greater than benefits received through preferential tax assessment." (p. 12).

A variant of agricultural zoning is the establishment of agricultural districts. In this case, a single farmer or several farmers form an agreement with a unit of government (e.g., county) to retain farmland in agricultural use in exchange for tax incentives such as preferential assessment and nontax incentives. In New York, agricultural districting programs have been fairly successful. Farmers are attracted to such by four reasons: (1) to reduce taxes; (2) to prevent the conversion of agricultural land; (3) to form a community of farm neighbors, and (4) to prevent restrictive ordinances by local government. Typically, the nontax incentives limit those rules and regulations by state and local government which have negative impacts on the agricultural sector (e.g., restricting development in areas adjacent to agricultural districts). Finally, states establishing such districts do not require the repayment of tax breaks (rollback) when land is converted to nonagricultural uses.

Purchase of Development Rights

PDRs are built around the concept that real estate ownership includes possession of a "bundle of property rights." PDR programs envision the property owners selling the development right, typically to a unit of government. Private ownership of the land (i.e., all remaining "bundles of rights") and profits from land use remain with the property owner. The value of the development right is usually defined as the difference between the market value and the agricultural value of the land.

Farmers may be attracted to the program because they can retain ownership of the land, sell their development rights and use the money from the sale as they desire. Clouser and Mulkey (1980) state, "It appears that in areas where PDR programs have been adopted they are capable of attracting farm participants." (p. 18). As will be seen in Chapter 3, a PDR program for boatyards has been introduced in Massachusetts (discussed in

some detail below). The principal drawback to PDR programs is the uncertainty of future capital gains via land appreciation. If there is an expectation of rapid land price escalation such as what generally exists in Florida, land owners (e.g., farmers) may not be attracted to selling their development rights.

This brief survey of greenbelting has indicated mixed results in the attempt to preserve agricultural land. But, it does give one a background in which to study the potential of bluebelting. The techniques used in agriculture are varied and have both differential incentives and corresponding economic impacts. They can be outlined as follows²

1. Use-Value Assessment (unqualified)
2. Use-Value Assessment (deferred taxation or rollback)
3. Use-Value Assessment (restrictive agreement)
4. Exclusive Agricultural Zoning
5. Exclusive Agricultural Districts
6. PDRs

The experience in agricultural will form the basis for this work on marinas.

² A circuit breaker tax program allows for a tax credit on the agricultural producer's state income tax. In Florida, this tax relief would not represent a viable alternative since no state income tax is levied. Thus, it will not be considered.

CHAPTER 3

Forms of Bluebelting

It is important to study any form of bluebelting or water-dependent incentives that are in existence around the country. This may yield some important lessons to be learned before Florida considers enactment of any form of bluebelting legislation that was called for by the Blue Ribbon Marina Committee discussed in Chapter 1. In an effort to gain information, we restricted our universe to the 23 coastal states including Alaska and Hawaii. Most of the marinas in Florida are coastal (i.e., 75 percent) so the survey was limited to so-called saltwater marinas. A survey letter was sent to appropriate state agencies which might have knowledge of any form of bluebelting laws defined as preferential tax treatment for marinas or any kind of water-dependent activities zoning or PDR so such water-dependent activities may better compete with alternative land uses such as condominiums and apartments. The source for the survey letter was the 1987 National Directory of State Agencies. With the exception of Florida, 13 of the 22 coastal states responded to our bluebelting survey. Only three states had plans or pending legislation to engage in some form of bluebelting. What follows is an exposition of how these three states have approached water-dependent issues.

The Massachusetts Plan

The State of Massachusetts passed a "bluebelting" law in 1986. It is called the Boatyard Preservation Act (H.3576). To our knowledge, this is the first form of "bluebelting" legislation established in the United States. The purpose is to help boatyard and marina owners resist the strong economic pressures to sell their properties to developers who would like to develop the land for non-marine-related uses (condominiums, restaurants, etc.).

According to State Representative Lawrence R. Alexander (Marblehead), "Without such a program, the State's coastal areas are likely to find themselves with fewer and fewer boatyards -- and their marine-related shorefront activities significantly diminished forever" (Fact Sheet about H.3576). This legislation would establish a boatyard preservation program similar to Massachusetts' existing farmland preservation program, which, according to state officials, has been an enormous success.

Under this program, a fund would be set up from which the State could, upon application of a boatyard owner and the town or city where the boatyard is located, buy the development rights to a boatyard from its owner. Once the State bought these rights, a boatyard owner and any subsequent owner could only continue to use the property as a boatyard and could not develop the property into another use.

Development rights are defined as being the difference between the fair market value of the property for any use permitted under local zoning, and the fair market value of the property if it is limited to marine construction, storage, and repair purposes. The bill provides for a \$5 million bonding authorization (similar to the amount initially appropriated for the farmland preservation program) to fund the boatyard and preservation program. The program would be administered by the Commissioner of Fisheries, Wildlife, and Recreational Vehicles within the office of the Secretary of Environmental Affairs. A Boatyard Preservation Committee would review applications for funding and choose the most deserving.

This Massachusetts program is known as a PDR as discussed in Chapter 2. PDR programs envision property owners selling the development right to units of government. All remaining "bundles of rights" and profits from land use remain with the property owner. In return, the boatyard (marina) would agree to have a

restriction placed on the deed that would continue use as a boatyard and/or marina into perpetuity. However, there are still objections to the Boatyard Preservation Act by the boatyards in that it does not go far enough. Local taxes are not impacted by the Act. From the boatyard owner's point of view, tax assessments on the highest and best use is "unfair" since they are being taxed at the local level as condominiums and not boatyards or marinas. Many argue that preferential tax assessment plus PDRs are necessary to preserve water-dependent industries. However, under the Massachusetts law, boatyards (marinas) would still continue to be assessed on the property's highest and best use.¹

Rhode Island

A 1986 proposed bill for the purchase of fee simple title or of development rights to coastal resources was not passed by the State of Rhode Island. Under the act, a fund of \$5 million would have been created to enable the Director of the Department of Environmental Management to make such purchases. Development rights are the rights of the fee simple owner to develop, construct on, divide, sell, lease or otherwise change the resource. Under this bill, the Coastal Resources Management Council could recommend PDRs, setting specific restrictions to insure public access as well as aesthetic characteristics of the land. As in the Massachusetts legislation, the value of the development rights would be the difference between the property value for its highest and best use, and its value as a marina. In determining the highest and best use value of the property, the values of comparable properties of unrestricted use shall be considered.

¹ For those wanting more information on what is called the Massachusetts Boatyard Preservation Restriction Program, contact the Executive Office of Environmental Affairs, Boston, Massachusetts.

The value of rights in fee simple would be the value of the property for its highest and best use. The act would have taken effect after approval of a referendum on the bond proposal creating the \$5 million fund. Support for this legislation is still very active.

Connecticut

The State of Connecticut has been considering the impacts of high-priced waterfront land and the development pressure on the recreational boating industry. Substitute House Bill No. 5538, a use-value taxation bill, did not pass in 1986. Under this bill a commercial recreational boating facility would have been assessed based on its current actual use, regardless of the value of the neighboring properties. This bill might be characterized as preferential tax assessment without a PDR.

Public Act 87-474 was passed by the Connecticut General Assembly in 1987 to give municipalities the ability to zone restrictively for existing water-dependent uses. The bill's purpose is to establish separate zoning districts for shorefront lands utilized for water-dependent uses.

Even though most states have not dealt with the pressures on waterfront properties such as marinas and boatyards, three states are moving in this direction. Finally, Florida has some quasi-bluebelting incentives that should be considered.

Florida

(a) Submerged Land Fees Discount. The Florida Bureau of State Lands Management offers a 30 percent discount on the submerged lands lease for marinas with facilities open to the public on a first-come, first-served basis. If membership dues or ownership of an upland condominium or townhouse unit is

necessary to use a wet slip, the marina would not qualify. This policy was instituted beginning August 1983 by Board action (Trustees of the Internal Improvement Trust Fund). This is a mini-bluebelting regulation designed to encourage public access to marina storage.

(b) Local Government Comprehensive Planning and Land Development Regulations Act (Chapter 9J-5). Under this law, public access facilities to shorelands via marinas shall be inventoried. The capacity and need for the above facilities shall be analyzed. Policies should be developed (bluebelting?) to establish priorities for shoreline land uses providing for the siting of water-dependent uses such as marinas. At this time, it is too soon to see if bluebelting would be an adopted policy option. This option is not unknown since it was recommended by the Florida Department of Natural Resources (DNR) in Toward a Proactive Statewide Marina Siting Program (Division of State Lands, April, 1985), but only two county plans have been received by the Department of Community Affairs (DCA).

In the Broward County Plan, expansion of existing marina facilities is preferred over new, while dry stacking (new and old) is encouraged over more wet slips. However, there is no mention of a preferential tax incentive to achieve this county's objectives. The Dade County Plan only calls for a comprehensive study of the need for additional public and private marinas. No incentives for marinas are considered by Dade County nor is there a recognition of the alleged problem of water-dependent industries which the Massachusetts legislation addresses.

Conceptual Forms of Bluebelting

Based upon Chapters 2 and 3, we have discussed the following forms of bluebelting:

1. Preferential Property Tax Assessments

- marina taxed according to income earning potential in renting boat shortage;
- usually, no penalty for conversion to non-water dependent use

2. Deferred Taxation

- rollback provision which requires repayment of preferential tax treatment if marinas are converted to non-water-dependent uses;
- interest charges may be included

3. Restrictive Agreements

- marina owner enters into a contract for a specified period of time, agreeing that land will be maintained in water-dependent use;
- the contract is made between the marina owner and a unit of government;
- those entering into such contracts receive preferential property assessment (as a marina);
- a restrictive agreement can be canceled by the marina owner who is subject to a cancellation fee;
- the state will reimburse local governments for administrative costs and decreased tax collections

4. Exclusive Water-dependent Zoning

- exclusive water-dependent zones based upon police power of government;
- nonexclusive water-dependent zones do not prevent the conversion of such land to other uses as long as such conversion is approved by a local zoning board;
- such zoning will not be effective if there is a high level of demand by water-enhancing entities (e.g., condos, restaurants) for waterfront land supporting water-dependent activities (e.g., marinas);
- tax relief may or may not be afforded the marina such as preferential property tax assessment;

- exclusive zoning with tax relief would probably result in financial cost (i.e., inability to convert water-dependent to water-enhancing activities) greater than the tax saving for marinas

5. Purchase of Development Rights (PDR)

- real estate ownership is a "bundle of rights";
- PDR envisions the marina owner selling the development rights, typically to a unit of government;
- the marina owner retains all remaining "bundles of rights," and profits from the land used for water-dependent activities remain with the marina owner;
- the value of the development right is defined as the difference between the market value and the water-dependent value of the land;
- landowners are supposedly attracted to the program because they can retain ownership of the land with a corresponding profit flow, sell their development rights, and use the money from the sale as they desire;
- as discussed above, Massachusetts has instituted a PDR program for boatyards and marinas;
- PDRs may be very expensive for government especially in Florida where land value increases are very rapid and land used by water-dependent activities may be expected to appreciate very rapidly due to competition from water-enhanced industries, which raise the present value of PDR.

Conclusions

Some have argued that some form of bluebelting is necessary to protect water-dependent activities. Others feel that the free market will lead to the highest and best use of land. Massachusetts, Rhode Island and Connecticut have recognized a need for bluebelting and have or are in the process of establishing incentives for water-dependent activities. These incentives vary from PDR schemes to preferential tax assessment and various combinations of such programs. What we have accomplished is to inventory such programs for consideration in

Florida. It is apparent that the literature on greenbelting has been conceptually used to preserve water-dependent industries. Of course, we must always recognize that the marina industry is not farming. Thus, what will "work" in one sector is not necessarily applicable to another. We must wait to see how the programs discussed in this chapter will work using actual financial data from the marina industry. This will be extensively reviewed in Chapter 8. But, before we jump ahead, we should review the economics of the overall marina industry in the State of Florida.

CHAPTER 4

Economic Impact of the Marina Industry on the Florida Economy

The driving force behind the marina industry in Florida is, of course, the demand for recreational boats. The number of registered pleasure craft in Florida has increased steadily over the 1964 to 1988 period. From 1964 to 1988, the number of registered recreational boats increased from 120,854 to 644,807, an increase of 434 percent as shown in Table 4.1. As an indication of the growing popularity of recreational boating activities, the number of registered recreational boats per 100 residents has also been increasing with 2.1 registration per 100 residents in 1964, 4.7 in 1980, and 5.4 in 1987. Table 4.2 shows the distribution of pleasure craft for the 12 leading counties in the State of Florida. In 1987, Dade, Pinellas, Hillsborough and Broward lead the state in recreational boat registrations with over 23 percent of all boats registered. Recreational boat registrations did not always follow the distribution of population. For example, Monroe County had about seven times the number of recreational boats registered as a percent of population compared to Dade County. This may be due to coastline and/or tourist demand, for example. All 12 of the leading counties with respect to boat registrations are in South and Central Florida. Nearly one-half of all registered boats are in these 12 counties. Without further data, one might be led to the conclusion that the water-dependent industry problem is largely in South and Central Florida. This is certainly a working hypothesis that will be tested with more precise data addressing this issue in later chapters.

Pleasure boat expansion has also enlarged the demand for marina slips. Future projections of marina demand will be discussed in Chapter 6 of this report. In this chapter, we shall

Table 4.1
Recreational Boats, Total Boats, Households Per Boat
and Boat Registration in Per Hundred Residents in Florida
1964 to 1988

	Recreational boats ¹	Total ² boats	Number of recreational boats per hundred residents ³	Households per boat
1964	120,854	148,884	2.1	
1965	128,723	156,349	2.2	
1966	136,706	169,633	2.2	
1967	149,663	181,521	2.4	
1968	164,875	191,634	2.5	
1969	177,323	204,445	2.6	
1970	192,554	221,619	2.8	
1971	208,096	234,093	2.9	
1972	229,426	254,388	3.0	
1973	249,219	273,032	3.1	
1974	254,352	276,134	3.0	
1975	347,306	369,872	4.0	
1976	390,681	417,465	4.5	
1977	403,054	425,722	4.5	8.2
1978	410,174	431,742	4.5	8.4
1979	453,500	473,977	4.8	8.0
1980	460,611	491,727	4.7	8.1
1981	480,864	518,756	4.8	N/A
1982	480,384	N/A	4.6	8.4
1983	499,364	526,495	4.7	8.3
1984	529,436	558,637	4.8	8.1
1985	554,675	585,264	4.9	8.0
1986	583,035	613,531	5.0	N/A
1987	614,189	644,813	5.4	N/A
1988	644,807	675,474	N/A	N/A

¹ Prior to 1975 recreational boats using less than 10 horsepower were not registered. Boats that do not use engines (sailboats, rowboats, etc.) are not included.

² Includes commercial fishing vessels, charter boats, and rental boats.

³ Based on annual population and household estimates from the Bureau of Business and Economic Research, University of Florida. Annual household data not available prior to 1977.

SOURCE: Florida Department of Natural Resources unpublished recreational boat registration data and Bureau of Business and Economic Research, University of Florida, Florida Statistical Abstracts.

Table 4.2
Boat Registrations by County and Comparative Ratios to Population
State of Florida
1987

<u>Selected Counties</u>	<u>Recreational Boat Registration</u>	<u>Percent of State Total</u>	<u>Population</u>	<u>Boat Registration as a Percent of County Population</u>
Dade	44,767	6.9%	1,802,427	2.5%
Pinellas	36,240	5.6	828,700	4.4
Hillsborough	34,967	5.4	801,392	4.4
Broward	34,739	5.4	1,180,985	2.9
Duval	28,602	4.4	664,132	4.3
Orange	25,313	3.9	603,339	4.2
Palm Beach	24,322	3.8	789,533	3.0
Lee	23,027	3.6	293,713	7.8
Brevard	20,651	3.2	371,735	5.6
Sarasota	15,102	2.3	251,253	6.0
Monroe	12,167	1.9	74,523	16.3
Martin	<u>8,287</u>	<u>1.3</u>	<u>88,964</u>	<u>9.3</u>
<u>Selected County Total</u>	304,184	47.8%	7,750,696	3.9%
<u>Other Florida Counties</u>	<u>336,623</u>	<u>52.2%</u>	<u>4,292,912</u>	7.8%
<u>State--Total</u>	<u>644,807</u>	<u>100.0%</u>	<u>12,043,608</u>	<u>5.3%</u>

SOURCE: State of Florida Department of Natural Resources; University of Florida Bureau of Economic and Business Statistics; Florida Statistical Abstract, 1987

look at the economic impact of the marina industry at the most recent point in time. However, before we discuss these latest economic impacts, let us look at retail sales of marine equipment for the U.S. and Florida over the 1980 to 1987 period.

Retail Sales of Marine-Related Equipment

Retail sales specifically attributed to the sales of boats, outboard motors, boat trailers and marine accessories have substantially increased over the 1980 to 1987 period as shown in Table 4.3. On a national basis, the retail sales of these items increased from \$3.2 billion in 1980 to nearly \$8.7 billion in 1987, an increase of 174 percent. The percentage increase was larger in Florida, where total retail sales of these items increased from \$334 million in 1980 to well over \$1 billion in 1987, an increase of 207 percent. Sales of outboard motors represented the largest percentage increase on both a national and state basis. This is due in part to the change in boat fuel availability and price that reduced outboard motor sales in the late 1970's and early 1980's. Of particular significance to the marina industry, boat sales demonstrated the second largest percentage increase at both the national and state level. Such increases in boat sales are consistent with boat registrations shown in Table 4.1 for the State of Florida. Florida's share of the U.S. market for boats, motors, trailers and accessories increased from 10.5 percent in 1980 to 12 percent in 1987. Retail sales of marine-related equipment is but one indicator of recreational boating which also involves other components such as boat manufacturing, marinas and boatyards, and marine services.

Economic Contribution of Recreational Boating Sectors

The five major recreational boating sectors in the Florida economy are boats and trailer manufacturing, boat equipment manufacturing, marinas and boatyards, marine trade and marine

Table 4.3

U.S. and Florida Retail Sales of Boats¹, Outboard Motors,
Boat Trailers, and Marine Accessories
1980 and 1987 (in thousands)

	1980	1987	Percent Change
<u>U.S.</u>			
Boats	\$1,933,780	\$5,606,720	190
Outboard motors	544,400	1,725,828	217
Boat trailers	96,448	188,568	96
Marine accessories	591,900	1,158,400	96
Total	\$3,166,528	\$8,679,516	174
<u>Florida</u>			
Boats	\$ 240,949	\$ 707,377	193
Outboard motors	51,228	223,736	337
Boat trailers	6,857	16,593	142
Marine accessories	34,804	75,516	117
Total	\$ 333,838	1,023,222	207

¹Includes outboard boats, inboard/cruisers, inboard/outdrives, runabouts, non-powered sailboats, and auxiliary powered sailboats.

SOURCE: National Marine Manufacturer Association, Boating 1980, 1988

services. Marinas and boatyards is an important sector since it provides boater access to the waterways as was discussed in Chapter 1. According to Adams and Milon (1987), all these recreational boating sectors directly employed 23,225 in 1985 compared to 15,274 employed in 1980, a 52 percent increase. It should be stressed that these figures represent direct employment, which is the number of employees who produce the total output of each sector.

Indirect employment is created by the sale of goods and services by other state industries to the boating sectors plus the spending of employees in the boating sectors or support industries on everything from haircuts to funeral services. Table 4.4 shows the economic importance of each sector which supports recreational boating. By far, boat and trailer manufacturing employed the most people among the marine boating sectors in 1985, constituting 51 percent of direct employment. Marinas and boatyards rank third in terms of direct employment, but second in terms of total employment created in the state. The recreational boating sectors generated \$1.4 billion in direct output and \$2.7 billion in total output, the latter including direct and induced effects. Some perspective on the size of the industry relative to the Florida economy is in order at this juncture. In 1985, 46,212 employees attributable to the recreational boating sector represented less than one percent of the total Florida labor force of 4.4 million employees. Similarly, the total economic activity of \$2.7 billion generated by the industry was less than one percent of the state's economic output in 1985. The five recreational boating sub-sectors combined are larger than many sectors but considerably smaller than Florida's traditional leading industries: construction, agriculture and, of course, tourism. However, the boating industry is certainly part of the tourist sector.

Table 4.4
Contribution of the Recreational Boating Sector
to the Florida Economy, 1985

Sector	<u>Employment</u>		<u>Total Output</u> (\$000)	
	Direct	Total	Direct	Total
1. Boat and Trailer Manufacturing	11,903	26,066	\$798,126	\$1,687,694
2. Marine Trade	4,340	6,387	311,062	457,759
3. Marinas and Boatyards	4,298	9,287	153,871	395,733
4. Boat Equipment Manufacturing	1,916	3,422	67,802	121,621
5. Marine Services	768	1,050	29,262	37,769
Total Industry	23,225	46,212	\$1,360,124	\$2,700,575

SOURCE: Milon and Adams (1987)
Milon, Mulkey, Riddle, Wilkowske (1983)

Conclusion

This chapter has outlined the economic contribution of the recreational boating industry to the Florida economy. Recreational boat registrations have been expanding at over 18 percent per year over the 1964 to 1988 period.¹ The distribution of registered pleasure boats is heavily concentrated in 12 counties in South and Central Florida. In 1987, Florida sales of boats, motors, trailers, and accessories reached \$1 billion. The boating sector of Florida's economy is important, supporting total (direct and indirect) employment of 46,212, of which 9,287 jobs were generated in marinas and boatyards.

¹ The percentage growth rate may be biased since there was a change in the definition of a pleasure boat in 1975 to include all pleasure boats regardless of horsepower. From 1975 to 1988, boat registration grew at an annual rate of 6.6 percent.

CHAPTER 5

Economic and Social Characteristics of Florida Pleasure Boat Owners

In Chapter 4, it was shown that the number of pleasure boat registrations was rapidly growing in Florida. This trend may place increasing pressure on marinas. However, little is known about the individual boat owner as opposed to the non-boat owner in Florida. Among boat owners, we do not have much information regarding the choice between using a marina or keeping one's boat elsewhere (i.e., home, etc.). We also do not have much of an idea of the value of the boating recreational experience. It is this latter value or economic worth about which the Blue Ribbon Marina Committee was concerned when it considered the competitive pressures on marinas reducing or redirecting (i.e., using boat ramps) boater access to the waterways. To answer some of these questions, a sample of Floridians were interviewed by phone.

The Telephone Survey

The focus of the telephone survey was on those Florida residents (tourists were not included) who owned registered boats. To conduct the survey, the Policy Science Program at FSU was utilized by attaching a series of questions to the regularly implemented statewide public opinion poll conducted in March of 1989. This was a random telephone survey of 1,081 residents of Florida 18 years of age or older. The survey was conducted so that anyone in the household who owned a registered pleasure boat had an equal chance of being selected providing he or she was 18 years or older. This survey technique has a five percent plus or minus accuracy. The reader should be reminded that this was not a survey on boating participation, (i.e., percent of population that participates in boating) but a survey of pleasure boat ownership and the use of marinas by their owners.

In 1989, 13.1 percent of the households owned a registered pleasure boat in Florida according to the telephone survey. In 1987, there were 4,789,135 households in Florida. This would imply 627,377 registered boats which is somewhat less than the 644,807 registered boats reported by the State of Florida for the 1987 to 88 fiscal year (97.3 percent). This is to be expected since many tourists berth their boats in Florida for over 90 days and must, therefore, register their boats. Also, some households have more than one pleasure boat registered. The average pleasure boat-owning household has a 19-foot craft which is not, in general, stored at a marina. Of the Florida pleasure boat owners, only 14.2 percent used a marina for permanent boat storage. This is a somewhat lower percentage than the 16 percent found by Bell and Leeworthy (1984) in 1982. It is important to recognize that on the basis of the 1989 survey, 85.8 percent of Florida boaters do not use a marina; therefore, they probably trailer their boats from home to boat ramps or use a home dock to gain access to waterways. As will be shown in later chapters, boat ramps are a release valve for the pressure of increasing boat registrations and may be an important factor in considering bluebelting legislation which was discussed in Chapter 1.

For those boat owners using a marina for storage, 44 percent used dry racks. According to Bell and Leeworthy (1987), only 39 percent of Florida boaters used dry racks in 1982 and stated, "The sign for income would be consistent with the assertion that wet slips are inferior goods. Thus, as income rises, the conditional probability of using a wet slip falls. Since wet slips use submerged lands, this may have important policy implications." (p. 86). Apparently, the rise in income since 1982 has diverted people away from wet slips as a means of storage. Florida registered pleasure boats are used about equally in fresh and saltwater according to the survey despite the fact that saltwater marinas out number freshwater marinas by a ratio of 3 to 1.

Pleasure boat owners were also asked in the boater survey about how many days they used their boat in 1988. The mean number of days was 45 (maybe most weekends) while the median and the mode of the sample were 30 days per year. On the average, a boating party consists of 3.3 persons. Thus, we are in a position to estimate the number of resident boating days by boat owners in the State of Florida by the following formula:¹

Boating		Boating		Days Boated		Number in
Days =		Households	x	Per Household	x	Boating Party
93,165,485	=	627,377	x	45	x	3.3

Boating days include fishing, diving, skiing or cruising. In a study by Milon (1988), he indicates that the annual mean number of boating days per boat was 20.9 for Dade County residents. This would not be inconsistent with our annual mean of 45 days for all of Florida. Milon states, "The results indicate that saltwater fishing is by far the most popular boating activity with the highest rate of participation and the largest number of activity days." (p. 6). It should also be indicated that we have not included boating days by residents that rent boats and, of course, those boating days by tourists.

The waters of Florida are common property and there is no fee placed on the right to engage in this recreational boating activity. Of course, there is a titling fee of \$5.25 for a pleasure craft with an additional fee of \$1 to record each existing lien. Fresh and saltwater fishing licenses are also required by the State of Florida. We asked boat-owner respondents to our survey the following question:

¹ This estimate is very conservative since the same 3.3 individuals may not participate on each boating day.

Suppose Florida were to impose a fee in addition to your boaters registration fee for using the state's waters. And suppose that fee would be used for increasing law enforcement, boating safety, fishery stock enhancement and reducing pollution in Florida's waters. How much of additional fee would you be willing to pay to use Florida's waters? Please stop me when I get to the largest amount you would be willing to pay each day."

The results indicated that 25.2 percent of the 139 respondents (i.e., boat owners) would pay nothing. Such individuals are sometimes called protesters. The following detailed results were obtained:

Daily Fee for Florida Water Use -- Would Pay by Boat Owners

<u>Daily Fee</u>	<u>Number</u>	<u>Percent</u>	<u>Cumulative Percent</u>
None	35	25.2	25.2
\$ 1 - 2	56	40.3	65.5
\$ 3 - 4	20	14.3	79.9
\$ 5 - 7	18	12.9	92.8
\$ 8 -10	6	4.3	97.1
\$16 - 25	3	2.2	99.3
\$40	1	.7	100.0

Mean: \$1.44 Median: \$1.12 Mode: \$1.00

This contingent value question was meant to obtain the user value of the important attributes of a boating day by residents of the State of Florida. Using the mean user value (\$1.44/day), the total resident benefits from the attributes of boating use of the State's waters for 1988 is \$134.2 million for boat owners (i.e., 93,165,485 x \$1.44).

It may be of interest to investigate the determinants of willingness to pay for these boating day attributes (i.e., law enforcement, boating safety, fishery management and pollution control). We found that the main determinant of variations in the willingness to pay was whether or not the boat owner used

a marina. The following results were obtained:²

Willingness to Pay for Attributes of a Boat Day

- | | | |
|----|------------------------|--------|
| 1. | Does not use a marina: | \$1.22 |
| 2. | Does use a marina: | \$4.16 |

This might be expected since boat owners using marinas may have a greater intensity for boating. Bell and Leeworthy (1987) found that the decision to use a marina was influenced by higher income, greater boat length and relative cost of marina services. Using the data set on boat owners, we found that boat size was the only statistically significant (one percent level) variable influencing the decision on whether to use a marina or not. Boat owners with larger craft might have a greater willingness to pay for a boating day.

Boat Owners Compared to Non-Boat Owners

As indicated above, there were 1,081 respondents in the survey, but only 13.1 percent actually owned a pleasure boat. Table 5.1 shows the socioeconomic characteristics of the entire sample. What we would like to know is whether pleasure boat owners have a different socioeconomic profile than our overall respondents. To analyze the sample, least-squares and logit analyses were used with the binary dependent value used as follows:

²Income, race, sex, years in Florida, use of fresh as opposed to saltwater for boating, days boating per year and number in party were not statistically important variables in influencing willingness to pay for boating day attributes. We use attributes since we regard this as an hedonic approach where the value of a boating day is the sum of its positive attributes.

Table 5.1

The Socioeconomic Characteristics
of Survey Respondents

(Means of 1081 observations)

<u>Age</u>	47
<u>Native Floridian</u>	NO: 73.3% YES: 25.8%
<u>Years in Florida</u>	15
<u>Education</u>	
8 years or less	4.1%
9 - 11 years	9.3%
HS Grad	30.3%
Business - Technical	3.1%
Some College	29.0%
College Graduate	14.2%
Graduate - Professional	9.8%
<u>Race</u>	
White	89.2%
Black	9.7%
Oriental	.2%
Other	.9%
<u>Household Income</u>	\$24,008
<u>Adults in Household</u>	2
<u>Gender</u>	MALE: 45.6% FEMALE: 54.4%

Source: FSU Policy Science Survey Center

- 1 = Pleasure Boat Owner
- 0 = Not Pleasure Boat Owner

The final results are shown in Table 5.2. On the basis of these results, boat owners differ from non-boat owners in the following respects. Boat owners tend to:

1. Have a higher percent of the white race;
2. Have a higher household income;
3. Have a higher percent male;
4. Have larger households measured by number of adults.

In a recent NMMA study (1986), they indicated:

"For the market as a whole, the economics of boat ownership is still the major hurdle to overcome. The majority view boat ownership as highly desirable, but not affordable. Cost is much more of a constraint than time and effort.

The sense of assuming an "onerous responsibility" as a boat owner is nearly as powerful a deterrent as cost.

Time -- to enjoy and maintain -- is a far secondary negative rationalization. Appeal of boat ownership is not weakened by: safety concerns, inexperience, or the sense of being tied down." (p. 102).

Conclusions

An important aspect of bluebelting is how widespread pleasure boat ownership is in the State of Florida. In short, how many households (and people) may be impacted if water-dependent activities such as marinas are converted to water-enhanced activities such as condominiums or restaurants. Through a telephone survey of the residents of Florida, we found that 13.1 percent of the households in the state own a registered pleasure boat. Excluding tourists and boat renters, we are led to conclude that boating is not widely diffused throughout the Florida population.

Table 5.2

Least-Squares and Logit Analysis of Pleasure
Boat Ownership in Florida

(1 = Ownership; 0 = Non-Ownership)

	<u>OLS</u>	<u>LOGIT</u>	<u>Sample Means of Independent Variables</u>
Constant	-.08295 [-1.974]	-4.2884 [-7.8956]	--
<u>Race</u> 1 - White; 0 - Other	.07259 [2.1581]	1.0709 [2.2657]	.88755
<u>Income</u>	.000002 [3.1205]	.000014 [3.1008]	\$31051.71
<u>Sex</u> 1 - Male; 0 - Female	.04582 [2.1700]	.42882 [2.2152]	.45884
Number of Adults	.03834 [2.5575]	.34366 [2.6405]	1.92370
\bar{R}^2	.03178	--	
F	9.1648	--	
χ^2	--	32.296	
Mean of Dependent Variable	.12952 (N = 996)	.12952 (N = 996)	
1 - Own; 0 - Don't Own			
Observations	996	996	

LOG OF LIKELIHOOD
FUNCTION = -365.38

Z = -21.534

Source: FSU Policy Science Survey Research Center

Of even more significance, only 14.2 percent of Florida boat owners used a marina for boat storage. This implies that only 1.86 percent of Florida households have a direct stake in the survival of the marina industry. Since this report is attempting to evaluate the water-dependent marina industry's hypothesis of economic decline and tax incentives to help this industry survive, one important aspect is the political base of support for bluebelting. The political base would seem very thin indeed; however, this does not mean that bluebelting could not alleviate a serious problem even though it may not impact too many people. Of course, we did find that the average size of a boating party is 3.3 persons. Given the 644,807 registered boats in the state, about 2.3 million persons may participate in boating in any one year. This figure may be even larger if different people participate each time a boat is used. Thus, about 19 percent of Florida's population may participate in boating. Milon (1988) has shown (for Dade County) that fishing is the most popular boating activity. Outdoor Recreation in Florida--1987 (1987) indicates that 16.1 and 17.2 percent of the resident population participate in salt and freshwater fishing, respectively. These comparisons may place recreational boating in somewhat of a different perspective; however, only about 14 percent of boaters use marinas.

We found some evidence that boaters are turning to dry stack storage when they use a marina. On an annual basis, boaters, in general, use their boats about 45 days with a boating party averaging 3.3 persons. If boaters had to pay for the recreational attributes of the boating experience, they would be willing to pay an additional \$1.44 per day, with those using marinas willing to pay considerably more presumably because of boat size. This may not sound like much on a daily basis, but would amount to \$64.80 per year assuming 45 days per year are spent boating. Given an estimated 93 million boating days by residents, this means that boaters would be willing to pay an additional \$134 million a year ($\1.44×93 million days) for the

recreational experience of boating. Of particular importance, marina users were willing to pay \$4.16 for the attributes of a boating day compared to only \$1.22 for those using boat ramps. Apparently, a redirecting of boaters away from marinas to boat ramps by market forces will lower recreational value.

Finally, pleasure boat ownership does not follow the major demographic characteristics of the Florida population. Boat owners have a higher percent of the white race and also a higher percent male than the general population. Since a boat can be an expensive durable good that is highly discretionary (i.e., recreation), it is not surprising that boat owners have a higher household income.

CHAPTER 6

Economic Projections of the Demand for Marina Slips and the Public Access Problem

In Chapter 4, we indicated there were 644,807 pleasure boats registered in Florida (1988). There are probably more pleasure boats using Florida waters at any given time than registered because of the influx of boating tourists from other states. Such boats may stay in Florida up to 90 days before Florida registration is mandatory. Although it is beyond the scope of this inquiry to assess the non-registered boat population, we can look at the variables influencing Florida registered boats to get some idea of the derived demand for marina space. Further, it is also important to look at a marina's competitor - boat ramps. Hopefully, this will give us some idea of the present and future magnitude of the so-called "boater access" problem discussed in Chapter 1.

The Demand for Pleasure Craft and Marinas

The demand for recreational boats is really a demand for recreational services (e.g., fishing) provided by such boats. These recreational services are part of leisure time enjoyed by Americans. As income rises, the demand for leisure time usually increases. The demand for recreational boats is hypothesized to be influenced by the price of the boats; the cost of their operation; income and the age structure of existing boats. Demand can be divided into "new" demand and replacement demand. Unfortunately, no information is available on the overall replacement schedule for recreational boats. In an earlier work, Bell and Leeworthy (1984, 1987) found that boat registration in Florida over the 1965 to 82 period could be statistically explained by the following variables:

POP = Florida population

YPD = Florida real personal income per capita
(1967 = 100);

RBC = An index of real boating cost
(1967 = 100);

D¹ = 0 before 1975; 1 after 1975¹

An increase in POP and YPD would tend to increase boat registrations while an increase in RBC would have the opposite effect (i.e., price-effect). When the Bell-Leeworthy estimating equation was re-estimated using the 1965 to 88 period, the RBC or price variable became statistically insignificant. Also, it was found that the earlier projections made by Bell and Leeworthy (1987) considerably underestimated the actual boat registration for 1983 to 1988. The following revised equation was estimated over the 1965 to 1988 period (BR = boat registrations) (t-values in parentheses):

$$BR = -298,641 + .0439 POP + 58.5 YPD + 103,817D^1 \quad (6.1)$$

(-9.813) (5.142) (2.389) (7.283)

R² = .992 F = 987 N = 23 DW = 1.816

Once registering a pleasure boat, what is the probability of using a marina for storage. In the Bell and Leeworthy (1987) study of boaters, the percentage using marinas for Florida was divided into classifications for the study year, 1982:

<u>Classification</u>	<u>Percent Using Marina</u>
A. Boats 25 feet or less	13.87%
B. Boats greater than 25 feet	54.91%

¹Before 1975, boat registrations were restricted to boats of 10 horsepower or greater. In 1975, all motor boats, regardless of horsepower, were required to be registered so the boat registration series shifted upward.

The probability of using a marina was found to be a function of the following variables:

- YPC = Real per capita income (1967 = 100);
- LB = Length of the boat;
- NB = Number of boats owned;
- PM = Real price of a marina (i.e., cost as a % of income).

\Within the above boat classifications specified above, it was found that the use of a marina was positively related to YPC and LB and negatively related to NB and PM as we might expect. To forecast boat registration, LB, and NB and PM were held constant at their 1982 values since there was no way of projecting these variable without considerable analysis and additional data. However, real income or YPC is projected to generally increase over time. The probability regression showed that a 10 percent increase in YPC would increase the probability of using a marina by 4.9 percent for boats 25 feet or less. After holding LB, NB and PM constant at their 1982 levels, the following prediction equations were obtained:

Boats 25 feet or less

$$\text{PrM} = .0714 + .000044 \text{ YPC}(6.2)$$

Boats greater than 25 feet

$$\text{PrM} = .46 + .0000036 \text{ YPC}(6.3)$$

Before we get to the economic projections, the data base for boat owners used in 1982 should be discussed and compared to the findings on boat owners discussed in Chapter 5. Of the 2,710 boater responses, 433 or 15.96 percent used marina storage for their boat(s) in Florida. This is not too different from the 14.2 percent of pleasure boat owners found to be using marinas in the 1989 telephone survey discussed in Chapter 5. Thus, marinas do not perform the function of waterway outlets for the great majority of pleasure boats registered in Florida. The percentage using marinas varies considerably by region of the state and size

of boat as indicated in Table 6.1 and Figure 6.1. For those boaters having pleasure craft 25 feet or less, the Southwest (22.07 percent) and Treasure Coast (25.66) showed the two highest percentage of marina storage for their boats. Only 13.87 percent of boats 25 feet or less in the State of Florida were berthed in marinas. However, 54.91 percent of boats over 25 feet used marina storage.

The Boater's Decision: A Wet Slip or Dry Stack

Using the sample (1982) of all boaters who selected a marina for storage, we found the following selection percentages for the sample:

<u>Those Selecting a Marina</u>	
Wet Slips:	61.13 percent
Dry Stacks:	<u>38.87</u> percent
	100.00 percent

After statistical analysis, three main factors explained the choice among boaters of a wet slip as opposed to a dry stack (i.e., PrW or percentage using wet slips). They are as follows:

- RPWD = The ratio of the price per linear foot for a wet slip to the price per linear foot of a dry stack;
- LB = Length of the boat in feet
- YPC = Per capita income of the boater

Just how did these three factors influence boater choice of a wet slip over a dry stack? The influence of the first two of the three factors on the selection of the kind of slip might be as expected.² First, as the wet slips became relatively more

²For those interested in the two probability equations (i.e., selecting a marina and then selecting the kind of slip), see Bell and Leeworthy (1987).

Table 6.1

A Comparison of Ordinary Least Squares (OLS)
and the Logit Model in Predicting
Sample Probabilities of Berthing a Boat by Region

Boats 25 Feet and Less

	<u>Region</u>	<u>Sample (%)</u>	<u>Logit (%)</u>	<u>Logit Deviation</u>	<u>OLS (%)</u>	<u>OLS Deviation</u>
1.	West Florida	16.75	10.19	-6.56	17.34	+0.59
2.	Apalachee	7.53	5.13	-2.40	8.57	+1.04
3.	North Central	4.25	2.14	-2.11	4.02	- .23
4.	Northeast	7.14	4.48	-2.66	7.39	+0.25
5.	Withlacoochee	13.91	9.03	-4.88	12.99	-0.92
6.	East Central	9.49	6.66	-2.74	9.79	+0.39
7.	Central	8.40	8.14	- .26	10.37	+1.97
8.	Tampa Bay	12.35	8.38	-3.97	12.54	+0.19
9.	Southwest	22.07	17.79	-4.28	22.64	+0.57
10.	Treasure Coast	25.66	19.23	-6.43	26.86	+1.20
11.	South Florida	13.80	7.75	-6.05	14.22	+0.42
	State	13.87				

Boats Greater Than 25 Feet

	<u>Region</u>	<u>Sample (%)</u>	<u>Logit (%)</u>	<u>Logit Deviation</u>	<u>OLS (%)</u>	<u>OLS Deviation</u>
1.	West Florida	68.00	76.24	+8.24	73.00	+5.00
2.	Apalachee	* 100.00	49.57	N/A	49.66	N/A
3.	North Central	** 0	39.18	N/A	41.18	N/A
4.	Northeast	92.31	91.32	-0.99	90.95	-1.36
5.	Withlacoochee	*** 0	47.43	N/A	47.87	N/A
6.	East Central	55.60	47.77	-7.83	48.40	-7.20
7.	Central	**** 66.70	48.68	N/A	48.91	N/A
8.	Tampa Bay	73.10	74.94	+1.84	72.52	-0.58
9.	Southwest	44.00	46.84	+2.84	47.51	+3.51
10.	Treasure Coast	61.00	56.30	-4.70	55.26	-5.74
11.	South Florida	43.90	44.58	+0.68	45.82	+1.92
	State	54.91				

- * Only ten observations
- ** No observations over 25 feet
- *** Only two observations over 25 feet
- **** Only three observations

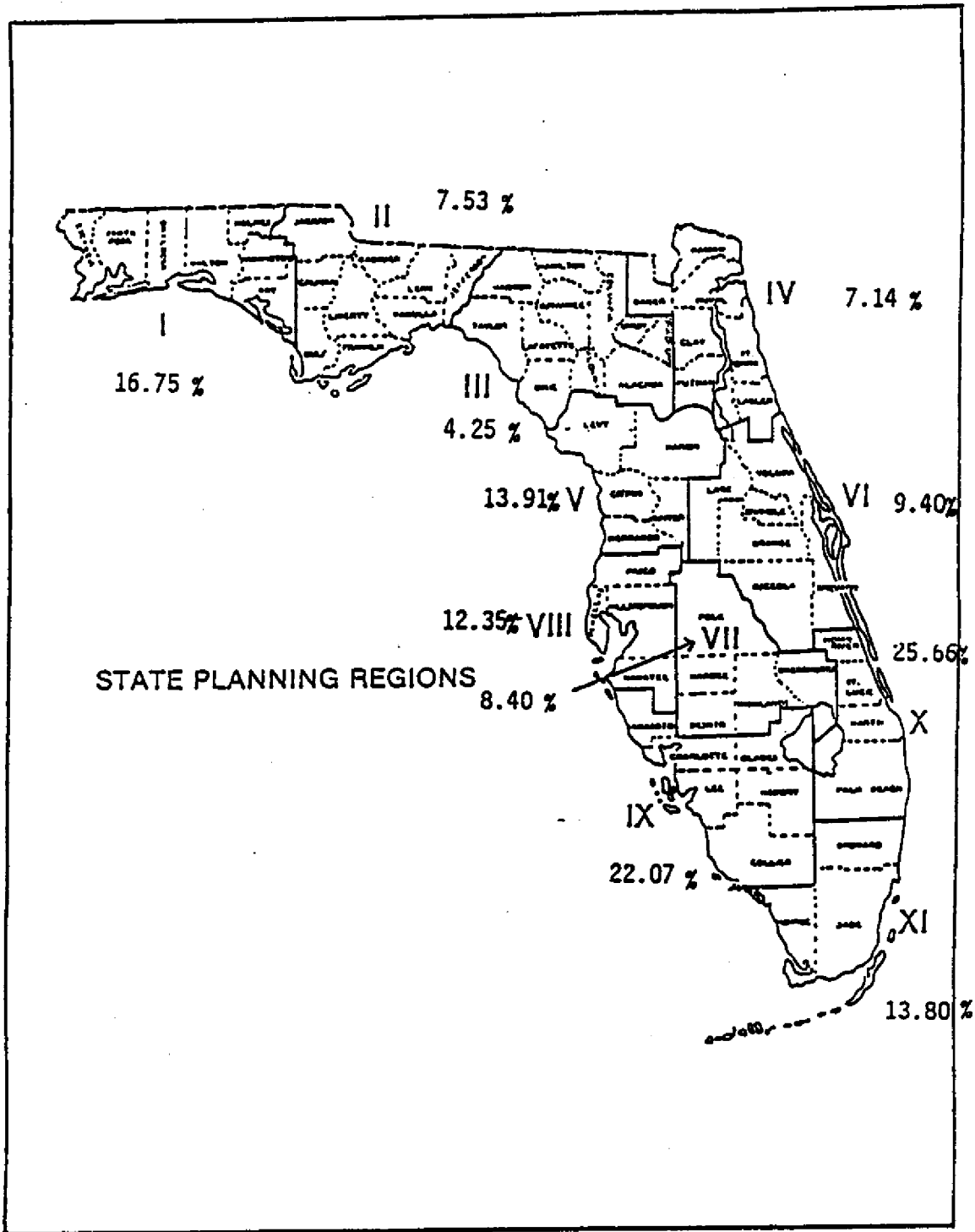


Figure 6.1: Percent of Boaters Using Marinas with Boats 25 Feet and Under by Planning Regions

expensive than dry stacks per linear foot, boaters switched from wet to dry stacks. This would certainly be expected. There was no way to predict RRWP or LB so we held them constant at their 1982 values and derived the following prediction equation:

$$\text{PrW} = .76195 - .00000667 \text{ YPC}(6.4)$$

Thus, as income or YPC rises, the probability of using a wet slip or PrW would be expected to decline. The elasticity of boater choice (i.e., PrW) among the two alternatives (wet versus dry) to an increase in income was calculated at $-.25$. The use of this elasticity may be illustrated by a simple example.

The most surprising aspect of our findings to some is the role of per capita income or an increase in affluence on the choice of a wet slip or dry stack. Holding relative prices or cost of slip rental constant along with the size of the pleasure craft, rising per capita income decreased the preference for wet slips relative to dry stacks. The sample per capita income was \$22,000. If this per capita income were to increase by 10 percent, for example, to \$24,200, the choice of using a wet slip would decline by 2.5 percent ($10\% \times -.25$). Thus, the elasticity of boater choice of a wet as opposed to a dry stack to per capita income is $-.25$. The following wet slip-dry stack percentage use would then occur due to a rise in per capita income of 10 percent.

	<u>Before Increase in Per Capita Income</u>	<u>After Increase in Per Capita Income</u>
Wet Slips	61.13%	59.6%
Dry Stacks	38.87%*	40.4%
		*(61.13% X .975)

This is a very important finding which would mean that as Floridians experience an increase in per capita income, they will

prefer, as boaters, dry stacks over wet slips. The advantages of dry stacks over wet slips may be illustrated by one marina operator's advertisement quoted in Crompton and Ditton (1975):

"No refinishing, no sun fading, no collection growing on the bottom of your boat, no expensive cover to buy, no messy ropes, no dew, frost or blowing rain, no bugs, birds or dust; your boat locked in every night so you can leave life preservers, skis, ropes and personal belongings aboard without worry." (p. 18).

Projecting Marina Demand

To project the number of wet slips and dry racks for the State of Florida, we shall use equations (6.1); (6.2); (6.3) and (6.4) in a sequence of steps. Two influences drive the components of marina demand: (1) population growth and (2) the growth in real per capita income. The projection period is 1982 to 2000. The year 1982 is the base year since the initial detailed boater survey was made in that year. According to the University of Florida (UF) (1988), Florida population is projected to increase at the following annual percentages (median series):

1990 to 1995	1.994% /year
1995 to 2000	1.486% /year

Table 6.2 shows three sets of projections, each based upon the same assumption about population increases as shown above, but three different assumptions about the growth in real personal income per capita. Even with the most optimistic growth in affluence or real per capita income assumed in Table 6.2, less than 22 percent of all boaters will use marinas in the year 2000. The demand for dry storage will triple over the 1982 base period while wet slip demand will only double using the high growth in affluence scenario. This is due to the increasing preference for dry storage among pleasure boat owners. In any event, the marina industry is going to be called upon to expand fairly rapidly to

Table 6.2

Actual and Projected Boat Registration,
Marina Storage and Wet and Dry Slips Demand
for the State of Florida with Varying Assumptions
about the Projected Growth in Real Per Capita Income,
1982 and Projection Period to the Year 2000*

	Varying YPC Growth Rates			
	Actual 1982	1.2% 2000	2.6% 2000	3.4% 2000
1. <u>Total Boats Registered</u> ¹	481,614	803,355	860,983	898,017
(a) 25 feet or less	457,084	762,384	817,073	852,218
(b) Greater than 25 feet	24,530	40,971	43,910	45,799
2. <u>Probability (PrM)</u> ²	.1596	.1847	.2014	.2122
(a) 25 feet or less	.1387	.1633	.1798	.1904
(b) Greater than 25 feet	.5491	.5818	.6037	.6178
3. <u>Total Storage</u>	76,867	148,350	173,415	190,541
(a) 25 feet or less	63,398	124,511	146,905	162,248
(b) Greater than 25 feet	13,469	23,889	26,510	28,293
4. <u>Probability (PrW)</u> ³				
(a) Wet slip	.6113	.5774	.5289	.4960
(b) Dry Rack	.3887	.4226	.4711	.5040
5. Wet slips	46,989	85,657	91,719	94,508
6. Dry Racks	29,878	62,693	81,696	96,033

1. Used equation (6.1)

2. Used equations (6.2) and (6.3)

3. Used equation (6.4)

*1.2%: University of Florida; 2.6%: 1965-1988 historical average; 3.4%:
1981-1988 historical average

accommodate the projected increase in demand by the year 2000. However, the change in the demand structure to dry stacking will allow a vertical use of waterfront property rather than the more land using horizontal or wet slip use of the waterfront.

The projections indicate that there will be from 800,000 to 900,000 registered boats by the year 2000. The projections in Table 6.2 are also unconstrained. That is, we are assuming a completely elastic supply. This is unrealistic for two reasons. First, waterfront land is not generally expandable. Thus, competition is usually more intense. Second, wet slip (and even dry through a need for docks) expansion often requires dredging of wetlands with adverse ecological impacts [see Bell (1989)]. Thus, permits are not likely to be granted for appreciable wet slip expansion. From the projections, it is clear that for those that engage in boating recreation there will be an increasing preference for marinas as places of storage and access to the waterways. This preference will remain more intense for craft over 25 feet in length. Table 6.3 shows the presently existing size structure for pleasure craft in Florida. Only 6 percent of pleasure craft are over 25 feet. Such vessels may require berthing and may be difficult, if not impossible, to trailer. Let us now consider the alternative or substitutes for marinas. That is, if marinas are competing for waterfront property, but are hypothesized to be losing the battle, what other options in addition to the hypothesized incentives of bluebelting do the overwhelming majority of pleasure boat owners have (i.e., the almost 94 percent shown in Table 6.3 with boats 25 feet or less)? This leads us to a consideration of boat ramps in the State of Florida.

Boat Ramps As An Alternative to Marinas

Since boat ramps provide public access to public water bodies, they are an essential facility for the conduct of outdoor recreational pursuits including fishing, boating, and to a

Table 6.3

Size Structure of Registered Pleasure Craft
in the State of Florida, 1987 - 1988*

Size Class	Length in Feet	Number	Cumulative Percent
A-1	Less than 12 ft.	55,466	8.77
A-2	12 feet or more less than 16 ft.	261,900	50.18
1.	16 feet or more less than 26 ft.	275,496	93.75
2.	26 feet or more less than 40 ft.	33,867	99.10
3.	40 feet or more less than 65 ft.	5,449	99.96
4.	65 feet or more less than 110 ft.	215	99.99
6.	110 feet or more	24	100.00
	TOTAL	632,417	

* Excludes canoes and dealers, which is the difference between table total and DNR total of 644,807.

SOURCE: Bureau of Vessel Titling and Registration
Florida Department of Natural Resources

certain extent, hunting and canoeing. The demand for these outdoor recreational activities must inherently reflect demand for boat ramps. Typical water access facilities, such as boat ramps, consist of a concrete boat launching ramp and a parking area for an appropriate number of cars and boat trailers. Difference in construction design and materials vary widely, but the basic capacity for launching boats is identical. Ramps which have the capacity for launching more than one boat at a time were counted as multiple ramps or lanes. According to Outdoor Recreation in Florida - 1987 (1987), "Our analyses of the demand and supply for saltwater or freshwater boat ramps "...indicates no needs for either saltwater or freshwater boat ramps through 1995 when analyzed at the regional level." (p. 121).

Table 6.4 shows an extension of the Outdoor Recreation in Florida - 1987 study to the year 2000 for saltwater boat ramps. This table is broken down by planning regions which are shown geographically in Figure 6.1 previously discussed in this chapter. In 1985, there were 1,200 saltwater boat ramps in the State of Florida with the largest number in South Florida. According to recreational planners, a boat lane will handle up to 108 users per ramp per day. This figure was given as a supply standard in Outdoor Recreation in Florida - 1987 (p. 93). The average number of people in a group using a freshwater or saltwater boat ramp is three, based upon information obtained from the NMMA. It was assumed that each boating party will use the boat ramp facility for 20 minutes per day. Thus, during a 12-hour day, an average of 36 boats could use a single-lane ramp. By multiplying the average number of people per boat (3) by the average number of boats using a boat ramp per day (36), a use guideline of 108 people per ramp per day was calculated. Notice that in Chapter 5, the boater survey indicated 3.3 persons to a

Table 6.4

A Comparison of Peak Demand with Available Supply Per Day
for Saltwater Boat Ramps by Planning Regions in Florida, 2000

Planning Region	(1) Boat Lanes (1985)	(2) Supply Per Day ¹	(3) Projected Demand ² (000)	(4) Peak Demand Per Day ³	(5) Ratio of Supply to Demand (Surplus) ⁴
1. West Florida	159	17,172	802	3,974	3.67
2. Apalachee	39	4,212	60	293	14.38
3. North Central	21	2,269	110	543	4.17
4. North East	74	7,992	873	4,324	1.85
5. Withlacoochee	11	1,188	151	748	1.59
6. East Central	141	15,228	910	4,510	3.38
7. Central	N/A	N/A	N/A	N/A	N/A
8. Tamap Bay	175	18,900	2,333	11,557	1.64
9. Southwest	156	16,848	1,319	6,532	2.58
10. Treasure Coast	112	12,096	1,794	8,890	1.36
11. South Florida	312	33,696	4,473	22,161	1.52
FLORIDA	1,200	130,680	12,825	63,549	2.06

1. Boat Lanes x 108 Users Per Ramp Per Day
2. Projected Annual User-occasions to the Year 2000 (FLA. DNR, 1985)
3. Peak Demand Per Day = [.55 (Annual User-occasions)] + 111
4. Supply Per Day Divided by Peak Demand Per Day

SOURCE: Outdoor Recreation in Florida - 1987, Florida Department of Natural Resources

party. Therefore, column (2) in Table 6.3 shows the number of user occasions by planning region and the entire State of Florida that can be supplied given the existing inventory of saltwater boat lanes (i.e., on any given day, saltwater boat ramps in Florida can supply 130,680 users).

The measure of demand for outdoor recreation is the user occasion. A user occasion is generated each time an individual participates in a given outdoor recreational activity. Thus, more than one user occasion may take place in a day. Since many people recreate in counties other than where they reside, the total resident (of Florida) participation that took place within any given county was measured as two distinct components: user occasions by county residents and user occasions by residents of all other Florida counties. Tourist user occasions were obtained by multiplying the sample user occasions per tourist for the recreational activity (e.g., use of a boat lane to engage in some form of boater recreation) times the estimated annual county tourist visitations. Using 1987 population and tourist figures, the three components of user occasions for boat ramps were obtained. This is unpublished data, and the reader is always cautioned that sample size for various counties is subject to considerable variability. For each county, resident user occasions for boat ramps were projected using population projections from UF (1989) while tourist saltwater ramp user occasions were projected using State total tourist projections and assuming the county holds its 1987 share of tourists. The demand projections were made to the year 2000 and are shown by planning region in column 3 of Table 6.4. For example, we projected that by the year 2000 there will be 12,825,000 saltwater boat ramp user occasions for the State of Florida.³

³A drawback of this technique is that it does not include price or income effects. The implicit assumption is that the shadow price of boat ramps remains constant and there is no income effect. This may bias the supply and demand analysis by region.

These user occasions will take place over an entire year, but will be concentrated on certain peak days during the year (i.e., weekends and holidays). The Florida Division of Recreation and Parks has determined that 55 percent of demand in parks offering various forms of recreation takes place in 111 days during the year, comprising 52 weekends and seven weekday holidays. Thus, the concept of design demand is the average user occasions per day for a peak period. Column 4 in Table 6.4 shows the peak or design demand for each planning region for the year 2000. The Treasure Coast planning region's design demand for saltwater boat ramps projected to the year 2000 is the following:

$$\text{Design Demand} = \frac{.55 (1,794,000)}{111} = 8,890$$

The last column in Table 6.4 shows the ratio of supply per day to design demand (per day). In all regions the ratio is much larger than unity, indicating a surplus of boat lanes. The Treasure Coast at a supply/demand ratio of 1.36 will be the region first approaching utilization of 1985 capacity. A similar analysis at the county level reveals that by the year 2000 only Pasco and Broward Counties (in Florida) will be experiencing a supply shortage of saltwater boat ramps. A breakdown of saltwater boat ramps by type revealed that 58 percent are public while 42 percent are private such as commercial, private club, or private non-profit.

The reader should be cautioned that the projections of saltwater boat ramp peak demand could be seriously biased downward by three factors: 1. a failure to consider rising income or affluence in increasing the number of pleasure craft needing water access points; 2. a faulty assumption that 55 percent of boating peak demand takes place on weekends and holidays where the actual percent may be as high as 85 percent; 3. the counting of user occasions may not obtain all the users

and may be biased toward including only the boat owner/user. Consider the potential effects of the three biases. Bell and Leeworthy (1987) report that as real per capita income rises by 10 percent, boat registrations in Florida rise by 7 percent holding population constant. If real per capital income grew at a mid-range of 2.6 percent annually (see Table 6.2), by the year 2000 or in 15 years the level of affluence would be nearly 50 percent higher, meaning that boat registrations would be 35 percent higher (i.e., $50\% \times .7$). Further, if boating peak demand were closer to 85 percent than 55 percent, peak demand would be 55 percent higher ($85\% \div 155\%$). Finally, the survey of boat ramp user occasions asks whether you used a boat ramp. The respondent may think of the owner of the boat as being the user not the others in the party. A boat ramp is not a form of recreation, but a means by which the boat gains access to water. Assume that demand might be 25 percent higher if the survey alleged bias were corrected. Collectively, these three biases, if correct, could increase peak saltwater boat ramp demand projected for the year 2000 in Table 6.4 by 115 percent. There would be excess saltwater boat ramp demand in the following planning regions:

4. North East
 5. Withlacoochee
 6. Tampa Bay
 10. Treasure Coast
 11. South Florida
- All Florida

These results should give the reader pause. In contrast to the SCORP, it is obvious that boat ramp demand could be out-stripping supply in many areas now and in the future and that these ramps may be less of a boater "safety-valve" than estimated by the Division of Recreation and Parks of the Florida Department of Natural Resources (DNR). Public resources may have to be diverted to boat ramp construction to accommodate expected demand. Such a cost may be mitigated by bluebelting.

Finally, Table 6.5 shows an analysis for freshwater boat ramps similar to that conducted above for saltwater boat ramps. The growth in user occasions for freshwater boat ramps will not even come close to utilizing the available supply existing in 1985. For the state as a whole, the supply of freshwater boat ramps will still be nearly four times the available supply. However, these projections are also subject to the same criticisms discussed above.

Conclusions

One of the important aspects of water-dependent activities is the growth in demand for their services. In the case of marina services in the State of Florida, the growth is governed by increasing population and rising per capita income. By the year 2,000, it is projected that the number of pleasure crafts in Florida will increase to somewhere between 800,000 to 900,000 depending on the rate of growth in per capita income. The increase in demand for pleasure craft and hence boating will be funneled into marinas and boat ramps for access to the waterways. Using the higher real per capita income projection (3.4 percent per annum), boater use of marinas is projected to increase to over 21 percent of all registered boats by the year 2000 compared to the 1982 base period value of about 16 percent. Total marina storage is expected to reach slightly over 190,000 boats by the year 2000. In 1987, it was estimated that about 100,000 of the 644,807 Florida registered boats were stored in marinas, assuming a 15 to 16 percent marina usage rate. Of course, Chapter 5 indicated a lower usage rate of 14.2 percent, based upon a 1989 survey of registered boaters. Over the 1987 to 2000 period, the demand for marina services will increase from 48 to 90 percent depending on the increase in real per capita income. A mid-range projection yields an increase of a little over 73 percent (i.e. 173,415 divided by an estimated 100,000 berths in 1987 (see Table 6.2)).

Table 6.5

A Comparison of Peak Demand Per Day With Available Supply Per Day
for Freshwater Boat Ramps by Planning Regions in Florida, 2000

Planning Region	(1) Boat Lanes (1985)	(2) Supply Per Day ²	(3) Projected Demand ² (000)	(4) Peak Demand Per Day ³	(5) Ratio of Supply to Demand (Surplus) ⁴
1. West Florida	143	15,444	480	2,320	6.66
2. Apalachee	182	19,656	204	2,009	19.51
3. North Central	112	12,960	463	2,295	5.63
4. North East	132	15,336	1,213	6,305	2.43
5. Withlacoochee	167	18,036	407	2,015	8.95
6. East Central	332	35,856	2,943	14,582	2.46
7. Central	220	23,760	1,316	6,523	3.64
8. Tampa Bay	86	9,288	411	2,038	4.56
9. Southwest	75	10,368	253	1,255	8.26
10. Treasure Coast	81	8,748	510	2,524	3.47
11. South Florida	80	8,640	1,000	4,955	1.74
FLORIDA	1,610	178,092	9,200	45,819	3.89

1. Boat Lanes x 108 Users Per Ramp Per Day
2. Projected Annual User-occasions to the Year 2000 (FLA. DNR, 1985)
3. Peak Demand Per Day = [.55 (Annual User-occasions)] + 111
4. Supply Per Day Divided by Peak Demand Per Day

SOURCE: Outdoor Recreation in Florida - 1987, Florida Department of Natural Resources

Of particular importance, we project there will be a structural change in marina demand away from wet slips to dry racks. We believe that this change in demand would occur even if there were no constraints on wet slip expansion such as environmental protection. Of course, large pleasure craft will still need wet slips, but this segment of all registered boats is about six percent. However, larger vessels (i.e., over 25 feet in length) will constitute over 15 percent of the marina market by the year 2000. Even so, Florida marinas will be hard pressed to expand wet slips for larger craft, not only because of environmental constraints, but intense competition from non-water dependent commercial activities which is one of the chief hypotheses of this report.

The urgency of preserving waterfront land for marina use may be tempered somewhat by our analyses of boat ramp use. According to DNR statistics, both fresh and saltwater boat ramps will be in excess supply to the year 2000. However, less reliance should be placed upon such projections because of three potential downward biases in estimating peak demand which were discussed above. Statewide, the current supply of boat ramps is expected to be two (saltwater) to almost four (freshwater) times the expected demand in the year 2000. Presently, most boaters (about 85 percent) used boat ramps to gain access to Florida's waters. Our analysis does point to a trend away from boat ramps to marinas with rising affluence (i.e., real per capita income). This is to be expected since marina storage is more convenient and much less work than storing a boat at home and trailering it to a ramp with less services (e.g., gas, repair) than a typical marina. It is hypothesized that boat ramps are inferior substitutes for marina access to Florida waterways. Boaters use ramps because they fit in with their present per capita incomes. Such ramps cost little or nothing to use and may offer an escape valve for boater demand for water access subject to such factors that bias the boat ramp demand projections downward which were mentioned earlier. As per

capita income rises, boat ramps are likely to be preferred less and less in the future. However, by the year 2000, boat ramps will still be used by nearly 79 percent of the registered boat owners even under the high income forecast shown in Table 6.2 (1 less .2122). This is not to minimize the conclusion that marina demand in Florida is expected to increase substantially by the year 2000 and come into conflict with other shorefront competitors.

CHAPTER 7

Economic Adjustment of the Marina Industry to Escalating Land Prices

As part of the bluebelting project, marina owners were surveyed to determine their present status, but more importantly their future plans in an environment increasingly more competitive for waterfront property and where government regulations play a role in the expansion of wet slips (i.e., dredging permits, etc). To obtain a representative sample of marinas, it was necessary to establish an inventory of all marinas in the State of Florida and their addresses. This is our universe of marinas.

A Marina Inventory

The study area for a marina inventory is the State of Florida. For purposes of the inventory, a marina is defined as an establishment having 10 or more slips to eliminate household slips. This definition of a marina also eliminates restaurants, bars, and motels which usually have less than 10 slips for transitory customers. This is standard practice for research in this area [see Crompton and Ditton, (1975)]. Two sources were used to establish an inventory of both salt and freshwater marinas in the State of Florida. First, a list of marinas was obtained from the DNR. The DNR tries to keep this list updated, but it is not a high priority since marina demand is not part of the State Comprehensive Outdoor Recreation Plan or what is commonly called SCORP. Fortunately, the Florida Sea Grant Program participated in the 1986 National Recreational Boating Facility Inventory which attempted to inventory marinas in Florida. Both lists were merged and duplicates eliminated. In 1986, there were an estimated 1,545 and 437 salt and freshwater marinas respectively in Florida, for a total of 1,982 which are

shown in Table 7.1. In an earlier study by Bell and Leeworthy (1984), an estimated 1,882 marinas in Florida for 1982. The reader is cautioned against concluding that there has been an increase in the number of marinas over the 1982 to 1986 period since such estimates are probably subject to considerable variability. Table 7.1 shows that the largest number of saltwater marinas is in the South Florida planning region (i.e., 33 percent of total) while the largest number of freshwater marinas is, as might be expected, in the East Central Planning region (28.4 percent).

A Survey of Marina Owners

In 1988, a survey instrument was mailed to all of the 1,982 marina owners shown in Table 7.1. A sample of 530 marina owners returned the survey for a response rate of 26.7 percent (see the survey instrument in the Appendix to this report). About the same proportion of salt and freshwater marina operators responded to the survey as existing in the universe as shown in Table 7.2. The responses also follow fairly well the regional distribution of the universe except for an under-response in South Florida regions and an over-response in West Florida for saltwater marinas. Freshwater marina responses reflected the universe regional distribution except for the Treasure Coast and South Florida where the sample distribution was lower than that shown for the universe (Table 7.1). Given a survey response of 26.7 percent which was reflective of the salt - freshwater universe distribution and also corresponded fairly well with regions of the state, we feel that the answers obtained are fairly reflective of marinas in Florida.

Survey Results

The survey instrument was designed to quantify two aspects of the marina industry in Florida: (1) the current economic

Table 7.1

An Estimated Inventory of Salt and Freshwater Marinas by Planning Region,
Florida, 1986

Planning Region	<u>Number</u>		<u>Percent</u>		<u>Total</u>	
	Salt	Fresh	Salt	Fresh	Fresh + Salt	
West Florida	116	4	7.5	0.9	6.1	120
Apalachee	28	24	1.8	5.5	2.6	52
North Central	14	13	0.9	3.0	1.4	27
Northeast	60	68	3.9	15.6	6.5	128
Withlacoochee	6	61	0.4	14.0	3.4	67
East Central	106	124	6.9	28.4	11.6	230
Central	1	56	0.1	12.8	2.9	57
Tampa Bay	201	16	13.0	3.7	10.9	217
Southwest	313	35	20.3	8.0	17.6	348
Treasure Coast	190	24	12.3	5.5	10.8	214
South Florida	510	12	33.0	2.7	26.3	522
TOTAL	1545	437	100.1	100.1	100.1	1982

Source: 1986 National Recreational Boating Facility Inventory, 1987 Florida Department of Natural Resources

Table 7.2

Distribution of a Sample of Salt and Freshwater Marinas by Planning Region,
Florida, 1988 Survey

Planning Region	<u>Number</u>		<u>Percent</u>		<u>Total</u>	
	Salt	Fresh	Salt	Fresh	Fresh + Salt	
West Florida	43	0	10.2	0.0	8.1	43
Apalachee	7	6	1.7	5.5	2.5	13
North Central	10	5	2.4	4.6	2.8	15
Northeast	26	16	6.2	14.7	7.9	42
Withlacoochee	5	19	1.2	17.4	4.5	24
East Central	39	27	9.3	24.8	12.5	66
Central	2	16	0.5	14.7	3.4	18
Tampa Bay	59	0	14.0	0.0	11.1	59
Southwest	88	7	20.9	6.4	17.9	95
Treasure Coast	46	2	10.9	1.8	9.1	48
South Florida	96	11	22.8	10.1	20.2	107
TOTAL	421	109	100.1	100.0	100.0	530

Source: 1988 FSU Marina Survey

status and (2) the adjustment expected over the next five years to rising land prices. Of course, the latter aspect is at the crux of the bluebelting issue. That is, escalating land prices are a reflection of competition for water-front property. It is alleged that marinas, in general, cannot compete with alternative uses that are not water-dependent, but which are value-enhanced by locating near the water such as condominiums, restaurants and dockominiums enterprises. Furthermore, rising land values increase marinas' local property taxes, since they are taxed on the basis of just or market value. It is alleged that tax relief will help preserve marinas and their water-dependent function which is a factor in boater access to the waterways.

Table 7.3 shows the wet slip occupancy rates and waiting list for the sample of saltwater marinas. Corresponding tables for freshwater marinas are provided in the Appendix of this report. The thrust of our discussion will be on saltwater marinas although we shall also comment on the freshwater marina results.

In 1987, the annual occupancy rate for the wet slips in Florida's saltwater marinas was 85.5 percent as shown in Table 7.3. The highest annual occupancy rates for saltwater marinas were observed in the West Florida and Tampa planning regions. December through April is generally viewed as the tourist season and occupancy rates for south Florida (Southwest, Treasure Coast and South Florida Planning Regions) are much higher than the May through November period. From Table 7.3, it can be seen that occupancy rates for saltwater marinas do approach 95 to 96 percent at times during the year in some regions, but this is generally an atypical result throughout Florida. Of particular significance, 55 percent of the saltwater marinas had waiting lists for wet slips. Although varying considerably by region, near 28 persons per marina were on waiting lists for wet slips in

Table 7.3

Saltwater Marina Wet Slip Occupancy Rates and Number on Waiting List by Region, Florida, 1987

<u>Planning Region</u>	<u>Sample Size</u>	<u># with long wait lists</u>	<u>Ave. # on wait lists*</u>	<u>Ave. Occupancy Rates</u>		
				<u>Dec.-Apr.</u>	<u>May-Nov.</u>	<u>Annual</u>
West Florida	43	29	23.3	80.9	89.2	89.7
Apalachee	7	5	14.5	83.3	81.0	80.4
North Central	10	7	12.8	95.7	84.3	96.7
Northeast	26	11	38.3	81.2	86.1	83.1
Withlacoochee	5	3	53.3	83.0	90.0	88.0
East Central	39	19	20.5	86.8	84.9	86.3
Central	2	1	5.0	90.0	80.0	85.0
Tampa Bay	59	32	47.5	92.8	95.5	95.1
Southwest	88	53	18.5	89.8	79.6	84.3
Treasure Coast	46	30	25.7	91.2	75.7	81.1
South Florida	96	42	33.6	84.0	77.3	80.6
TOTAL	421	232	27.9	87.2	83.0	85.5

*The average number on waiting list is only for those marinas with a waiting list.

Source: 1988 FSU Marina Study

saltwater marinas in Florida. Table 7.3 shows an industry with considerable demand pressures as was discussed in Chapters 4 and 6. One hypothesis that should be pursued is that boat owners seek not only wet slip storage for their pleasure craft, but a whole mix of amenities provided by a marina (e.g., boat repair, restaurant, lounge, closeness to fishing areas, water quality, etc). Thus, waiting lists for "preferred" marinas may develop, yet the boater may temporarily be using another marina for storage and access to the water only.

Table 7.4 shows the critical escalation in land prices over the last 10 years. Saltwater marina owners report that the land upon which their marina is built is increasing in value at about 12.1 percent annually on a Florida wide basis over the last 10 years. At that rate, land values double every six years. Of the 377 saltwater marina operators answering this question, 59 percent felt land values were increasing more than 15 percent per year. Of particular interest, land values were increasing at about the same rate throughout the 11 planning regions giving the impression of high, but rather uniform growth in the coastal zone throughout Florida. This escalation in land price is symptomatic of the competition for waterfront property that is a continuing problem for water-dependent activities. However, the good news for marina owners is that they are enjoying considerable real capital gains in their property. Over the 1978 to 1987 period, the consumer price index (CPI) increased by 7.7 percent annually, so real land prices are increasing at about 4.5 percent annually.

What is the expected action (or reaction) of saltwater marina owners to the escalating land prices? The survey results are shown in Table 7.5. Of course, the marina owner could do many things (or combination of things) so multiple answers were possible and, of course, did occur. Of the 421 respondents, the following results were obtained:

Table 7.4

Annual Percent Increase in Marina Land Values
for Saltwater Marina Owners, by Region, Florida, 1978 - 1987

Planning Region	Samp. Size	Annual Percent Increase						Over all
		0-1.9	2-3.5	3.6-5	5.1-10	10.1-15	>15	Ave.*
West FL	40	2	0	3	4	8	23	12.3
Apalach	6	0	0	0	1	0	5	13.8
N Cent	9	1	0	0	1	1	6	12.4
N East	23	1	1	3	3	3	12	11.2
Withlac	5	1	0	0	0	0	4	12.2
E Cent	35	0	1	1	6	8	19	12.5
Central	2	0	0	0	0	0	2	15.0
Tamp Bay	51	3	2	5	6	6	29	11.5
S West	79	1	1	3	13	9	52	12.7
Tr Cst	40	2	0	1	8	6	23	12.2
South FL	87	4	6	4	16	11	46	11.4
TOTAL	377	15	11	20	58	52	221	12.1

* Weighted average among mid-points of sample distribution

Source: 1988 FSU Marina Survey

Table 7.5

Expected Action of Saltwater Marina Owners as Result of Escalating Land Prices, By Region, Florida, 1988*

	<u>Sample Size</u>	<u>Merge with Water Enhancing Business</u>	<u>Add Profit Centers</u>	<u>Not Add Wet Slips</u>	<u>Forced Out Of Business</u>	<u>Sell to Realize Capital Gains</u>
West Fl	43	11	14	18	7	18
Apalach	7	1	0	4	0	3
N Cent	10	2	2	2	3	6
N East	26	7	7	9	7	15
Withlac	5	3	1	1	2	1
E Cent	39	9	17	12	5	12
Central	2	1	0	1	0	0
Tampa Bay	59	7	15	27	8	16
S West	88	17	26	36	22	28
Tr Cst	46	9	9	16	5	12
South Fl	96	16	23	31	16	25
TOTAL	421	83	114	157	75	136

*A marina owner may check more than one of several possible responses.

Source: 1988 FSU Marina Survey

- 32.3 percent would sell marina land to other interests (e.g., condos, etc) to realize substantial capital gains;
- 37.3 percent would be prevented from acquiring additional land for wet slips because it is not economically feasible;
- 27 percent would add other profit centers such as lounges, eating facilities, or meeting rooms to stay in business;
- 20 percent would merge with other business interest which are not water-dependent, such as condos, restaurants or hotels;
- 18 percent would withdraw from the marina business because of escalating land prices and property taxes.

Wet slip expansion faces not only higher land cost, but difficulties in environmental permitting. As expressed in Chapter 6, it is indeed fortunate that the marina demand pattern reflects a preference for dry stacks over wet slips. Dry stacks are expected to become an ever increasing percent of total slips to the year 2000 and beyond (see Chapter 6). In Chapter 5, a 1989 survey revealed that boaters that use marinas had a higher percentage of dry stack use than wet slip use.

Of great importance, nearly one-third of the saltwater marina industry felt they would sell their marinas for capital

gains over the next five years.¹ This attrition of marinas and slips is, of course, inconsistent with the projected expansion in demand for slips discussed in Chapter 6. Some saltwater marinas (27 percent) see a need for new profit centers to survive. What we may be seeing is the emergence of a "full service marina" with consumer preference tending in this direction. This hypothesis was related to the waiting list for some marinas discussed above and shown in Table 7.3 for wet slips. Twenty percent of the marinas would merge with other business interest which are basically non-water-dependent. This is another way of diversifying into a full service marina.

Finally, only 18 percent of the marinas are really impacted significantly by local property taxes which would prompt them to leave the industry. Thus, bluebelting in the form of ad valorem tax relief may be of secondary importance with respect to adjustment to rising land prices.

In an effort to analyze the difficulties associated with wet slip expansion, saltwater marina owners were asked to identify the most important reasons limiting their addition of wet slips. Tables 7.6 and 7.7 list the results from the survey. Multiple answers were possible. The following answers were given:

- 82 percent listed environmental permits as an obstacle;
- 55.8 percent listed rising lands prices as an obstacle;
- 54.9 percent said rising insurance rates as an obstacle;
- 41.6 percent named high labor cost as an obstacle.

¹Marina owners might sell to other marinas, but the question uses the example of condominiums. We interpret this question to involve a sale to non-marinas, but admit that it should be more specific.

Table 7.6

Major Limitation on Saltwater Wet Slip Marina Expansion, by Region, Florida,

1988*

<u>Planning Region</u>	<u>Samp. Size</u>	<u>Environmental Permit</u>	<u>Rising Insurance Rates</u>	<u>Rising Land Costs</u>	<u>High Labor Costs</u>	<u>Other</u>
West Fl	49	38	29	31	21	10
Apalach	7	7	6	6	3	2
N Cent	10	8	6	7	6	3
N East	26	19	16	13	15	8
Withlac	5	4	2	4	2	1
E Cent	39	29	18	18	12	13
Central	2	2	2	2	1	0
Tamp Bay	59	48	31	30	26	26
S West	88	68	43	47	31	27
Tr Cst	46	44	27	28	22	14
S Florida	96	77	51	49	36	25
TOTAL	421	344	231	235	175	129

*A marina owner may check more than one of several possible responses.
Source: 1988 FSU Marina Survey

Table 7.7

Major Limitation on Saltwater Expansion by Degree*, by Region, Florida,

1988**

<u>Planning Region</u>	<u>Sample Size</u>	<u>Environmental Permit Degree</u>	<u>Rising Insurance Rates Degree</u>	<u>Rising Land Costs Degree</u>	<u>High Labor Costs Degree</u>	<u>Other Degree</u>
West Fl	43	1.5	2.3	2.6	3.0	2.3
Apalach	7	1.6	2.5	2.7	3.7	1.0
N Cent	10	2.1	2.0	1.6	1.8	1.0
N East	26	2.0	2.1	2.7	1.8	3.1
Withlac	5	1.0	2.0	1.3	2.0	0.0
E Cent	39	1.8	2.8	2.5	2.8	2.1
Central	2	3.5	1.0	1.0	4.0	0.0
Tamp Bay	59	1.6	2.4	2.4	3.2	2.1
S West	88	1.4	3.0	2.1	3.3	1.5
Tr Cst	46	1.8	2.8	2.0	3.3	1.5
S Florida	96	1.6	2.6	2.2	2.9	1.9
TOTAL	421	1.6	2.0	2.8	3.0	2.5

**A Marina owner may check more than one of several possible responses.

*Degree of problem running from 1-5, where 1=most severe.

Source: 1988 FSU Marina Survey

As expected, owners feel the future for the expansion of wet slips in the State of Florida is very bleak. Institutional (i.e., environmental regulations) and economic factors (i.e., competition for waterfront property) will inhibit wet slip expansion. In Table 7.7, we tried to get some idea of the severity of each factor to wet slip expansion by ranking the answers given from 1 (most severe) to 5 (least severe). In terms of severity of the problem, the following ranking was obtained (i.e., from most to least severe) on a statewide basis:

1. Environmental permits (1.6)
2. Rising insurance costs (2.0)
3. Rising land costs (2.8)
4. High labor costs (3.0)

The severity indicator varied somewhat by region of the state, but the general pattern of environmental permits leading the factors detrimental to wet slip expansion prevailed. This brings into serious question the projections made in Chapter 6. Of course, the projections were made on the assumption that there were no supply constraints. It would appear that the marina industry will be forced to use more and more dry stacking even beyond what was projected in Chapter 6. The major crunch will undoubtedly come from the inability of larger vessels to obtain wet slips. However, this segment of the marina industry demand is very small (3 to 6 percent), yet those boat dealers specializing in this demand segment may experience sales difficulty when they get repeated questions about which marina will take this large pleasure craft.

Tables 7.8 through 7.12 profile the typical marina in each region, emphasizing financial factors. According to the sample, the typical marina has 60 wet slips and 116 dry slips or racks as shown in Table 7.8. This varies from planning region to planning region, but the ratio of dry racks to wet slips is generally two

Table 7.8

Number of Wet Slips and Dry Slips Per Saltwater Marina and Kind of Marina by Region, Florida, 1988

<u>Planning Region</u>	<u>Samp. Size</u>	<u>Average No. of Wet Slips* per Marina</u>	<u>Average No. of Dry Slips** per Marina</u>	<u>Comm./ Profit Making</u>	<u>Non-Profit</u>	<u>Public</u>	<u>Other</u>
West Fl	43	53	94	29	6	6	1
Apalach	7	27	58	6	0	0	1
N Cent	10	22	20	4	0	6	0
N East	26	71	51	17	3	5	1
Withlac	5	19	154	5	0	0	0
E Cent	39	74	107	24	4	4	5
Central	2	14	0	1	0	0	1
Tampa Bay	59	73	127	28	5	17	9
S West	88	56	164	47	5	18	17
Tr Cst	46	70	97	31	5	7	1
S Florida	96	54	134	50	2	28	15
TOTAL	421	60	116	242	30	91	51

*Average for those having wet slips

**Average for those having dry slips

Source: 1988 FSU Marina Survey

Table 7.9

Gross Annual Sales for Saltwater Marinas by Region, Florida, 1987

<u>Planning Region</u>	<u>Samp. Size</u>	<u>under \$50,000</u>	<u>\$50,000-499,000</u>	<u>\$500,000-999,000</u>	<u>\$1,000,000-1,499,000</u>	<u>Other</u>
West Fl	40	13	16	2	2	7
Apalach	7	4	2	1	0	0
N Cent	10	2	8	0	0	0
N East	23	9	8	0	3	3
Withlac	5	2	2	0	1	0
E Cent	32	10	12	5	3	2
Central	2	0	1	0	1	0
Tamp Bay	46	11	27	2	1	5
S West	70	11	29	11	7	12
Tr Cst	39	9	11	9	5	5
S Florida	84	18	40	7	8	11
TOTAL	358	89	156	37	31	45

Source: 1988 FSU Marina Survey

or three to one. Fifty-seven percent of the sample marinas are commercial/profit making enterprises.

Table 7.9 shows the gross annual sales for the sample of saltwater marinas along with the distribution of marinas by sales volume. Nearly 69 percent of the saltwater marinas have an annual sales volume of less than one-half of a million dollars. The overall state weighted average for annual sales per marina is \$506,564, which is shown for those marinas reporting in Table 7.12 later in this chapter. Thus, marinas in Florida might be characterized as generally small businesses. The Florida Small and Minority Business Act of 1985 defines a small business as one which employs 25 or fewer permanent full-time employees and which has a net worth of not more than \$1 million. In a sample containing both marinas having less than and greater than \$1 in annual sales, Milon (1983) found no marinas having a net worth greater than \$1 million.

In an effort to see why gross sales per marina vary among marinas, the following independent variables were hypothesized to be statistically linked with sales volume:

- WS = Number of wet slips;
- DR = Number of dry racks;
- KM = Kind of marina (1 = private, open to public; 0 = other)
- OCC = Occupancy rate (percentage points);
- GL = Growth in land prices (percentage points);
- R = Planning regional dummy variables.

For a sample of 273 marinas, we found that all of the hypothesized variables except the regional dummies were statistically significant at the one percent level as shown in Table 7.10. The principal "products" sold by a marina are slip rentals. From Table 7.10, it can be seen that \$1,537 is added to sales (per annum) for each additional wet slip while \$2,596 (per

Table 7.10
Regression Results for Gross Sales Among Saltwater Marinas
in Florida, 1988

(Dependent Variable: Gross Sales Per Marina)

Variable	Coefficient	t-statistic
Constant*	-526,530	-2.53
WS: Wet Slips (Number)	\$1,537	3.07
DR: Dry Racks (Number)	\$2,596	7.41
KM: Kind of Marina (1 if Private for Profit, Open to Public; 0 if Other)	\$159,650	2.85
OCC: Occupancy Rate (Annual)	\$5,001	3.03
GL: Growth in Land Prices (percentage points)	\$14,750	2.33
Region 1	\$168,990	1.28
Region 4	\$163,800	1.07
Region 6	\$91,518	.66
Region 8	\$-35,638	-.27
Region 9	\$209,480	1.70
Region 10	\$251,590	1.76
Region 11	\$238,390	1.94
N = 273; $\bar{R}^2 = .252$; F Statistic = 8.67		

* Regions 2, 3, 5, and 7 left in constant term because of fewness in observations.

Source: 1988 FSU Marina Survey

annum) is added to sales for each additional dry rack. This is due to the price differential between the two services and the tendency, perhaps, of dry rack users to purchase more of other services. Notice that the wet and dry slips are additions to capacity and not specified as rented (see the survey form in Appendix. Private for profit and open to the public marinas generate \$159,650 more per year than public, non-profit and condos marinas. Of particular note, a one percentage point increase in the occupancy rate increases annual sales by \$5,001. Thus, as capacity is approached, prices may rise, thereby increasing revenues. The growth in land prices is a proxy for general economic growth in the area. A one percentage point increase in land prices will increase marina sales by \$14,750 per annum. This could be interpreted as a growth factor, but may also reflect the cost of doing business or a cost-price effect. This analysis does give the reader some idea of the factors behind the variation in sales among marinas. Additions to capacity (i.e., wet and dry slips) generate differential sales increments. Private for profit marinas that are pressing capacity in overall growth areas generate considerably more sales volume.

In addition to sales questions, saltwater marina operators were also asked to give us an idea of the importance of local property taxes as expressed as a percent of all operating cost (i.e., variable plus fixed cost). Over 61 percent of the marina operators said property taxes were less than five percent of total operating costs as shown in Table 7.11. It should be noted that all marinas reporting did not answer all of the survey questions and that is why the sample size is smaller than 421 respondents on especially the financial questions.

In Table 7.13, we see that average property tax, as a percent of operating cost for the 205 saltwater marinas responding to this question, was only 3.6 percent. Bluebelting

Table 7.11

Percent Property Tax of Operating Cost for Saltwater Marinas by Region,
Florida, 1987

<u>Planning Region</u>	<u>Size</u>	<u>0-2.0%</u>	<u>2.1-3.0%</u>	<u>3.1-5.0%</u>	<u>Over 5.1%</u>
West Florida	26	4	7	6	9
Apalachee	2	0	0	2	0
North Central	7	2	1	0	4
Northeast	15	2	1	4	7
Withlacoochee	5	1	0	3	1
East Central	21	8	2	7	4
Central	1	0	0	0	1
Tampa Bay	24	6	2	6	10
Southwest	40	11	5	12	12
Treasure Coast	20	6	3	4	10
South Florida	44	10	2	9	23
TOTAL	205	50	23	53	82

Source: 1988 Marina Survey

Table 7.12

Average Return on Investment for Saltwater Marinas by Region, Florida,
1985-1987*

<u>Planning Region</u>	<u>Samp. Size</u>	<u>Loss</u>	<u>0-3%</u>	<u>3.1-5%</u>	<u>5.1-12%</u>	<u>Over 12%</u>
West Florida	32	11	6	7	5	3
Apalachee	6	2	2	0	1	1
North Central	8	2	4	0	1	1
Northeast	21	8	8	2	3	0
Withlacoochee	5	0	2	0	1	2
East Central	23	10	6	1	5	1
Central	2	0	0	1	0	1
Tampa Bay	34	9	7	8	9	1
Southwest	55	8	18	7	15	7
Treasure Coast	29	4	12	3	3	7
South Florida	66	16	21	7	14	8
TOTAL	281	70	86	36	57	32

*Return on investment is calculated as profits before taxes divided by the market value of total assets.

Source: 1988 FSU Marina Survey

Table 7.13

Financial Profile of Saltwater Marinas by Region, Florida, 1987

<u>Region</u>	<u>Samp. Size</u>	<u>Average Profit Return on Assets*</u> (N=281)	<u>Average Gross Annual Sales**</u> (N=358)	<u>Average Percent Property Tax***</u> (N=205)
West Florida	43	4.3	\$481,000	3.6
Apalachee	7	3.9	199,857	4.1
North Central	10	3.3	224,600	3.6
Northeast	26	2.2	463,891	4.1
Withlacoochee	5	7.1	369,700	3.7
East Central	39	2.9	441,125	2.7
Central	2	8.1	762,000	5.1
Tampa Bay	59	3.9	265,761	3.6
Southwest	88	4.7	621,786	3.4
Treasure Coast	46	4.8	614,743	4.0
South Florida	96	4.2	519,643	3.8
TOTAL	421	3.6	\$506,564	3.6

*Simple arithmetic average of reported profit rate on total assets

**Simple arithmetic average of reported gross annual sales

***Simple arithmetic average of property tax as a percent of operating cost

Source: 1988 FSU Marina Survey

in the form of ad valorem tax relief will not reduce local property tax to zero. Thus, bluebelting will not impact a significant component of marina cost: property tax. Milon (1983,a) reported that property tax was about three to five percent of operating expenses for marinas with total revenue less than \$1 million. Comerford (1987) reported that at the national level property tax was but 1.1 percent of total sales for a sample of marinas indicating a somewhat minor importance of this item as an element of cost. However, profits are usually a small percentage of sales and costs, yet they are critical to the survival of a business is discussed in this aspect of property tax in Chapter 8.

The last financial question asked saltwater marina operators was a question on their average return on investment (total assets) over the last three years. Nearly 25 percent of the saltwater marina operators incurred losses over the last three years. Only a little over 12 percent of the marina operators earned more than a 12 percent return on assets (see Table 7.12). Of the 281 responses to the rate of return question, the average profit return on total assets was 3.6 percent as shown in Table 7.13 for saltwater marinas in Florida. There was not a considerable variation in this rate of return among planning regions. Milon (1983,a) reported the following return on total assets for Florida:

	<u>Less than \$1 million in Revenue¹</u>	<u>More than \$1 million in Revenue¹</u>
1980	1.9% (423)	3.7 (27)
1981	3.5% (13)	.2 (10)

¹Median rate of return on assets; number in parentheses is the sample size.

It would certainly appear that the results obtained through the 1987 survey are comparable to those obtained by Milon. Comerford (1987) reported that for a national sample of marinas for the years 1984 to 1985 the median return on total assets was 2.3 percent. Comerford states that this ratio "... assesses the efficiency with which management is employing total assets to generate profit." (p. 27). The operating returns do not include capital gains from appreciation of the land so prevalent for marinas located on waterfront property. This was discussed above and reflected in Table 7.4.

Salt Versus Freshwater Marinas

In the Appendix of this report, the survey results for the freshwater marinas are reported with tables corresponding to Tables 7.2 through 7.12. The fundamental question is whether the responses from saltwater marina owners significantly differed from those operating a freshwater marina? Table 7.14 makes such a comparison. Saltwater marinas have a somewhat higher occupancy rate and more people on the waiting list than freshwater marinas. The escalation in land prices is fairly comparable whether it is a fresh or a saltwater marina (12.1 percent-salt; 11.5 percent-fresh). Of particular interest, the economic reaction to rising land prices is somewhat different among the salt and freshwater marinas where saltwater marina operators felt more constrained in their ability to expand wet slips. This is perhaps due to the more rapid increase in prices coupled with highly environmentally sensitive saltwater wetlands. Other reactions to land price increases are similar among salt and freshwater marina operators. Overwhelmingly, all marina operators felt that environmental constraints were the major cause of limitations to wet slip expansion.

With respect to marina characteristics, saltwater marinas have about 50 percent more wet slips and twice as many dry racks.

Table 7.14

A Comparison of Survey Results:

Saltwater Versus Freshwater Marinas in Florida, 1988

	<u>Saltwater</u>	<u>Freshwater</u>
Number Sampled	421	109
Annual Occupancy (percent)	85.5	81.7
Average Number on Waiting List	27.9	12.2
Annual Increase - Land Prices	12.1	11.5
Reaction to Increase Prices		
- Sell for Capital Gains (percent)	32.3	34.0
- Cannot Add Wet Slips (percent)	37.3	33.0
- Add Profit Centers (percent)	27.1	27.5
- Merge with Water Enhanced (percent)	19.7	20.0
- Forced for Business (percent)	17.8	19.3
Major Limitation to Wet Slip Expansion: Environment	81.7	86.2%
Average Wet Slips/Marina	60	40
Average Dry Racks/Marina	116	65
Gross Annual Sales/Marina	\$506,564	\$291,166
Percent Property Tax of Cost/Marina	3.6%	3.7%
Percent with Losses (Profits)	24.9	24.4
Profits as a Percent of Assets	3.6%	3.4%

Source: 1988 FSU Marina Survey

This difference in scale is reflected in sales volume in that saltwater marinas gross about 74 percent more than freshwater marinas. Despite the difference in the scale of operations, salt and freshwater marinas have almost the same (1) property tax as a percent of operating cost; (2) percent of firms showing losses over the last three years; and (3) the return on total assets.

Conclusions

This chapter is pivotal in the study of the role of waterfront property as it impacts water-dependent commercial activities. There are 1,982 marinas in Florida which were surveyed with respect to the role of land prices in their decision making over the next five years. Both salt and freshwater marinas reported about a 12 percent increase in waterfront land prices over the last 10 years. This increase in land prices represents a two-edged sword. On the one hand, marina operators are located on an appreciating asset. However, the forces at work are competing uses for waterfront property which by and large are not water-dependent activities. Furthermore, increased land prices bring with them larger taxes which impinge upon marina profit margins. Over the next five years, one-third of the marina owners feel they would sell their marina land to other interests to realize capital gains. Over a third of the marina owners feel that wet slip expansion was next to impossible because of land price increases and environmental constraints. The remainder of the marina owners feel that the traditional small or "mom and pop marina" was an endangered species and to adjust to increasing land prices would mean either adding new profit centers (e.g., lounges, etc.) or merging with non-water-dependent activities (e.g., condos).

Marinas in Florida can still be characterized as small businesses with 69 percent of saltwater marinas having an annual

sales volume of less than \$500,000. Sales volume can be increased by adding wet and especially dry slips by private for profit marinas where occupancy rates are high and if the marina is located in a rapidly growing area according to the regression analysis.

Property taxes are 3.6 percent of total cost, but still can be important at the margin. That is, profits before income taxes for saltwater marinas are only 3.6 percent of the current value of total assets. These results are fairly similar to those obtained by Milon (1983,a) in an earlier study of Florida. Potentially, a reallocation of property taxes -- bluebelting -- to profits would make marinas much more competitive with non-water-dependent activities which will be extensively analyzed in the final chapter in this report. Finally, fresh and saltwater marinas tend to be very similar in their responses to escalating land prices. Saltwater marinas tend to be larger as measured by sales volume and under more demand pressure than that existing in the freshwater sector.

CHAPTER 8

The Economic Impact of Bluebelting on the Marina Industry

The purpose of this chapter is to evaluate the effectiveness of various forms of bluebelting as an economic incentive to preserve or protect water-dependent activities such as marinas. As the Blue Ribbon Committee on marinas recommended, the emphasis will be placed on local ad valorem tax relief as a financial incentive to marinas to remain in this water-dependent activity. Also, other forms of bluebelting that were discussed in Chapter 3 will be considered. To approach the financial impact of bluebelting, we must have detailed financial data on marinas. Milon et al (1983,a) was one of the first researchers to collect such data on marinas in Florida. Milon's sample is relatively small and is limited to the 1980 to 81 period. Fortunately, FSU entered into contract with Florida DNR to explore regional submerged land fees. As part of this contract, data on the financial aspects of marinas were collected for the year 1985. This is an unpublished data set that has yet to be utilized.

FSU-DNR Survey of Marinas

To obtain information on the financial status of the Florida marina industry, a mail questionnaire was sent to all marinas paying lease fees for submerged lands to the Florida DNR. This survey instrument (see Appendix) was sent to 1,294 marinas. An initial mailout was made in February of 1987, with the second mailout the following month. From these two mailings, a total of 787 surveys were returned. The survey is biased toward marinas providing wet slips since these are the marinas renting submerged lands from the State of Florida. Deleting those marinas not currently operating, those operating dry racks only, and those surveys with miscellaneous problems reduced the survey response to 200 salt and 46 freshwater marinas for a total of 246

observations. The distribution of the sample is shown by planning regions in Table 8.1. A comparison of this table with the inventory of marinas discussed in Chapter 7 (Table 7.1) shows that the sample distribution is fairly representative of the distribution of the universe by regions despite the concentration on marinas supplying wet slip service.

Financial Characteristics

Table 8.2 illustrates that there are significant differences between regions in the average (over twelve months) wet slip rental fee/foot/month charged. Individual marina wet slip rentals range from a low of \$.10 (South Florida region) to a high of \$22.00 (Northeast region) per linear foot. As can be seen by the minimum and maximum fees charged, fees can vary considerably within and between planning regions. The Treasure Coast region has the highest average wet slip fees, while the lowest can be found in the North Central region. In general, the highest average fees by region are found along the eastern coast of the state in addition to the southwestern region. In 1981, Milon (1983) found that for a sample of statewide marinas (52 marinas) wet slip charges averaged \$3.72/foot/month. This is somewhat above the overall rental fee for the state of \$3.38/foot/month, but given the considerable variance in rates it is difficult to track the change in rates over time. Surveys of rates may be biased upward through a selection of larger marinas. For example, the Brandy Group, Inc. (1987/88) published the following rates per foot/month (sample size in parentheses):

Table 8.1

Distribution of a Sample of Salt and Freshwater Marinas by Planning Region,
Florida, 1985

Planning Region	Number		Percent		Total	
	Salt	Fresh	Salt	Fresh	Fresh + Salt	
West Florida	27	1	13.5	2.2	11.4	28
Apalachee	4	2	2.0	4.3	2.4	6
North Central	3	1	1.5	2.2	1.6	4
Northeast	9	8	4.5	17.4	6.9	17
Withlacoochee	2	5	1.0	10.9	2.8	7
East Central	11	18	5.5	39.1	11.8	29
Central	0	6	0.0	13.0	2.4	6
Tampa Bay	34	1	17.0	2.2	14.2	35
Southwest	47	2	23.5	4.3	19.9	49
Treasure Coast	27	2	13.5	4.3	11.8	29
South Florida	36	0	18.0	0.0	14.6	36
TOTAL	200	46	100.0	99.0	99.8	246

Source: 1987 FSU-DNR Marina Survey

Table 8.2

Annual Average of Monthly Wet Slip Fee (per linear foot) for Salt and Freshwater Marinas by Planning Region, Florida, 1985

<u>Planning Region</u>	<u>Sample Size</u>	<u>Average Rental Fee</u>	<u>Rank of Rental Fee</u>	<u>Minimum Rental Fee</u>	<u>Maximum Rental Fee</u>
West Florida	28	\$3.21	6	\$0.68	\$ 9.80
Apalachee	6	3.25	5	0.86	6.04
North Central	4	1.48	11	1.00	2.00
Northeast	17	3.56	2	0.50	22.00
Withlacochee	7	3.07	7	1.00	10.00
East Central	29	2.87	9	0.68	10.50
Central	6	2.18	10	0.82	6.00
Tampa Bay	35	3.05	8	0.84	6.25
Southwest	49	3.46	3	0.13	18.75
Treasure Coast	29	4.78	1	0.27	13.50
South Florida	36	3.39	4	0.10	12.00
TOTAL	246	\$3.38		0.10	22.00

Source: 1986 FSU - Florida Department of Natural Resources Marina Survey

1.	West Florida (Pensacola - Tarpon Springs)	\$ 5.56	(6)	Jan. 1988
2.	East Coast of Florida (Jacksonville to Stuart Area)	\$ 5.30	(5)	Oct. 1988
3.	West Coast of Florida (Clearwater South to Naples)	\$ 6.75	(6)	Oct. 1988
4.	Southeast Florida (Palm Beach County through Dade County)	\$16.38	(7)	Oct. 1988

For the latter three regions (2-4), The Brandy Group found that wet slip rates were increasing by 11 percent annually over the 1986 to 1988 period. Given the demand for wet slips (see Chapter 6), this is certainly understandable.

Of the 246 marinas in the FSU-DNR survey, 227 reported their sales volume. The distribution of sales volume by planning region is shown in Table 8.3. Over 78 percent of the sample had an annual sales volume of less than \$500,000 indicating that these marinas are relatively small. In Chapter 7, the FSU sample of marinas (Table 9), indicated that nearly 69 percent had sales under \$500,000. Part of this difference is probably explained by the growth in sales over the 1985 to 1988 period for most marinas. These results are consistent with the thesis that marinas tend to be relatively small businesses as discussed in Chapter 7.

Table 8.4 shows a summary of various financial information for 154 of the 246 marinas in the FSU-DNR survey. The reason for the reduction in sample size is the failure of some marinas to

Table 8.3

Gross Sales Volume, by Planning Region, Florida, 1985

<u>Planning Region</u>	<u>Samp. Size</u>	<u>Und. 50T</u>	<u>50T- 99T</u>	<u>100T- 499T</u>	<u>500T- 900T</u>	<u>1M- 1.4M</u>	<u>1.5M- 1.9M-</u>	<u>2.0M- 2.4M</u>	<u>2.5M- 3.0M</u>	<u>Over 3M</u>
West Fl	28	16	3	4	2	2	1	0	0	0
Apalachee	6	4	1	1	0	0	0	0	0	0
N Cent	4	1	1	2	0	0	0	0	0	0
N East	17	11	1	3	2	0	0	0	0	0
Withlac	6	3	1	2	0	0	0	0	0	0
E Cent	25	13	2	6	2	1	0	0	1	0
Central	4	2	1	0	0	1	0	0	0	0
Tampa Bay	34	14	5	8	0	4	1	0	2	0
S West	46	21	3	13	2	1	2	1	0	3
Tr Cst	26	13	2	4	3	1	0	1	0	2
S Florida	31	10	3	4	4	4	2	1	0	3
TOTAL	227	108	23	47	15	14	6	3	3	8

Source: 1986 FSU - Florida Department of Natural Resources Marina Survey

Table 8.4

Financial Statistics for Florida Marinas by Planning Regions, 1985

Planning Region	Observations ¹	Average Per Marina				
		Gross Sales ²	Assessed Value	Profit ²	Dry Acres	Property Tax ³
West Florida	19	\$ 328,927	\$ 344,483	\$13,974	2.079	\$ 4,753
Apalachee	7	78,587	106,805	13,214	3.878	2,070
North Central	4	100,455	68,000	22,750	1.378	1,326
North East	11	170,443	449,770	17,091	2.254	7,883
Withlacoochee	5	435,180	453,905	26,100	5.160	6,049
East Central	19	882,070	218,739	22,105	2.034	3,771
Central	3	449,976	545,243	31,667	4.242	9,544
Tampa Bay	21	697,623	1,092,418	22,262	2.242	19,073
South West	32	716,394	2,002,328	18,984	2.062	25,826
Treasure Coast	14	475,089	474,863	20,821	3.887	7,991
South Florida	19	1,009,124	1,495,342	20,632	3.071	30,748
TOTAL	154	\$ 536,453	\$ 926,289	\$19,747	2.599	\$14,613

¹FSU-DNR Survey; includes salt and freshwater marinas

²Profits before income taxes

³Total estimated property taxes estimated by multiplying the millage rates by assessed value.

report all of the needed financial data. Gross sales per marina vary considerably among planning regions ranging from only \$78,587 in Apalachee to over \$1 million in South Florida. Statewide, the average marina grosses over \$536,000 as shown in Table 8.4. Of particular significance, we have the just or assessed value per marina. This is the value upon which local property taxes are figured. This value is also the highest and best use of the property. Average marina profits before corporate income taxes are shown in the third to last column in Table 8.4. On a statewide basis, the average marina makes a profit of slightly under \$20,000. Excluding submerged land, the average marina occupies about 2.6 acres (statewide).

It is interesting to note that greenbelting is predicated upon a very land intensive industry (i.e., farming). However, with marinas it is not the area of land that is at issue but its critical waterfront location. Finally, property taxes per marina have been estimated using the location of the marina in conjunction with the millage rates used in that area. Depending on location, millage rates are composed of those imposed by the county (i.e., county, school board, special service districts) plus the municipality [see Florida Department of Revenue (1985)]. Some comparisons of the FSU-DNR financial data on marinas will be instructive in evaluating its credibility:

<u>Ratio</u>	<u>Milon (1983,a) (less than \$1 mil. sales)</u>	<u>FSU Survey</u>	<u>FSU-DNR Survey</u>
1. Profits/Assets	3.5%	3.6	2.13
2. Property Taxes/ Operating Expenses	3.4%	3.6	N/A
3. Profits/Sales	.6%	N/A	3.7
4. Dry Acres/Marinas	3.9%	N/A	2.6

In general, it does not appear that the FSU-DNR financial data is out of line with the fragmentary information from other studies, except that marinas appear to be somewhat smaller (i.e., dry acres) in the data base shown in Table 8.4 than analyzed by Milon (1983,a).

Bluebelting Scenarios

Table 8.4 provides the basic information upon which to evaluate the impact of various forms of bluebelting on the return on investment (i.e., market value of assets and equity). The following scenarios will be examined:

1. Preferential Property Tax Assessment
 - a. Capitalization Rate: 10.39%
 - b. Capitalization Rate: 15.00%
2. Deferred Taxation (i.e., rollback provision)
3. Restrictive Agreement
4. Exclusive Water and Non-exclusive Water-Dependent Zoning
5. Purchase of Development Rights

Table 8.5 shows the financial impact of preferential property tax relief using a conservative capitalization rate of 10.39 percent which is the current yield on 30 year Bbb corporate bonds. By selecting Bbb bonds, a little risk is built into the capitalization rate as suggested by the literature on greenbelting (see Chapter 2). On a statewide basis, the impact of ad valorem tax relief is a reduction of 79.5 percent in the tax base (i.e., from \$926,289 to \$190,058 per marina) and a corresponding reduction in property taxes (i.e., 79.5 percent of \$14,613) per marina using scenario 1a. The tax reduction ranges from 90.9 percent in South West Florida to zero in the Apalachee and North Central Florida planning regions. The effect would be

Table 8.5

Economic Impact of Ad Valorem Local Property Tax Relief (Bluebelting) on
Return on Investment for Florida Marinas by Planning Regions, 1985*

(Scenario 1a)

Planning Region	Observations	Estimated Assessed Value Per Marina		Percent Property Tax Reduction ³	ROI (Before) % (4)	ROI (After) % (5)
		Just Value ¹	Marina ²			
West Florida	19	\$ 344,483	\$134,495	61.0	4.06	4.90
Apalachee	7	106,805	127,180	0	12.37	12.37
North Central	4	68,000	218,900	0	33.46	33.46
North East	11	449,770	164,495	63.4	3.80	4.72
Withlacoochee	5	453,905	251,203	44.7	5.75	6.35
East Central	19	218,739	212,753	2.7	10.11	10.15
Central	3	545,243	304,783	44.1	5.81	6.58
Tampa Bay	21	1,092,418	214,264	80.4	2.04	3.44
Southwest	32	2,002,328	182,714	90.9	.95	2.12
Treasure Coast	14	474,863	200,395	57.8	4.39	5.36
South Florida	19	1,495,342	198,576	86.7	1.38	3.16
TOTAL	154	\$ 926,289	\$190,058	79.5	2.13	3.39

*ROI = rate of return on investment (Just Value) before and after bluebelting.

¹Obtained from Table 8.4

²Capitalized value: Profits before taxes per marina divided by return on 30 year corporate bond, Bbb or 10.39%

³[1 - (value as a marina + just value)]

⁴Total profits (before income taxes) + total just value

⁵[Profits (before income taxes) plus reduced property taxes per marina] + just value per marina

to raise the rate of return on assets from 2.13 to 3.39 percent, an increase of 1.26 percentage points. Milon (1983,a) reports that, "Southern New England marinas reported a 2.5 percent return on total assets and RMA reported a 3.4 percent return on total assets." (p. 54).¹ In a more recent study by Comerford (1987) covering a sample of United States water-dependent activities, he reported a median return on total assets as follows:²

Marinas	2.3
Boatyards	7.1
Combination	7.5
Dealers	3.4

For marinas, Comerford reports that net worth is about 25.5 percent of total assets; therefore, the return on net worth or equity for marinas would be about 9 percent (2.3 percent multiplied by the reciprocal of .255). The FSU-DNR sample did not contain information on net worth (equity). Therefore, we must rely on extraneous estimates of the percent net worth (equity) is of total assets. Milon (1983,a) reports a range from about 20 percent for large marinas (i.e., over \$1 million in revenue) to about 50 percent for small marinas (i.e., under \$1 million in revenue). Using the range of equity of 20 to 50 percent, the following return on equity can be estimated for marinas.

¹RMA is Robert Morris Associates 1981 Annual Statement Studies for boat dealers [see RMA (1981)].

²This was based upon 1984 to 1985 data collected by the University of Rhode Island.

Percent Equity to Total Assets

	<u>Study</u>	<u>20</u>	<u>25</u>	<u>50</u>
1.	FSU-DNR Sample <u>Without</u> Bluebelting	10.65	8.52	4.26
2.	FSU-DNR Sample <u>With</u> Bluebelting	16.95	13.56	6.78
3.	Milon (1983)	19.10	N/A	8.30
4.	Comerford (1987)	N/A	9.0	N/A
5.	All U.S. Manufacturing Corporations for 1985-87	N/A	10.8	N/A

From the figures computed above, it would appear that two conclusions can be made. First, if return on total assets is used as the financial criterion, ad valorem tax relief will make Florida marinas competitive with marinas outside Florida and comparable with earlier studies in Florida by Milon (1983). Second, if marinas are highly leveraged (i.e., net worth is a relatively small percent of total assets), ad valorem tax relief can significantly raise the return on equity. For example, a 25 percent net worth will raise the return on equity from 8.52 to 13.56 percent as a result of ad valorem tax relief which is higher than that earned by all U.S. manufacturing corporations [see U.S. Department of Commerce (1989)].

Scenario 1b, with a higher capitalization rate, is of particular interest. The literature on greenbelting would indicate that a risk premium should be added to risk free rates of return bringing the capitalization rate possibly closer to 15 than 10.39 percent. The impact of the higher capitalization rate can be observed in Table 8.6. Property taxes will be reduced by 85.8 percent per marina while the rate of return on assets will climb from 2.13 to 3.49 percent which is comparable

Table 8.6

Economic Impact of Ad Valorem Local Property Tax Relief (Bluebelting) on
Return on Investment for Florida Marinas by Planning Regions, 1985*

(Scenario 1b)

Planning Region	Observations	Estimated Assessed Value Per Marina		Percent Property Tax Reduction ³	ROI	ROI
		Just Value ¹	Marina ²		(Before) %	(After) %
West Florida	19	\$ 344,483	\$ 93,160	73.0	4.06	5.06
Apalachee	7	106,805	88,093	17.5	12.37	12.71
North Central	4	68,000	151,667	0	33.46	33.46
North East	11	449,770	113,940	74.7	3.80	5.11
Withlacoochee	5	453,905	174,000	61.7	5.75	6.57
East Central	19	218,739	147,367	32.6	10.11	10.66
Central	3	545,243	211,113	73.0	5.81	7.09
Tampa Bay	21	1,092,418	148,413	86.4	2.04	3.55
Southwest	32	2,002,328	126,560	93.7	.95	2.16
Treasure Coast	14	474,863	138,807	70.8	4.39	5.58
South Florida	19	1,495,342	137,547	90.8	1.38	3.25
TOTAL	154	\$ 926,289	\$131,647	85.8	2.13	3.49

*ROI = rate of return on investment (Just Value) before and after bluebelting.

¹Obtained from Table 4

²Capitalized value: Profits before taxes per marina divided by 15%

³[1 - (value as a marina + just value)]

⁴Total profits (before income taxes) + total just value

⁵[Profits (before income taxes) plus reduced property taxes per marina] + just value per marina

with other marina studies. We can also see the impact of leveraging on return on with this higher capitalization rate equity:

	<u>Leverage</u> (Net Worth as a Percent of Total Assets)	<u>Estimated Return on Equity</u> (capitalization rate: 15 percent)
	<u>Without</u> <u>Ad Valorem</u> <u>Tax Relief</u>	<u>With</u> <u>Ad Valorem</u> <u>Tax Relief</u>
20	10.65%	17.45%
25	8.52%	13.96%
50	4.26%	6.98%

For those marinas that have a relatively high debt structure (i.e., net worth to total assets is low), ad valorem tax relief (bluebelting) can have a significant impact on the return on equity which is currently below all U.S. Corporations (i.e., 10.8%) without bluebelting. Thus, ad valorem tax relief will be a potentially attractive incentive where capitalization rates are high (15 percent) and net worth is about 30 percent of total assets (i.e., return on equity of 11.63%).

A second variant of bluebelting with preferential property assessment is deferred taxation discussed in Chapters 2 and 3 (i.e., rollback scenario). In this case, a marina that was converted to a non-water-dependent activity would have to pay the taxes not paid because of the preferential assessment. This is called a rollback and some states require that interest charges be levied on taxes deferred for a specific time period. According to Clouser and Mulkey (1982), 28 states have some form of deferred taxation program, with interest charge ranging from 5 to 10 percent. However, only 12 of the 28 states charged any interest penalty for conversion of agricultural land to

nonagricultural uses in the case of greenbelting. Assume the State of Florida granted ad valorem tax relief for marinas with an interest free rollback provision. Assume further that tax relief per marina is \$11,617 (i.e., \$14,613 from Table 8.4 multiplied by a tax reduction of 79.5 percent in Table 8.5). The marina owner could invest these savings, say at nine percent a year, and convert to a non-water-dependent use in the sixth year of the program, for example. The following illustrates the cash flow assuming for simplification that the tax bill and savings are constant over the period.

Year			
1	\$ 11,617 X (1.09) ⁵	=	17,874
2	11,617 X (1.09) ⁴	=	16,398
3	11,617 X (1.09) ³	=	15,044
4	11,617 X (1.09) ²	=	13,802
5	11,617 X (1.09) ¹	=	12,663
6	Sell Marina to Non-Water-Dependent Use		
Total	<u>\$ 58,085 (Rollback)</u>		<u>\$75,781</u>

In the above Scenario 2, the marina operator would enjoy two benefits (1) the surplus over the rollback of \$17,696 (before state and Federal corporate taxes) and (2) the appreciation in the value of the waterfront land over the six years at possibly 12.1 percent yearly (see Table 8.4 in Chapter 7). The tax savings could also be reinvested in the marina (net worth) and earn even a higher return than nine percent. Obviously, deferred taxation with a significant interest penalty will provide less of a bluebelting incentive for the marina operator.

Scenario 3 is called a restrictive agreement where the marina owner enters into a contract with a unit of government for a specified period of time. In greenbelting, California's Williamson Act is an excellent illustration of such an agreement

and we shall employ its provision here. The period of the contract is 10 years; however, each year, the contract is extended for one additional year unless one party gives notice that they do not want to renew the contract. After the notice of non-renewal is received, the assessment value of the property begins to accelerate reaching full market value in the seventh year. The following example illustrates the value of such a contract using the previous numerical tax values:

Year	Savings in Property Tax	Accumulated Wealth
1	\$11,617 (1.09) ¹²	\$32,675
2	Notice Given \$11,617 (1.09) ¹¹	29,977
3	\$ 9,958 (1.09) ¹⁰	23,574
4	\$ 8,299 (1.09) ⁹	18,025
5	\$ 6,640 (1.09) ⁸	13,231
6	\$ 4,981 (1.09) ⁷	9,105
7	\$ 3,322 (1.09) ⁶	5,571
8	\$ 1,663 (1.09) ⁵	2,559
9	7th year from notice 0	0
10	0	0
11	0	0
12	0 (End of Contract)	0
Total	\$58,097	\$134,717

The restrict agreement has one large advantage for the marina owner: no tax rollback provision. Thus, in the above illustration, the marina owner can accumulate \$134,717 (before state and Federal corporate taxes) in exchange for preventing sale to a non-water-dependent activity for 12 years. The return on assets and equity will rise as under the preferred tax assessment example (Scenarios 1a and 1b) until notice of contract cancellation is given. Then, the rate of return will fall back to the original return in seven years. Such a contract would introduce great inflexibility in converting capital gains from marina land appreciation. It is precisely this inflexibility that is desired in the social attempt to maintain water-dependent activities. In the illustration, the public is, in effect,

offering a payment to the marina owner of \$134,717 (before taxes) to enter a long-term contract with protection for the users (i.e., boaters) of water-dependent industries.

The fourth scenario is exclusive water-dependent zoning. Exclusive water-dependent zoning is based upon the police power of the state. Such zoning with preferential tax assessment would probably result in net losses for the marina owner. Consider the illustration above without a tax rollback provision (i.e., Scenario 2). After six years, the preferential tax assessment has resulted in \$75,781 (before taxes) in accumulated wealth or possibly more if reinvested in the marina at a higher rate of return than nine percent. However, the marina's just value was \$926,289 at the beginning of this scenario and would potentially appreciate at 12.1 percent without exclusive zoning or \$1,838,147 in six years for a potential capital gain of \$911,858 with a net loss of \$836,075. Based upon the survey discussed in Chapter 7 (i.e., one-third of marina operators may sell for capital gains), exclusive zoning would not be supported among marina owners. Nonexclusive water-dependent zones do not prevent the conversion of land to other uses as long as approved by a local zoning board. To be a bluebelting incentive, this would have to be accompanied by preferential tax assessment with little or no tax rollback. Zoning boards take time and introduce uncertainty for which marina owners will probably need some incentives.

Finally, Scenario 5 or PDRs is one form of bluebelting already in practice in Massachusetts, as discussed in Chapter 3. The value of the development right (i.e., water-dependent aspect of the bundle of rights) is the difference between the market value (i.e., just value) and the water-dependent value of the land. Consider Table 8.5 once again for an illustration:

Just Value:	\$926,289/marina
Less Water-Dependent	
Value as a Marina	<u>\$190,058/marina</u>
PDR	\$736,231/marina

Under this plan, the government would pay \$736,231 for the water-dependent development right. The marina owner who has a preference for liquidity and/or alternative investments might be attracted to this program. The marina owner would continue to earn a rate of return on the \$190,058 not purchased which is mathematically equal to the capitalization rate. That is, in Table 8.4, the profits before taxes of \$19,747 would still go to the marina operator while the total assets would be reduced to \$190,058 or a rate of return of 10.39 percent. However, this rate of return is on assets. Assuming a net worth to assets percentage of 25, the return on equity would be 41.56 percent. It would appear that the PDR would offer the greatest incentive of all bluebelting scenarios discussed above. Thus, we might take issue with boatyard owners from Massachusetts that say that the PDR program must be supplemented with preferential tax assessment. The greater the difference between just or market value and the value as a marina the greater the incentive to engage in bluebelting.

Fiscal Impact

Table 8.7 shows the fiscal impact on government in general of the various bluebelting scenarios. For purposes of illustration, we shall assume a 50 percent participation was assumed in each of the scenarios or 991 marinas. The reader may easily insert a different participation rate if desired. The PDR scenario has the most initial expense, but has many attractions for marinas. Exclusive zoning is obviously the least expensive since no incentive is offered. Deferred taxation is relatively inexpensive, but may provide little incentive for marina owners. Restrictive agreements are too costly on an annual basis, but are

Table 8.7

Fiscal Impact on Government of Various Bluebelting Scenarios*
(50 percent participation of 991)

<u>Scenario</u>	<u>Fiscal Impact</u>
1. <u>Preferential Property Assessment</u>	
a. Cap. Rate: 10.39%	\$ 11,512,447/year ¹
b. Cap. Rate: 15.00%	\$ 12,425,158/year ²
2. <u>Deferred Taxation</u>	
a. One-half Market Rate Penalty	\$ 8,765,891/6 years ³
b. No interest penalty	\$ 17,536,736/6 years ⁴
3. <u>Restrictive Agreement</u>	\$133,504,547/12 years ⁵
4. <u>Water-Dependent Zoning</u>	
a. Exclusive	None
b. Nonexclusive (with Preferential Assessment)	\$ 11,512,447/year ⁶
5. <u>Purchase of Development Rights (PDR's)</u>	\$726,604,921 (on-shot purchase)

* 1,982 marinas of which it is assumed that 50 percent or 991 participate.

1. \$11,617 X 991
2. \$12,538 X 991
3. One-half surplus of \$17,696 X 991 for 6 years
4. Total surplus of \$17,696 X 991 for 6 years
5. \$134,717 X 991
6. Use Scenario 1a.
7. \$736,231 X 991

likely to provide the flexibility of sale that the owner may desire. Finally, the preferred property incentive will raise the rate of return to competitive levels for marinas, especially those with net worth as a percent of assets below 30 percent but will cost \$11 to \$12 million per year. It would appear that the Blue Ribbon Committee's ad valorem tax relief recommendation has the potential to protect water-dependent industries. Table 8.8 shows the economic impact on each planning region's tax base if marinas were eliminated from the tax rolls based on Table 8.6. This would constitute a reduction in property taxes for each planning region. Table 8.6 indicates a statewide reduction of 85.8 percent which varies considerably by planning regions. Marinas constitute over one percent of the tax base in the Apalachee, Southwest and South Florida Planning regions. According to Table 8.8, the largest impact on the regional tax base would come in Southwest Florida (2.53% to 2.3 %) and South Florida (1.04% to .14%). The counties comprising the planning regions would have to make this tax sacrifice to preserve the benefits of water-dependent activities such as marinas. But do the benefits exceed the tax sacrifices?

A Benefit-Cost Analysis of Preferential Tax Treatment of Marinas

There are many pieces to the puzzle of evaluating the benefits and costs of preferential tax assessment of marinas in the State of Florida. First, the behavioral response of marina owners to a preferential tax assessment program is unknown. We cannot easily generalize from the greenbelting response of farmers to such tax incentive programs. The marina industry has many characteristics that are different from farming which is, for example, generally non-coastal. If there are no strings tied to preferential tax assessment, every marina operator is likely to participate. This would have an annual cost in lost taxes as follows:

Table 8.8
The Economic Impact of Preferential Tax Assessment
for All Marinas in Florida on the Tax Base
by Planning Region, 1985

<u>Planning Region</u>	<u>Total Taxable Value</u> (000)	<u>Marina Taxable Value</u> (000)	<u>Marina Tax Value With Bluebelting</u> (000)	<u>% Tax Base 1985</u>	<u>% Marina of Tax Base with Bluebelting</u>
<u>Region 1</u>					
West Florida	\$ 9,834,946	\$ 41,338	\$ 16,139	.42	.16
<u>Region 2</u>					
Apalachee	3,927,223	55,539	6,613	1.41	1.41
<u>Region 3</u>					
North Central Florida	3,369,820	18,360	5,910	.54	.54
<u>Region 4</u>					
Northeast	13,785,198	57,571	21,055	.42	.15
<u>Region 5</u>					
Withla-coochee	5,793,441	30,412	16,831	.52	.29
<u>Region 6</u>					
East Central	34,768,277	50,310	48,933	.14	.14
<u>Region 7</u>					
Central	8,231,207	31,079	17,373	.38	.21
<u>Region 8</u>					
Tampa Bay	38,211,247	237,055	46,459	.62	.12
<u>Region 9</u>					
Southwest	27,559,931	696,810	63,584	2.53	.23
<u>Region 10</u>					
Treasure Coast	37,062,146	101,621	42,885	.27	.12
<u>Region 11</u>					
South Florida	74,941,349	780,569	103,657	1.04	.14
Florida	\$275,484,785	\$2,100,664	\$389,439	.76	.14

Source: Florida DOR; Tables 7.1 (number of marinas) and 8.6 (taxable value per marina).

$$\begin{aligned} \text{Annual Cost} &= \text{Tax Reduction Per Marina} \times \text{Number of Marinas} \\ \$23,024,894 &= \$11,617 \times 1,982 \end{aligned}$$

The benefits from such a tax incentive program would depend on the number of marinas enticed not to leave the industry plus other variables discussed below. In Chapter 7, the survey of marina owners indicated that up to one-third might leave the industry if the financial equation remained unchanged. But, the preferred taxation would raise the rate of return on equity to very competitive levels. This might prevent marina owners from leaving the industry and provide boaters with greater user value derived (i.e., willingness to pay) from using a marina as opposed to a boat ramp for access to boating recreation. Remember, that for all but six percent of recreational boaters that have boats over 25 feet boat ramps are a viable (if not preferable) option. For purposes of illustration, we shall assume that the preferred taxation program is 50 percent effective. This includes not only the 33.3 percent, but those merging with condos that reduce public access. The number of boater days funneled through a marina rather than a boat ramp would be calculated as follows:

$$\begin{aligned} \text{Boater Days Via a Marina} &= \text{Percent of Marinas Impacted by} \\ &\quad \text{Tax Programs} \\ &x \quad \text{Number of Marinas} \\ &x \quad \text{Average Number of Slips Per Marina}^3 \\ &x \quad \text{Annual Capacity Utilization} \\ &x \quad \text{Number in Boating Party} \\ &x \quad \text{Days Boating Per/yr. Per Boat via a} \\ &\quad \text{marina}^4 \\ &= \quad (.5)(1,982)(90)(.855)(3.3)45 \\ &= \quad 11,324,231 \end{aligned}$$

Now, what difference should it make whether boater days are funneled through a marina as opposed to a boat ramp? The difference is added consumer surplus or willingness to pay (i.e.,

³Number of slips (wet and dry) per marina is smaller than shown in Table 7.8 in Chapter 7 since slips were divided by all marinas.

⁴Used the mean rather than median.

value of boating day attributes) which was calculated in Chapter 5. A boating day is worth \$2.94 more if a marina is used (\$4.16 less \$1.22) rather than a boat ramp. Thus, this is the incremental consumer surplus of a marina in a recreational boating day. Thus, the benefits are as follows:

$$\begin{aligned} \text{Economic Benefits} &= \$2.94 \times 11,324,231 \\ \text{(Annual)} &= \$33,293,239 \end{aligned}$$

The benefit - cost ratio of the preferred taxation program are as follows:

$$\frac{\text{Economic Benefits}}{\text{Economic Cost}} = \frac{\$33,293,239}{\$23,024,894} = 1.45$$

Although the benefit-cost ratio would appear favorable, the reader should be cautioned that the benefits critically depend on the percent of marinas actually impacted or held in the industry by preferential tax assessment. The figure of 50 percent is but a working hypothesis.

The Pros and Cons of Bluebelting

From the discussion in this report, there emerge some advantages or arguments for bluebelting and some disadvantages or arguments against bluebelting for the reader to consider. The purpose of this report was not to be an advocate for bluebelting, but to make a scientific investigation of the economic situation facing boaters in Florida with respect to marinas being one point of access to Florida's waters. The arguments on each side are presented below and the reader is left to decide for himself.

(a) Cons

1. Marinas should be able to compete for waterfront space in a free market by raising slip rental prices. Boaters are not poor people, especially those who

have craft large enough to require a wet slip. Why are marinas an exception to the competitive system?

2. Of all the boaters in the state of Florida, marina users are a minority. Only 14 to 16 percent of boaters use marinas for access to Florida waterways. Combining boat owners with the minority of those using marinas, only 1.86 of Florida households have a direct boating interest in marinas and their economic services;
3. The entire recreational boating sector comprises less than one percent of total Florida employment considering direct and indirect created jobs. Marinas and boatyards employ 4,298 persons directly and a total of 9,287 persons including indirect jobs. The marina sector is smaller than many firms in Florida as measured by employment;
4. Statewide, the alternative to marinas for access to public waters or boat ramps are relative abundant. The current supply of boat ramps is projected to be two (saltwater) to almost four (freshwater) times the expected demand in the year 2000;
5. Only 18 percent of marina operators said they would withdraw from the marina business because of escalating prices and property taxes over the next five years;
6. Over 61 percent of the marina operators said property taxes were less than five percent of total operating cost. Thus, property tax relief is not a significant cost reducer;

7. The data set used to evaluate bluebelting is incomplete. A model of marina demand and supply must be developed to evaluate bluebelting;
8. The Brandy group found that for some relatively large marinas in Florida wet slip rental rates were increasing by 11 percent a year over the 1986 to 1988 period apparently keeping up with land price escalation;
9. Marinas average 2.6 acres of waterfront and pay for the same services as other waterfront property in property taxes. This argument is alleged to not prevail in farming and hence the need for greenbelting;
10. Once established, bluebelting or a tax subsidy would be difficult to eliminate if circumstances changed.

(b) Pros

1. As the level of affluence increases in Florida, more and more individuals will prefer marina access to waterways compared to boat ramps. Florida's waterways are common property resources that provide valuable recreational boating activity to tourists and residents. The attributes of a boating day have more recreational value if a marina is used compared to a boat ramp. A boater derives \$2.94 more per boating data in user value when a marina is used as opposed to when a boat ramp is used, providing a positive externality. The marina is therefore a quasi-public good in short supply. Local governments often build and operate their own marinas as public facilities; therefore, marinas are an exception to the free market argument;

2. Over the next five years, 32.3 percent of marina operators will sell to other interests (e.g., condos, etc.) to realize substantial capital gains. This will reduce the supply of a quasi-public good that will be used by over 20 percent of all boaters by the year 2000. Recreational value will be reduced to this segment of the boating public;
3. Eighty-two percent of marina owners list environmental permits as an obstacle to wet slip expansion. The preservation of wetlands comes into direct conflict with the use of water for recreation. Bluebelting may direct marinas into dry stacking to solve this market failure;
4. If marinas are reasonably leveraged, then ad valorem tax relief can significantly raise the return on equity (13.6 percent compared to 10.8 percent for all U.S. manufacturing corporations). Thus, bluebelting can provide an economic incentive for water-dependent activities to remain on the waterfront. A PDR program will provide even a greater incentive to water-dependent activities to remain in the industry. The Massachusetts Boatyard Preservation Act is a living illustration of this approach;
5. Marinas in Florida can be characterized as small businesses with 69 percent of saltwater marinas having an annual sales of less than \$500,000. Such businesses should be eligible for regulatory relief including tax incentives;
6. The Florida Comprehensive Planning and Land Development Act calls for preservation of water-dependent economic activities;

7. For every dollar of lost revenue under ad valorem tax relief for marinas (i.e., costs), \$1.45 will be gained in enhanced recreational value from Florida's waterways for those using marinas.

Conclusion

In this chapter, a financial profile was prepared for a sample of 246 fresh and saltwater marinas in Florida. These data were collected as part of an FSU-DNR survey of marinas holding submerged land leases in the year 1985. Data on gross sales, assessed value, profits and property taxes were reported for 154 marinas. These marinas formed the basis for the calculations of the economic impact of various bluebelting scenarios. Gross sales per marina vary considerably among planning regions ranging from only \$78,587 in Apalachee to over \$1 million in South Florida, and averaging \$536,000 for all marinas in the sample. The typical marina earned 2.13 percent on the current value of its assets as of 1985. Five forms of bluebelting were considered. Preferential property tax incentive would reduce property taxes for the typical Florida marina by almost 80 percent using a capitalization rate of 10.39 percent. The effect would be to raise the rate of return on assets from 2.13 to 3.39 percent. With a 25 percent net worth (equity) this would raise the rate of return on equity from 8.52 to 13.56 which might induce many marinas to remain as water-dependent activities.

If Florida was to adopt a preferential property assessment with deferred taxation, the marina owner would still enjoy the appreciation in waterfront property. If taxes were to be repaid without interest upon conversion to non-water dependent activities, the marina operator could pocket the interest on deferred taxes. This would provide somewhat of an incentive to remain in the marina business.

The bluebelting option of a restrictive agreement which is patterned after the greenbelting Williamson Act in California would be especially attractive to marina operators that do not need instant liquidity. Under this agreement, the marine operator would receive preferential tax assessment for a defined period such as 10 years. The operator could give second notice to end the agreement at the end of, for example, the second year and preferential tax incentive would be phased out becoming zero in the seventh year. This type of restrictive agreement has two large advantages. First, there is no tax rollback. Second, the property will continue to appreciate during the period of the contract. In exchange for these concessions, the marine owner cannot convert his property for 10 years from the date of non-renewal and the tax savings are progressively diminished from such data.

Exclusive water-dependent zoning even with preferential tax assessment would probably result in net losses for the marina owner since he would be precluded from selling or converting his property to other uses. Any capital gains would be lost. Nonexclusive zoning would be more advantageous to marina owners, but the uncertainty of zoning boards introduces business risk.

The PDR is already in practice in Massachusetts. Government would pay the difference between the just value and the water-dependent value of a marina. This program has many advantages for the marina owner. First, he gets instant liquidity from his marina that can be reinvested elsewhere. Second, he keeps the profits presently derived from all marina assets even though the government may have bought 80 to 90 percent of such assets. The rate of return on equity will increase considerably. This effect will go a long way in off-setting the inability to sell the marina to non-water-dependent activities.

The fiscal impact of preferential tax assessment would be a reduction in the tax base of the counties throughout Florida. The largest reduction in the tax base would be the Southwest and South Florida planning regions where marinas now constitute an estimated 2.53 and 1.04 percent, respectively, of the tax base. These percentages would drop to .23 and .14 under preferential tax assessment. On a statewide basis, the tax base would drop from .76 percent to .14 percent. Such an impact would not be too severe for county governments since their tax base does not provide all revenues (e.g., state transfer to counties). From a fiscal impact standpoint, PDR's would be the most expensive in the initial few years while other schemes would cost more in the long run.

A very preliminary benefit - cost analysis was made of the preferential tax assessment scenario suggested by the Blue Ribbon Marina Committee. On the cost side, it was assumed that all marinas would participate in the tax reduction without a rollback. This was viewed as reasonable since all farmers participate in greenbelting. The annual cost was estimated at about \$23 million of tax relief for marinas. If a bluebelting program were in place, what benefits would accrue to boaters? This critically depends on the number of marinas that would gradually reduce boater access via selling out or merging with activities that restrict boater access (dockominiums). We assumed that 50 percent would be in this category and then calculated the number of boater days that would be diverted from marinas to boat ramps without bluebelting. The estimated figure was 11.3 million days multiply by the difference in user value between the use of a marina as opposed to a boat ramp of \$2.94 per day. Benefits were estimated at \$33.2 million with a benefit cost ratio of 1.45.

Finally, the bluebelting issue was summarized by listing the cons and pros of such a program. This is a list of issues that opponents and proponents may bring out concerning the wisdom of bluebelting. Such points have been developed in the course of this research and the reader is left to make his or her own decision regarding bluebelting.

APPENDIX

Table A.1

Freshwater Marina Wet-slip Occupancy Rates and Number on Waiting List by Region, Florida, 1987

Planning Region	Sample Size	# with long wait lists	Ave. # on Wait. lists	<u>Ave. Occupancy Rates</u>		
				<u>Dec.- Apr.</u>	<u>May- Nov.</u>	<u>Annual</u>
West Florida	0	0	0.0	0.0	0.0	0.0
Apalachee	6	4	18.3	94.3	93.3	71.7
North Central	5	4	5.2	80.0	87.0	88.0
Northeast	16	8	13.0	90.9	81.6	76.9
Withlacoochee	18	12	18.1	92.2	85.3	90.2
East Central	24	11	9.2	86.9	77.0	84.0
Central	15	7	10.0	90.9	67.3	75.4
Tampa Bay	0	0	0.0	0.0	0.0	0.0
Southwest	7	4	12.5	87.9	54.2	66.0
Treasure Coast	1	0	0.0	66.0	85.0	75.0
South Florida	11	2	10.0	82.9	81.4	85.6
<u>TOTAL</u>	<u>103</u>	<u>52</u>	<u>12.2</u>	<u>88.1</u>	<u>78.1</u>	<u>81.3</u>

Source: 1988 FSU Marina Survey

Table A.2

Annual Percentage Increase in Land Values for Freshwater Marina Owners, by Region, Florida, 1978-1987

<u>Planning Region</u>	<u>Samp. Size</u>	<u>0-1.9</u>	<u>2-3.5</u>	<u>3.6-5</u>	<u>5.1-10</u>	<u>10.1-15</u>	<u>>15</u>	<u>Over all Ave.</u>
West Fl	0	0	0	0	0	0	0	0.0
Apalach	5	0	0	0	3	1	1	10.1
N Cent	5	0	0	0	0	2	3	14.0
N East	16	1	1	2	3	2	7	10.3
Withlac	15	0	2	0	1	4	8	12.2
E Cent	21	2	0	2	2	5	10	11.4
Central	13	0	1	1	2	0	9	12.1
Tamp Bay	0	0	0	0	0	0	0	0.0
S West	7	0	0	1	1	0	5	12.4
Tr Cst	1	1	0	0	0	0	0	1.0
S Florida	11	0	1	1	2	0	7	11.6
TOTAL	94	2	4	7	14	14	50	11.5

Source: 1988 FSU Marina Survey

Table A.3

Expected Action of Freshwater Marina Owner as Result of Escalating Land Prices, By Region, Florida, 1988*

	<u>Samp.</u> <u>Size</u>	<u>Merge</u> <u>with</u> <u>Water</u> <u>Enhancing</u> <u>Business</u>	<u>Add</u> <u>Profit</u> <u>Centers</u>	<u>Not</u> <u>Add</u> <u>Wet</u> <u>Slips</u>	<u>Forced</u> <u>out of</u> <u>Business</u>	<u>Sell</u> <u>to</u> <u>Realize</u> <u>Capital</u> <u>Gains</u>
West Fl	0	0	0	0	0	0
Apalach	6	1	1	2	1	1
N Cent	5	1	2	1	1	1
N East	16	6	6	4	2	4
Withlac	18	5	4	7	3	5
E Cent	24	3	8	8	4	9
Central	15	3	1	5	5	8
Tamp Bay	0	0	0	0	0	0
S West	7	2	3	4	0	2
Tr Cst	1	0	0	0	0	0
S Florida	11	1	3	4	4	6
TOTAL	103	22	28	35	20	36

*A marina owner may check more than one of possible responses.

Source: 1988 FSU Marina Survey

Table A.4

Major Limitation on Freshwater Marina Wet Slip Expansion, by Region, Florida, 1988*

<u>Planning Region</u>	<u>Samp. Size</u>	<u>Environ-mental Permit</u>	<u>Rising Insurance Rates</u>	<u>Rising Land Costs</u>	<u>High Labor Costs</u>	<u>Other</u>
West Fl	0	0	0	0	0	0
Apalach	6	4	3	1	3	2
N Cent	5	5	4	2	2	2
N East	16	16	11	8	8	5
Withlac	18	16	12	13	11	2
E Cent	24	19	16	13	11	5
Central	15	14	12	10	7	3
Tamp Bay	0	0	0	0	0	0
S West	7	6	7	6	6	0
Tr Cst	1	1	0	0	1	0
S Florida	11	8	5	6	6	1
TOTAL	103	89	70	59	55	20

*A marina owner may check more than one of several possible responses.

Source: 1988 FSU Marina Survey

Table A.5

Major Limitation on Fresh Expansion by Degree*, by Region, Florida, 1988**

<u>Planning Region</u>	<u>Samp. Size</u>	<u>Environ-mental Permit Degree</u>	<u>Rising Insurance Rates Degree</u>	<u>Rising Land Costs Degree</u>	<u>High Labor Costs Degree</u>	<u>Other Degree</u>
West Fl	0	0.0	0.0	0.0	0.0	0.0
Apalach	6	1.3	2.0	3.0	2.3	1.0
N Cent	5	2.8	2.3	3.0	1.5	1.0
N East	16	1.5	2.4	2.9	3.4	1.8
Withlac	18	1.6	2.1	2.8	2.8	2.5
E Cent	24	1.7	2.6	2.6	2.3	1.0
Central	15	1.6	2.1	2.5	3.6	3.0
Tamp Bay	0	0.0	0.0	0.0	0.0	0.0
S West	7	2.2	1.7	3.8	3.2	0.0
Tr Cst	1	2.0	0.0	0.0	0.0	0.0
S Florida	11	1.5	2.6	1.2	3.3	0.0
TOTAL	103	1.7	2.2	2.7	2.9	1.7

*Degree of problem running from 1-5, where 1=most severe.

**A marina owner may check more than one of several possible responses.

Source: 1988 FSU Marina Survey

Table A.6

Number of Wet Slips and Dry Slips Per Freshwater Marina and Kind of Marina by Region, Florida, 1988

Planning Region	Samp. Size	Average No. of Wet Slips per Marina	Average No. of Dry Slips per Marina	Kind of Marina			
				Comm./ Profit Making	Non- Profit	Public	Other
West Fl	0	0	0	0	0	0	0
Apalach	6	43	60	3	0	0	1
N Cent	5	42	10	4	0	1	0
N East	16	34	66	12	0	2	2
Withlac	18	31	36	9	2	4	3
E Cent	24	43	4	15	0	5	4
Central	15	30	90	10	1	1	2
Tamp Bay	0	0	0	0	0	0	0
S West	7	42	0	6	0	1	0
Tr Cst	1	21	0	1	0	0	0
S Florida	11	58	66	7	1	2	0
TOTAL	103	39	53	67	4	16	12

Source: 1988 FSU Marina Survey

Table A.7

Gross Annual Sales for Freshwater Marina by Region, Florida, 1987

<u>Planning Region</u>	<u>Samp. Size</u>	<u>under 50,000</u>	<u>50,000-499,000</u>	<u>500,000-999,000</u>	<u>1,000,000-1,499,000</u>	<u>over 1,500,000</u>
West Fl	0	0	0	0	0	0
Apalach	4	1	2	0	1	0
N Cent	5	2	3	0	0	0
N East	14	4	7	0	1	2
Withlac	16	10	5	0	1	0
E Cent	24	15	8	1	0	0
Central	13	8	3	2	0	0
Tamp Bay	0	0	0	0	0	0
S West	7	2	3	1	0	1
Tr Cst	1	1	0	0	0	0
S Florida	9	1	3	3	2	0
TOTAL	93	44	34	7	5	3

Source: 1988 FSU Marina Survey

Table A.8

Percent Property Tax of Operating Cost for Freshwater Marina by Region, Florida, 1987

<u>Planning Region</u>	<u>Size</u>	<u>0-2.0</u>	<u>2.1-3.0%</u>	<u>3.1-5.0%</u>	<u>Over 5.1%</u>
West Florida	0	0	0	0	0
Apalachee	3	1	2	0	0
North Central	5	1	0	1	3
Northeast	11	4	2	1	4
Withlacoochee	12	4	2	1	5
East Central	14	1	1	3	9
Central	4	0	0	2	2
Tampa Bay	0	0	0	0	0
Southwest	7	3	1	0	3
Treasure Coast	1	0	0	0	1
South Florida	8	1	1	2	4
<u>TOTAL</u>	<u>65</u>	<u>15</u>	<u>9</u>	<u>10</u>	<u>31</u>

Source: 1988 FSU Marina Survey

Table A.9

Average Profit Return on Asset for Freshwater Marina by Region, Florida, 1985-1987*

<u>Planning Region</u>	<u>Size</u>	<u>Loss</u>	<u>0-3%</u>	<u>3.1-5%</u>	<u>5.1-12%</u>	<u>Over 12%</u>
West Florida	0	0	0	0	0	0
Apalachee	3	1	1	0	1	0
North Central	5	2	0	1	2	0
Northeast	10	3	3	3	0	1
Withlacoochee	14	4	3	2	2	3
East Central	27	3	16	4	4	0
Central	11	2	4	2	2	1
Tampa Bay	0	0	0	0	0	0
Southwest	7	4	1	0	2	0
Treasure Coast	1	0	0	0	1	0
South Florida	10	0	6	0	3	1
TOTAL	88	19	29	12	13	6

*Return on investment is calculated as profits before taxes divided by total assets.

Source: 1988 Marina Survey

Table A.10

Financial Profile of Freshwater Marinas by Region, Florida, 1987

Region	<u>Samp. Size</u>	<u>Average Profit Return* on Asset</u> (N= 88)	<u>Average Gross Annual Sales</u> (N= 93)	<u>Average Percent Property Tax</u> (N= 65)
West Florida	0	0.0	0	0.0
Apalachee	6	3.4	455,875	2.1
North Central	5	4.3	174,700	4.1
Northeast	16	2.9	447,929	3.1
Withlacoochee	18	4.7	179,500	3.2
East Central	24	2.8	138,354	4.4
Central	15	4.0	194,039	4.6
Tampa Bay	0	0.0	0	0.0
Southwest	7	2.7	446,143	3.0
Treasure Coast	1	8.6	25,000	5.1
South Florida	11	4.7	621,778	4.0
TOTAL	103	3.1	284,161	3.7

*Average profit for region determined by dividing profits before taxes by total assests.

Source: 1988 FSU Marina Survey



The Florida State University
Tallahassee, Florida 32306
Department of Economics
College of Social Sciences

A FLORIDA SEA GRANT SURVEY
PRESENT PROBLEMS AND
POTENTIAL TAX RELIEF
FOR MARINAS



Dear Marina Operator: The ability of the marina industry in Florida to supply boater needs is getting increased attention. In an effort to aid marina operators and state and local governments, we are presently investigating the concept of giving marinas tax relief to stimulate expansion and to keep existing marinas from being converted to higher valued uses. Please take a few minutes to answer the important questions below and return the questionnaire in the enclosed postage paid envelope. Your individual views are important and will be published as part of this large survey. Your individual responses are completely confidential. Thank you for your help and if you have any questions please call me. Sincerely, Professor Frederick W. Bell, Department of Economics, Florida State University, 904-644-5001.

Questionnaire

- Boaters claim that they have difficulty in renting wet slips and must wait for months on long waiting lists. Is this true for your marina?
 Yes No
- For your marina's wet slips, what was your occupancy rate in 1987?

<u>Season</u>	<u>Occupancy Percent (Fill In)</u>
December - April:	_____ %
May - November:	_____ %
Annual:	_____ %
Number presently on waiting list:	_____
- Consider the last ten years (1978-1987). In your opinion, what has been the approximate annual percentage increase over this period in the value of land (per acre) upon which your marina is located? (Check one.)
 0-1.9% 2-3.5% 3.6-5% 5.1-10% 10.1%-15% over 15%
- Considering your answer to question 3, do you believe the continued increase in land prices will in the near future (next five years) force you to (check any applicable box below.)

- (1) merge your marina with other business interests which are not water-dependent such as condos, restaurants, or hotels;
- (2) add other profit centers such as lounges, eating facilities, or meeting rooms to the basic marina functions of supplying wet slips and/or dry stacks to stay in business;
- (3) be prevented from acquiring additional land for wet slips because it is not economically feasible;
- (4) withdraw from the basic marina business because of escalating land values and property taxes.
- (5) sell marina land to other interest (e.g., condos, etc.) to realize substantial capital gains.

5. Over the last three years, what has been your average return on investment as measured by profits before taxes divided by total assets? Percent _____%

6. Assume that you wanted to expand your marina to provide more wet slips. In your informed opinion, what would be the major limitation(s) on such expansion? (Check any applicable factor, but circle only once.)

<u>Factor</u>	<u>Degree of a Problem (1=most severe)</u>				
	(Circle only one number.)				
<input type="checkbox"/> Environmental Permit (Dredging)	1	2	3	4	5
<input type="checkbox"/> Rising Insurance Rates	1	2	3	4	5
<input type="checkbox"/> Rising Land Prices	1	2	3	4	5
<input type="checkbox"/> High Labor Cost	1	2	3	4	5
<input type="checkbox"/> Other (specify) _____	1	2	3	4	5

7. Please give us the following baseline data.

City: _____ County: _____; Saltwater
or Freshwater Marina: _____; Number of wet slips:
 _____; Number of dry stacks _____; Kind of Marina: Private,
 but open to public for profit ____; Non-profit club ____; Public ____;
 Other (condo, restaurant, motel, fishing) _____
 (specify); Gross annual sales volume from marina complex (check one)
 under \$50,000; \$50,000 - \$499,000; \$500,000 - 999,000;
 \$1,000,000 - \$1,499,000; \$1,500,000 plus; Property tax as a percent
of annual operating costs: _____%

Thank you very much!

**Florida Department of Natural Resources
Marina Survey**

1. Please consider those wet slips or other boat mooring areas that are rented on a daily, weekly, monthly, or annual basis. Compute the total linear feet in the wet slip rental area by adding the lengths of each slip or mooring area. Include the distance out to the ends of catwalks or mooring piles.

Wet slip rental area = _____ linear feet.

2. Please fill in the blanks below based on what you charged a boat per month in 1985. These fees should be for the basic rental of a wet slip.

Monthly Per Foot Rental

- | | |
|-------------------|--------------------|
| a. January _____ | g. July _____ |
| b. February _____ | h. August _____ |
| c. March _____ | i. September _____ |
| d. April _____ | j. October _____ |
| e. May _____ | k. November _____ |
| f. June _____ | l. December _____ |

3. Check boxes in the first column for facilities or services available at your marina. Check boxes in the second column if the cost of the facility or service is included in your basic wet slip fee.

	Available at Marina	Cost included in basic wet slip fee	
a.	<input type="checkbox"/>	<input type="checkbox"/>	New boat sales
b.	<input type="checkbox"/>	<input type="checkbox"/>	Used boat sales
c.	<input type="checkbox"/>	<input type="checkbox"/>	Brokerage services
d.	<input type="checkbox"/>	<input type="checkbox"/>	Engine sales
e.	<input type="checkbox"/>	<input type="checkbox"/>	Boat and engine parts
f.	<input type="checkbox"/>	<input type="checkbox"/>	Hull repair
g.	<input type="checkbox"/>	<input type="checkbox"/>	Electronic repair
h.	<input type="checkbox"/>	<input type="checkbox"/>	Other boating equipment
i.	<input type="checkbox"/>	<input type="checkbox"/>	Tackle and bait
j.	<input type="checkbox"/>	<input type="checkbox"/>	Fuel and lubricants
k.	<input type="checkbox"/>	<input type="checkbox"/>	Dockside electricity
l.	<input type="checkbox"/>	<input type="checkbox"/>	Dock attendants
m.	<input type="checkbox"/>	<input type="checkbox"/>	Sewage pumpout
n.	<input type="checkbox"/>	<input type="checkbox"/>	24-hour security
o.	<input type="checkbox"/>	<input type="checkbox"/>	Laundry facilities
p.	<input type="checkbox"/>	<input type="checkbox"/>	Showers and toilets
q.	<input type="checkbox"/>	<input type="checkbox"/>	Telephone
r.	<input type="checkbox"/>	<input type="checkbox"/>	Picnic areas
s.	<input type="checkbox"/>	<input type="checkbox"/>	Fork lift
			_____ tons (capacity)
t.	<input type="checkbox"/>	<input type="checkbox"/>	Rail hoist
			_____ tons (capacity)
u.	<input type="checkbox"/>	<input type="checkbox"/>	Boat ramp
v.	<input type="checkbox"/>	<input type="checkbox"/>	Charter head boat fishing
w.	<input type="checkbox"/>	<input type="checkbox"/>	Tour boats
x.	<input type="checkbox"/>	<input type="checkbox"/>	Boat rentals
			____ Sail _____ Power
			____ Row _____ Canoe
y.	<input type="checkbox"/>	<input type="checkbox"/>	Groceries, ice, snacks, beverages
z.	<input type="checkbox"/>	<input type="checkbox"/>	Restaurant
aa.	<input type="checkbox"/>	<input type="checkbox"/>	Bar/cocktail lounge
bb.	<input type="checkbox"/>	<input type="checkbox"/>	Meeting rooms/club room
cc.	<input type="checkbox"/>	<input type="checkbox"/>	Lodgings

4. Do you charge a membership fee?

_____ yes _____ no

If yes, is this charge included in the basic wet slip fee?

_____ yes _____ no

5. Check the categories below which you believe apply to your facility (more than one may apply).

- | | |
|--|--|
| a. <input type="checkbox"/> Private/members only | e. <input type="checkbox"/> Restaurant/motel |
| b. <input type="checkbox"/> Private open to public | f. <input type="checkbox"/> Condominium |
| c. <input type="checkbox"/> Shipbuilding, repair | g. <input type="checkbox"/> Fishing |
| d. <input type="checkbox"/> Apartment/multi-family | h. <input type="checkbox"/> Other _____ |

Specify

6. How many years has this site been used for a marina?
_____ years

7. What is the maximum draft in your marina basin and access channel at low tide (or mean low water)? _____ feet

8. Indicate the average number of boats berthed in your wet slip facility in 1985.

Motor Boats		Sailboats	
Number	Size	Number	Size
a. _____	0-14 feet	f. _____	0-9 feet
b. _____	15-24 feet	g. _____	10-14 feet
c. _____	25-49 feet	h. _____	15-19 feet
d. _____	50+ feet	i. _____	20+ feet
e. _____	Total	j. _____	Total

9. How many boat ramps are there at your facility? _____

10. Indicate the number of wet slips that you have in each of the following linear feet size ranges:

- | | | |
|-------------------|-----------------|----------------|
| a. Under 25 _____ | b. 25-34 _____ | c. 35-44 _____ |
| d. Over 45 _____ | e. Total: _____ | |

g. Of the total number of wet slips, how many are covered?

11. Indicate the number of dry slips or racks that you have in each of the following linear feet size ranges:

- | | |
|-------------------|-----------------|
| a. Under 25 _____ | b. 25-35 _____ |
| c. Over 35 _____ | d. Total: _____ |

e. Of the total number of dry slips or racks, how many are covered? _____

12. For 1985, what were your average occupancy rates?

- | |
|----------------------------|
| a. Wet slips _____ percent |
| b. Dry racks _____ percent |

13. Was there a waiting list for the 1985 boating season for wet slips?

_____ yes _____ no

If yes, how many names were on the waiting list?

_____ names

14. How many docks are available for daily rental/transient docking? _____

15. In 1985 what was your average occupancy rate for daily rental/transient docking? _____ percent.

16. Check the principal destination of your customers and indicate its distance from the marina (check only one).

- | | | Distance from
Marina |
|-----------------------------|-----------------------------------|-------------------------|
| a. <input type="checkbox"/> | Freshwater lake | _____ miles |
| b. <input type="checkbox"/> | River | _____ |
| c. <input type="checkbox"/> | Intracoastal
waterway or canal | _____ |
| d. <input type="checkbox"/> | Bay | _____ |
| e. <input type="checkbox"/> | Gulf | _____ |
| f. <input type="checkbox"/> | Ocean | _____ |

NOTE: If the facility supplying wet slip rentals is principally an apartment, condominium, restaurant, motel or ship-building and repair facility, questions 17-23 only apply to the marina facility. Please make an approximate estimate if possible.

17. How much do you pay your average full-time employee, including fringe benefits (for example, social security)?

- a. under \$10,000
- b. \$10,000-\$15,000
- c. \$15,001-\$20,000
- d. over \$20,000

18. How many full-time employees work for the marina?
_____ employees.

19. How many part-time employees work for the marina?
_____ employees.

20. What is the taxable value of the marina including real and personal property (for example, machines)? Taxable value is the dollar amount upon which your taxes are figured.

Taxable Value \$ _____

If the marina is part of a condominium or larger complex, please provide the following:

Total taxable value of entire complex \$ _____
Size of entire complex _____ acres
Size of marina only _____ acres

21. How much land does the marina occupy?

- a. dry land _____ or _____
acres square feet
- b. submerged land _____ or _____
acres square feet

22. In 1985 what was the gross sales volume for the marina including all services and products that are boat related?

- a. under \$50,000
- b. \$50,000-\$99,000
- c. \$100,000-499,000
- d. \$500,000-\$999,000
- e. \$1-1.49 million
- f. 1.5-1.99 million
- g. 2-\$2.49 million
- h. \$2.5-2.99 million
- i. over 3 million

23. In the year 1985, how much in gross profits before taxes did the above sales yield to the marina?

- a. under \$1,000
- b. \$1,000-\$1,999
- c. \$2,000-\$9,999
- d. \$10,000-\$19,999
- e. \$20,000-\$29,000
- f. \$30,000-\$39,000
- g. \$40,000-\$49,999
- h. \$50,000-\$59,999
- i. over \$60,000

24. Please name the nearest commercial marina with wet slips to your facility.

Nearest marina: Name _____

Address _____

County _____

Distance from your facility _____
miles by road

25. What is your "market area" for wet slip rentals (where do your customers come from)? Within Florida please include cities or counties. Counties or cities need not be indicated for the other states.

Counties/Cities/State	Approximate Percentage of Wet Slip Area Rented
a. _____	_____ %
b. _____	_____ %
c. _____	_____ %
d. _____	_____ %
e. _____	_____ %

26. What percentage of your wet slips is rented to nonresidents of Florida?
_____ %

27. Please attach a copy of your latest rate schedule for wet slips.

Name of person completing questionnaire Date
(please print)

Thank you for your assistance.

Florida State University
Policy Science Telephone Survey of
Registered Boat Owners

1. Do you own a pleasure boat that is registered in Florida?
2. What is the length of your boat in feet?
3. Do you store your boat at a marina?
4. Do you use a dry rack or a wet slip?
5. Do you usually do your recreational boating in salt water or fresh water?
6. About how many days in the last year (January, 1988 through December, 1988) did you use your boat for sport fishing, diving, skiing, or cruising?
7. How many people generally go with you when you engage in these boating activities? Please include yourself in that number.
8. Suppose Florida were to impose a fee in addition to your boaters registration fee for using the state's waters. And suppose that the fee would be used for increasing law enforcement, boating safety, fishery stock enhancement, and reducing pollution in Florida's waters. How much of an additional fee would you be willing to pay to use Florida's waters? Please stop me when I get to the largest amount you would be willing to pay each day.

00.	Nothing/none
01.	\$1.00 to \$2.00
02.	\$3.00 to \$4.00
03.	\$5.00 to \$7.00
04.	\$8.00 to \$10.00
05.	\$11.00 to \$15.00
06.	\$16.00 to \$25.00
07.	\$26.00 to \$40.00
08.	More than \$40.00
98.	DK
99.	NA

Finally, to make the study complete, we need to know a few things about your background.

9. What is your current marital status?
10. How many children do you have?
11. And in what year were you born?
12. Have you lived in Florida all your life?
13. In what year did you move to Florida?
PROBE: When was the last time you moved to Florida?
14. What was the highest grade or year of school, including college, that you completed?

15. What is your race?
(IF OTHER ASK: Are you white or black?)

16. Are you of Spanish or Hispanic origin?
IF YES ASK: Are you of Cuban, Mexican,
Puerto Rican, or some other Spanish origin?

17. Now, consider all sources of income for
everyone living with you in 1988, before
taxes. Please stop me when I get to your
general income level. READ CATEGORIES.
PROBE: In what general category does your
total household income fall?

1. Under \$5000
2. \$5,000 to \$10,000
3. \$10,000 to \$15,000
4. \$15,000 to \$20,000
5. \$20,000 to \$25,000
6. \$25,000 to \$30,000
7. \$30,000 to \$40,000
8. \$40,000 to \$50,000
9. \$50,000 to \$60,000
10. Over \$60,000
11. Refused
98. DK

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