

CIRCULATING COPY
Sea Grant Depository

RECREATIONAL SCUBA DIVING INDUSTRY SURVEY AND BUSINESS ANALYSIS
STATE OF HAWAII, 1982

by

H. Walter van Poolen

LOAN COPY ONLY

NATIONAL SEA GRANT DEPOSITORY
PELL LIBRARY BUILDING
URI, NARRAGANSETT BAY CAMPUS
NARRAGANSETT, RI 02882

WORKING PAPER NO. 52

May 1983

University of Hawaii
Sea Grant College Program
Honolulu, Hawaii

LOAN COPY ONLY

RECREATIONAL SCUBA DIVING INDUSTRY SURVEY AND BUSINESS ANALYSIS
STATE OF HAWAII, 1982

by

H. Walter van Poolen

WORKING PAPER NO. 52

May 1983

University of Hawaii
Sea Grant College Program
Honolulu, Hawaii



This study was sponsored by the "Program Development" project (PM/P-2) which is sponsored by the University of Hawaii Sea Grant College Program under Institutional Grant No. NA81AA-D-00070 from NOAA Office of Sea Grant, Department of Commerce. The U.S. Government is authorized to produce and distribute reprints for governmental purposes notwithstanding any copyright notation that may appear hereon.

The views expressed in this working paper do not reflect those of the University of Hawaii or the University of Hawaii Sea Grant College Program. Any commercial product or tradename mentioned herein is not to be construed as an endorsement.

PREFACE

The recreational scuba diving industry in Hawaii provides an important service to tourists, local residents, and military residents. The diving industry is comprised of 44 small firms with limited marketing capabilities and limited influence on policy decisions made by the state and/or city and county governments.

This report is the result of a preliminary investigation of the diving industry -- its structure, its impacts on the state of Hawaii, and the problems it faces. Although we have a considerable amount of confidence in our study results, there is no way to guarantee its accuracy since it is based on individual statements submitted to us from our varied and diverse sources. Data were mainly collected from 23 owner-managers of scuba dive shops. Unfortunately, 21 other dive shop owners did not participate in the survey due to various reasons. Their nonparticipation does not significantly affect the results of the survey, however.

This report is divided into six sections: employment; dive shop gross sales; use areas; financial condition; government involvement; and conclusions and recommendations. In addition, there are three appendices. Appendix A is an estimate of the state tax revenues gained from the recreational scuba diving industry. Appendix B is a working tool for the members of the recreational scuba diving industry. Appendix C is a copy of a presentation to the City and County of Honolulu by a representative of a diving association.

We would appreciate any comments and/or suggestions and will be happy to answer any questions regarding this report.

H. Walter van Poolien
Economic Analyst
UH Sea Grant College Program

TABLE OF CONTENTS

INTRODUCTION	1
EMPLOYMENT	1
DIVE SHOP ANNUAL GROSS SALES	2
USE AREAS	10
GOVERNMENT INVOLVEMENT AND DIVE SHOP OPERATORS RECOMMENDATIONS	13
CONCLUSIONS AND RECOMMENDATIONS	15
REFERENCES CITED	20
APPENDICES	21
Appendix A. Estimate of State Tax Revenues Gained from the Recreational Scuba Diving Industry	23
Appendix B. Financial Condition of the Scuba Diving Industry in Hawaii	26
Appendix C. Presentation to the City and Council of Honolulu by Michael Engler, May 26, 1982	31

LIST OF FIGURES

Figure

1	Distribution of full-time dive shop staff in Hawaii, 1982	4
2	Hawaii dive shop sales volume distribution: average annual gross sales per firm, 1982	5
3	Breakdown of dive shop customers in Hawaii, 1982	6
4	Average sales breakdown for dive shops on all islands, 1982	7
5	An example of tourist-related businesses and agencies advertising	17

LIST OF TABLES

Table

1	Recreational scuba diving work force profile 1982	3
2	Average sales breakdown for the diving industry on Oahu and the neighbor islands, 1982	8
3	Comparison of yearly gross sales for the diving industry in Hawaii	9
4	Boat scuba diving areas used by the dive shops on Oahu	11
5	Shore scuba diving areas used by the dive shops on Oahu	12

INTRODUCTION

Hawaii's favorable year-round climate and warm ocean water provide a popular recreational location for those interested in surfing, sailing, swimming, diving, fishing, and boating. The recreational scuba diving industry is one of those groups providing specialized recreational goods and services to Hawaii's residents and visitors. A survey of this industry was conducted to gather information on its structure, its impacts on the state of Hawaii, and the problems it faces. This study is part of a general analysis of marine-related businesses which provide services to tourists and residents in Hawaii.

Of the 44 dive shops, the oldest, still owned by the same operator, has been serving Hawaii for over 20 years. Over the years interest in scuba diving has increased, as has the number of dive shop operators. Also, dive shop services have expanded to include classes for diver certification.

Certain beaches became popular sites for conducting certain stages of training and underwater tours using scuba or snorkeling equipment. As use of these beaches and dive sites increased, conflicts developed between groups using the same sites. The resulting pressures and conflicts precipitated a ban on commercial use of the beaches by the City and County of Honolulu on November 12, 1981. Since then, the scuba diving industry, the state government, and the City and County of Honolulu have been working to find a solution which would permit compatible use of popular beach sites.

Another conflict may be developing, this time involving the Hawaii Department of Transportation's Harbor Division. On the neighbor islands of Kauai, Maui, and Hawaii, most recreational scuba diving is done from a boat. Hence, as the demand for scuba diving increases, so does the number of boats used to provide the service. This in turn increases congestion in the harbors. As congestion increases, conflicts occur between the various users and the department responsible for regulating them.

EMPLOYMENT

The owner-managers are professionals who have been in the recreational scuba diving business for an average of seven years. Prior to becoming an owner-manager, they had another four years of diving experience on the average. This experience was gained through working for the U.S. Navy or for another dive shop. The owner-managers on the neighbor islands have been in business for a shorter length of time (average five years) than those on Oahu (average eight years). Generally, the owner-managers on all islands have been in the diving business most of their professional careers.

The owner-managers look for certain qualifications in their employees. First, they must be diving professionals, with at least a dive masters certification and/or a number of years of diving experience. Second, they must have sales experience or be sales oriented. A primary characteristic looked for in employees is a warm and friendly personality. They must like people and be able to get along with them. This is especially important to the owner-managers on the neighbor islands since most of their customers are tourists. Other characteristics or qualifications looked for are honesty, the desire to work hard, and the ability to speak a second language such as Japanese or French.

Table 1 gives the profile of the work force of the recreational scuba diving industry in Hawaii. The information in Table 1 and Figure 1 illustrates the relatively small size of the work force of the typical dive shop. The average full-time staff of 3.5 persons dictates the need of having a well-trained and personable staff.

Forty percent of the staff are self-employed diving instructors who contract their services to the dive shops. The trend to contract diving instructor services instead of hiring full-time staff stems from state regulations on worker's compensation. With contracts, businesses need not pay this fee. In addition to the contracted instructors, the owner-managers maintain a group of additional unaffiliated self-employed independent instructors.

DIVE SHOP ANNUAL GROSS SALES

The recreational scuba diving industry generates about \$6.7 million annually in gross sales. These gross sales are produced from about \$1.4 million of fixed assets.

Figure 2 shows the distribution of dive shops by average annual gross sales per firm. The group with higher sales averages \$455,000 per firm, while the group with lower sales averages \$83,000 per firm. The neighbor island dive shops have higher average gross sales than those on Oahu. This is probably due to the difference in customer mix. The average mark-up on the sale of goods for all islands is 62 percent. The neighbor islands have a higher mark-up of 77 percent compared with a 51 percent mark-up on Oahu.

Dive shop customers include local residents, military residents, and tourists (Figure 3). The average customer breakdown for the industry is 57 percent tourists and 43 percent local and military residents. Eighty-four percent of the neighbor island dive shop customers are tourists whereas only 32 percent of the Oahu customers are tourists. Military residents comprise 32 percent of the Oahu dive shop customers. Half of the Oahu dive shops depend on business from military residents for most of their gross sales of goods and services.

TABLE 1. RECREATIONAL SCUBA DIVING WORK FORCE PROFILE 1982*

Full-time Staff (40 hours or more per week)	
Total number of full-time staff in the survey	123
Total number of full-time staff estimated for industry	155
Average number of full-time staff per shop	3.5
Percentage of full-time women staff	33
Percentage of shops which employ women full-time	74
Average monthly earnings statewide	\$ 983
Average monthly earnings on Oahu	\$ 924
Average monthly earnings on the neighbor islands	\$1,041
Part-time Employees	
Total number of part-time employees working 1 to 10 hours/week estimated for the industry from the survey data	18
Total number of part-time employees working 11 to 20 hours/week estimated for the industry from the survey data	24
Total number of part-time employees working 21 to 30 hours/week estimated for the industry from the survey data	7
Average number of part-time employees per shop	2.1
Percentage of part-time women employees	35
Percentage of shops which employ women part-time	52
Average hourly earnings statewide	\$ 4.16
Average hourly earnings on Oahu	\$ 3.75
Average hourly earnings on the neighbor islands	\$ 4.57
Percentage of shops which employ women part-time or full-time	83
Self-employed Staff	
Percentage of staff who are self-employed	40
Total number accounted for in the survey who are self-employed (Those not counted as permanent staff. Generally, these people are scuba diving instructors.)	29**
Age Categories	
Percentage of all staff 16 to 24 years old	33
Percentage of all staff 25 to 34 years old	52
Percentage of all staff 35 to 44 years old	13
Percentage of all staff 45 years and older	2

*Based on survey of 23 firms.

**The survey probably missed 50 percent or more of the independent, unaffiliated, self-employed scuba instructors. Therefore, an estimated total number of independent, unaffiliated, self-employed instructors is 60 individuals.

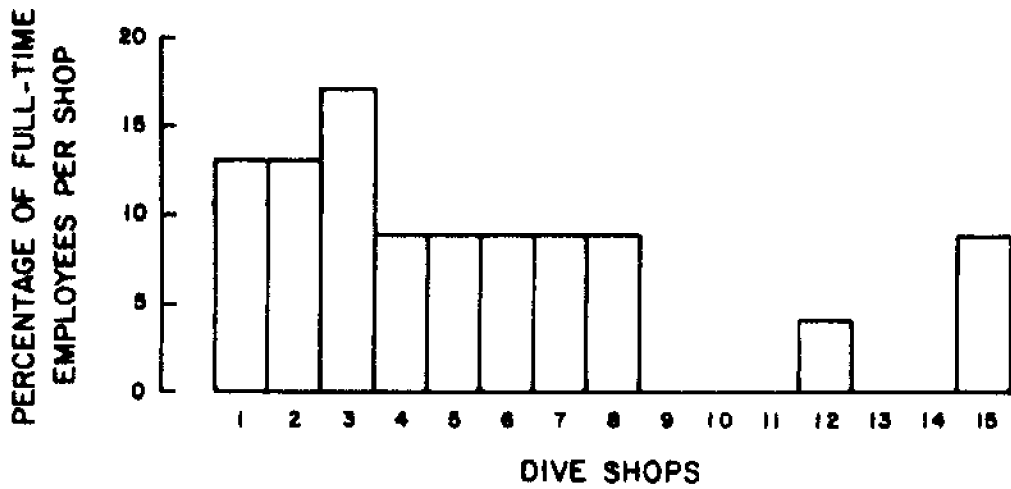


Figure 1. Distribution of full-time dive shop staff in Hawaii, 1982

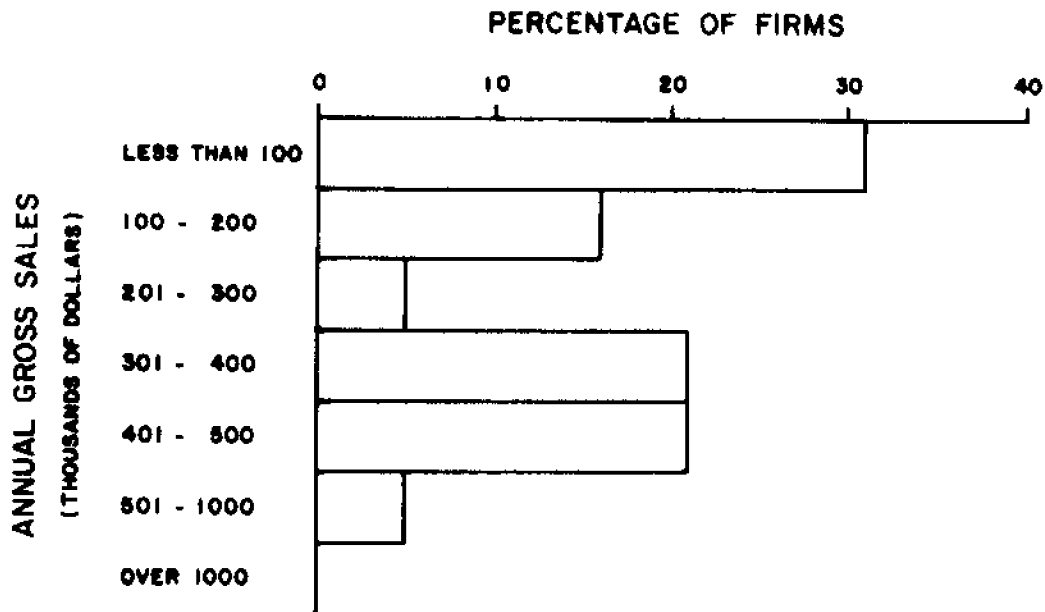


Figure 2. Hawaii dive shop sales volume distribution:
average annual gross sales per firm, 1982

Average Annual Gross Sales Per Firm	Standard Deviation (±)
All islands	
Industry	\$279,000 \$241,000
Group I*	\$ 83,000 \$ 43,000
Group II**	\$455,000 \$204,000
Oahu	
Industry	\$267,000 \$163,000
Group I	\$ 75,000 \$ 26,000
Group II	\$377,000 \$ 72,000
Neighbor islands	
Industry	\$295,000 \$333,000
Group I	\$ 53,000 \$ 14,000
Group II	\$425,000 \$403,000

*Sales under \$150,000 per firm

**Sales of \$150,000 or more per firm

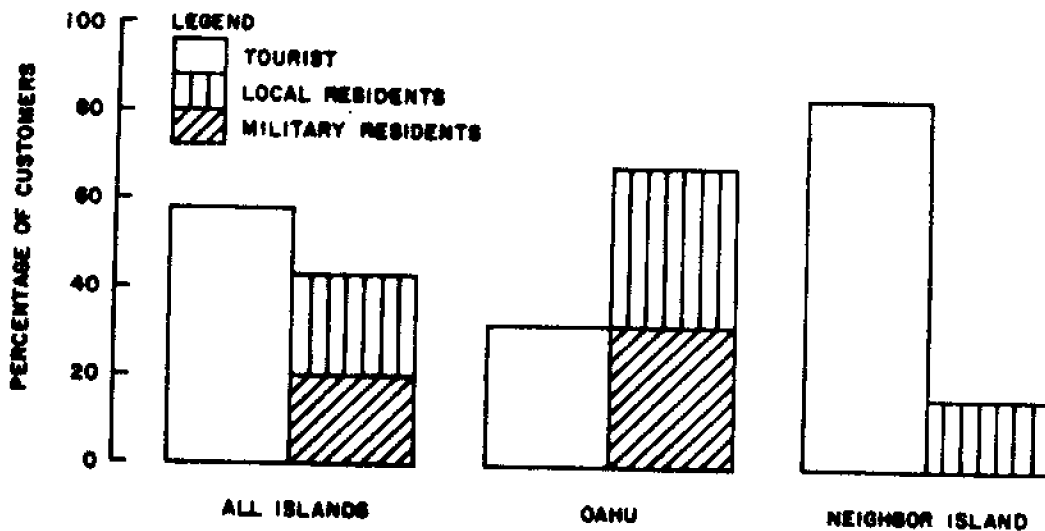


Figure 3. Breakdown of dive shop customers in Hawaii, 1982

Most local and military resident customers for any individual dive shop on any island come from the same district or a district adjacent to the dive shop. Generally, the location of a dive shop does not change frequently. Oahu shops in the survey had been at the same location for an average of nine years and neighbor island shops for three years.

About 74 percent of the tourist customers of the Oahu dive shops come from the mainland United States, 16 percent from Japan, and the remaining 10 percent from other countries, mainly Canada. About 88 percent of the tourist customers of the neighbor island dive shops come from the mainland, only 2 percent from Japan, and the remaining 10 percent from other countries, again mainly Canada.

Figure 4 shows the average sales breakdown for the industry for all islands. The largest part or 30 percent of the gross sales comes from selling scuba diving, skin diving, and photographic equipment. Dive tours produce another 29 percent, and scuba diving instructions and rentals yet another 25 percent of the gross sales.

Without scuba diving classes, the amount of equipment sales would drop. The industry has to continuously generate new recreational divers or new interest in snorkeling to maintain the level of demand for equipment. This is especially true for the dive shops on Oahu since the revenue from scuba diving instructions and equipment sales combined produces about 54 percent of the average gross sales (Table 2).

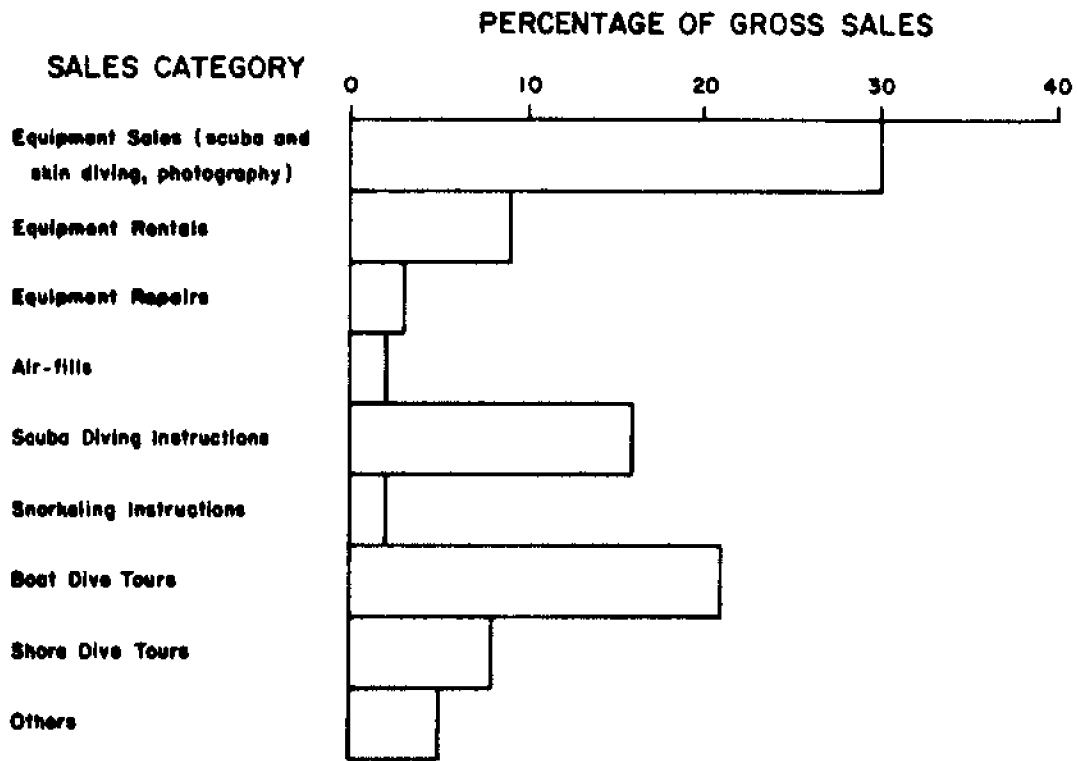


Figure 4. Average sales breakdown for dive shops on all islands, 1982

TABLE 2. AVERAGE SALES BREAKDOWN FOR THE DIVING INDUSTRY ON OAHU AND THE NEIGHBOR ISLANDS, 1982

Sales Category	Oahu		Neighbor Islands	
	% of Gross Sales	Standard Deviation (±)	% of Gross Sales	Standard Deviation (±)
Equipment Sales (for scuba diving, skin diving, and photography)	38.32	21.60	21.82	23.63
Equipment Rentals	10.80	7.95	6.55	8.26
Equipment Repairs	4.60	5.10	1.73	3.13
Air-fills	3.60	3.60	1.00	1.79
Scuba diving instructions	15.45	9.70	18.18	24.46
Skin diving instructions	0.90	3.50	3.36	8.97
Boat dive tours	9.17	10.35	32.91	40.25
Shore dive tours	10.46	16.18	2.90	9.00
Others				
Wholesale, tropical fishing	6.70	14.70	--	--
Photos, clothing	--	--	3.36	5.24

For Oahu dive shops, the amount of equipment rentals is tied in to the number of shore dive tours -- the more tours, the greater the amount of equipment rented. Together, the revenue from shore dive tours and equipment rentals makes up about 21 percent of the average gross sales.

Boat dive tours generate the greatest amount of gross sales (33 percent) for the neighbor island dive shops. This is followed by equipment sales (22 percent) and scuba diving instructions (18 percent). The neighbor island dive shops are much

more tour-service oriented and seem to be more beginning-diver oriented than the Oahu shops.

The scuba diving instructions are primarily for the basic and/or openwater certification. Professional Association of Dive Instructors (PADI) certification is the most common with 92 percent of the shops offering it. The course consists of approximately 36 contact hours including five ocean dives averaging 30 to 60 feet in depth. The shore dive tours (done before the beach closing) consisted of a half-day to full-day outing including one or two tank dives. The boat dive tours are either weekend club tours or a half-day tour consisting of two tank dives.

Table 3 compares yearly gross sales for 1981 and 1982 and gives the expected gross sales for 1983. The estimated 1982 gross sales level was \$6.7 million which represents a 10 percent increase over that for 1981. Most of the increase in gross sales between 1981 and 1982 occurred on the neighbor islands. In fact, Oahu showed a decrease. Five of the dive shops on Oahu indicated that the 1982 gross sales were down an average of about 40 percent from 1981. One of the primary reasons for the decline was attributed to the closing of the Oahu beaches to commercial use.

TABLE 3. COMPARISON OF YEARLY GROSS SALES FOR THE DIVING INDUSTRY IN HAWAII*

	Industry Gross Sales	Change (%)	Expected Industry Gross Sales	Change (%)
All islands				
1981	\$6,093,000	--	--	--
1982	6,716,000	+10.0	--	--
1983	--	--	\$7,995,000	+19.0
Oahu				
1981	\$3,562,000	--	--	--
1982	3,357,000	- 5.8	--	--
1983	--	--	\$3,933,000	+17.2
Neighbor islands				
1981	\$2,531,000	--	--	--
1982	3,359,000	+32.7	--	--
1983	--	--	\$4,062,000	+20.9

*Estimated from the 22 usable respondents' actual survey data and assuming 1982 gross sales per firm of \$50,000 for the non-respondents.

The owner-managers' outlook for 1983 is optimistic. They expect an average increase in gross sales of 19 percent. They feel they have improved their services and products, thereby improving the prospect for increasing their gross sales.

The owner-managers are constantly looking for ways to increase their total sales. Some areas in which they may wish to expand are: waterskiing, sail boating, snorkeling in clear-bottomed rafts, hot-lunch beach picnics, cocktail party after the shore and boat dives, and cocktail cruises. The idea behind expanding into these areas is for the business to become ocean recreation centers instead of just dive shops.

Boat rentals and purchases of scuba diving, skin diving, and photographic equipment by the dive shops from wholesalers are estimated to total around \$4.1 million (cost of goods = gross revenue to the suppliers from the recreational scuba diving industry = total sales of industry divided by one plus the mark-up). The dive shops obtain their equipment from 24 to 40 suppliers, six of which supply most of the shops. The shops offering boat dives generally own their own boats; however, there are six independent suppliers of boats.

USE AREAS

This section deals mainly with the island of Oahu. Since on the neighbor islands diving is done primarily from boats, the beaches and dive sites at present do not have as many pressures and conflicts between groups using the same sites as is the case on Oahu. Pressures and conflicts between groups using the same sites precipitated a ban on the commercial use of the beaches by the City and County of Honolulu on November 12, 1981.

The owner-managers of the dive shops on Oahu prefer using certain areas as diving sites. Table 4 shows those areas used for boat scuba dives. The Waianae coast and Ala Moana-Waikiki shoreline are the favorite areas for diving year-round. Maunaloa Bay is popular during winter.

Table 5 shows those areas formerly used for inshore scuba dives. Shark's Cove and Three Tables were favorite sites during the summer, whereas Hanauma Bay was very popular during the winter. The reasons that Shark's Cove, Three Tables, and Hanauma Bay were used by so many of the dive shops are:

1. The currents and diving conditions are very predictable from day to day.
2. These areas have shallow water to stand in which provides easy entry and exit for scuba divers.

TABLE 4. BOAT SCUBA DIVING AREAS USED BY THE DIVE SHOPS ON OAHU

Area	Percentage of Dive Shops Using This Area	
	Summer Months	Winter Months
Waianae coast	42	50
Barbers Point-Pearl Harbor shoreline	25	25
Sand Island-Kewalo Basin shoreline	25	25
Ala Moana-Waikiki shoreline	33	42
Diamond Head shoreline	17	25
Maunalua Bay	17	50
Hanauma Bay	8	17
Kaneohe Bay	8	8
North Shore	17	8

Note: Data are based on response from 12 firms.

TABLE 5. SHORE SCUBA DIVING AREAS USED BY THE DIVE SHOPS ON OAHU

Area	Percentage of Dive Shops Using This Area	
	Summer Months	Winter Months
Shark's Cove	58	--
Three Tables	58	--
Haleiwa	8	--
Makaha	25	33
Pokai Bay	17	25
Mali Point	17	8
Lahilahi Point	8	8
Nanakuli	25	25
Magic Island	--	8
Waikiki Beach	8	8
Portlock-Maunalua Bay shoreline	--	25
Hanauma Bay	25	75
Blowhole	--	42

Note: No shops are using these areas at present because of the ban on commercial use of beaches. The values are based on response from 12 firms and represent usage prior to November 12, 1981.

3. These areas allow for easy control of scuba diving students and provide the safety desired by the dive shops while teaching classes or escorting groups.
4. These areas provide an interesting, safe, and scenic underwater experience.
5. These areas have telephones to call medical personnel in case of an accident and allow easy access to the site for the medical units.
6. Parking facilities, water facilities, and restrooms are available.

In other words, Shark's Cove, Three Tables, and Hanauma Bay are ideal locations for beginning recreational divers.

GOVERNMENT INVOLVEMENT AND DIVE SHOP OPERATORS RECOMMENDATIONS

Dive shop operators on Oahu believe the city and state governments can help the recreational scuba diving industry in a number of ways:

1. They could allow commercial users access to the beaches, especially Hanauma Bay. Seventy-five percent of the owner-managers in the survey indicated that the government could help the shops out by doing so. Forty-two percent stated it would be acceptable and desirable for the state and county governments to regulate the use of the beaches, whether by permits or some other means. This group wanted to separate the catering of foods for picnics from the instructional scuba diving service. They felt it should be better to have certain beaches regulated for specific uses. If permits are to be used, they should be valid for one-year periods, useable county-wide, and of two types. One type should be given for instructional purposes (smaller groups), and a second type for tour escort operations (larger groups). Both types need to be strictly enforced by governmental agencies.
2. They could recognize the recreational scuba diving industry as an asset to Hawaii. Sixty-six percent of the dive shop operators felt the governments should actively recognize this industry as an asset to the state, help improve the business environment, and inform the public and tourists about diving in Hawaii.
3. They could help develop artificial reefs and underwater parks. Twenty-five percent of the dive shop operators indicated that more artificial reefs and underwater parks for scuba diving sightseeing tours

and permanent anchor hooks for the dive shop boats would help their businesses.

4. They could open more of the City and County pools for scuba diving instructions. This could decrease the pressure placed on Hanauma Bay, Shark's Cove, and Three Tables.

Dive shop operators on the neighbor islands believe the city and state governments in Hawaii can help the recreational scuba diving industry in the following ways:

1. They could promote tourism and inform the public and tourists about diving in Hawaii. Eighty percent of the shop owner-managers in the survey indicated the governments should actively support, as is the case in the Caribbean countries, and recognize that the recreational scuba diving industry is an asset to Hawaii.
2. They could simplify the rules and regulations. Eighty percent of the dive shop operators felt the governments should decrease and simplify the rules and regulations and make them more equitable and uniformly enforceable. The areas of major concern dealt with workers' compensation rules and regulations concerning scuba diving instructors, as well as with the rules and regulations concerning boat permits and fees of the Department of Transportation's Harbor Division.
3. They could develop more underwater parks. Half of the dive shop operators indicated more effort should be placed in cleaning up existing beaches and parks and developing more underwater parks for scuba diving sightseeing tours.
4. They could open more of the county pools for scuba instruction.

The undercurrent of criticism of the state government lies in the fact that the dive shop operators feel the state should actively recognize that the recreational scuba diving industry is a valuable asset to Hawaii. The recreational scuba diving industry provides an important service to Hawaii's tourists, local residents, and military residents and at the same time generates revenue for the state. The state receives approximately \$400,000 from income taxes assessed employees, excise taxes assessed self-employed staff, gross sales excise taxes, and wholesale excise taxes (see Appendix A for calculations of this estimate). The \$400,000 does not include the business net income taxes on the corporations and proprietorships.

CONCLUSIONS AND RECOMMENDATIONS

The primary ways state and county governments can help the recreational scuba diving industry would be:

1. To recognize the industry as a valuable asset to Hawaii, and the tourist industry especially, when formulating its policies and development plans
2. To help promote tourism and inform the public and tourists about diving in Hawaii

The dive shop operators felt more tourists could be attracted to Hawaii through state or jointly sponsored advertising on the mainland United States.

Advertising Hawaii as a diving vacation spot

Attracting more tourist customers can be accomplished with a three-pronged advertisement approach initiated by the dive shops. First, either individually or together, they can promote themselves locally through the hotels and/or tour desks. A simple map of Oahu including the locations of the dive shops and their names, addresses, and telephone numbers is one idea. The pamphlet could be left at the hotels and tour desks.

The second prong of the advertising approach is to begin doing promotions either individually or together on the mainland United States, Japan, and Canada. This can be done through the diving association, tour and travel agencies, skin and scuba diving magazines, and skin and scuba diving equipment trade shows.

The third prong of this approach is to advertise together with the Hawaii Visitors Bureau in nationally and foreign-distributed magazines and to advertise on television and radio. The idea is to compete with other countries having major tourist attractions similar to ours. The Caribbean and Mexico are Hawaii's competitors for mainland U.S. customers. Guam and the Micronesian Islands are our competitors for Japanese customers, whereas Spain and southern France are Hawaii's main competitors for European customers.

This segment of the advertising approach is expensive and may have to be done in conjunction with other tourist-related businesses. Simply showing photographs of people diving as part of an advertisement on Hawaii would help the recreational scuba diving industry. An example of this type of advertising is shown in Figure 5.

Tourists that dive spend their time and money between diving and non-diving expenses, such as hotel accommodations, tours, entertainment, and travel. The average diver spent \$1,300 on travel in 1979 (see Appendix B). Generally, the average diver is an active recreationist, of which over half of those surveyed



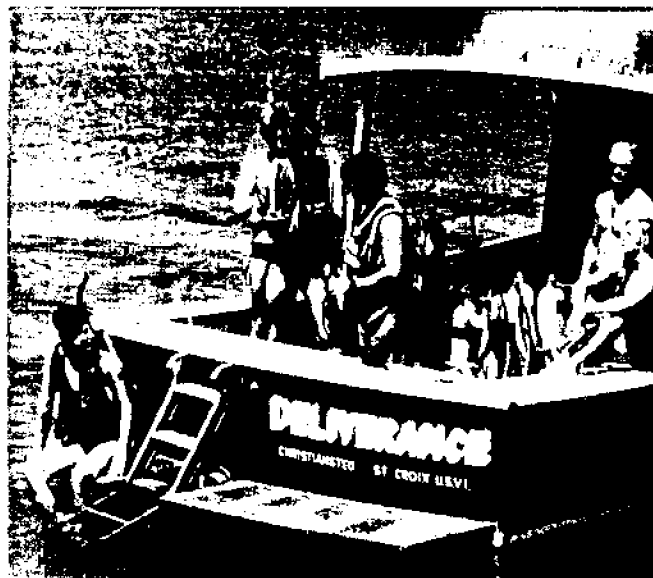
The Buccaneer

ST. CROIX, U.S. VIRGIN ISLANDS



Your elegant oasis of privacy in the Caribbean. A perfect choice for an outdoor enthusiast who is serious about scuba, water sports, golf or tennis.

The Buccaneer also offers you three white sand beaches plus a health spa, shopping and superb dining with entertainment nightly.



For the discerning diver

Caribbean Sea Adventures offers Buccaneer guests the largest selection of dive sites on the island. The Buccaneer excels in watersports with CSA leaving from the Buccaneer dock every day.

For reservations and information on dive packages, contact your travel agent or Ralph Locke, 315 East 72nd St., N.Y.C. 10021
 Ph: 212-586-3070
 Telex 423282 or call
 Toll Free — 1-800-223-1108



Figure 5. An example of tourist-related businesses and agencies advertising (taken from *Skin Diver*, January, 1983)

stated that they wished to participate more often in diving (PADI, 1981).

Divers in the United States spent a total of \$209 million on equipment, instructions, repairs, air-fills, and rentals, and another \$100 million on travel (personal letter from PADI, 1983). The average daily expenditure of \$165 by divers contributes to the economy of Hawaii's tourist industry's competitors as follows:

Caribbean: \$31 million (does not include equipment sales)

Florida: \$33 million (does not include equipment sales)

Mexico: \$ 7 million (does not include equipment sales)

Of the approximately 200,000 new divers each year, 23 percent wish to visit Hawaii, although only 8.5 percent actually do come. There may exist a potential of 29,000 additional divers annually (PADI, 1981).

Improving Hawaii's marine resources

More tourists could be attracted to Hawaii by increasing the number of dive sites and improving the quality of existing ones. Improving existing diving areas would make Hawaii more competitive with other warm water tourist locations, such as the Caribbean and Mexico.

Dive sites can be increased and/or improved through building artificial reefs, establishing areas as boat graveyards, and designating additional underwater parks. A poll conducted in 1975 showed that over 69 percent of the respondents had favorable attitudes toward the establishment of more underwater parks (marine conservation districts), with only 16 percent opposed (Kimmerer and Durbin, 1975). Kahe Beach Park and Pupukea Beach Park (Shark's Cove and Three Tables) were recommended as possible areas for underwater parks on Oahu. Koale Cove and Honaunau Bay were recommended as possible areas for underwater parks on the Big Island. The tropical fish industry, the commercial and recreational fishing industries, and the recreational scuba diving industry all would benefit from improved marine resources.

The dive shop operators, as one of the beneficiaries of increased tourists and improved marine resources, could volunteer to help clean up existing dive sites. A one-tank dive monthly by either the dive clubs or scuba diving classes to collect underwater trash would help.

Permits, and licenses

There are problems with any type of permit or license. Permits, which restrict the number of firms entering the market, help to maintain or improve standards and to protect the welfare

of the public. At present, diving standards are being controlled by the scuba diving association through certification requirements.

Diving standards neither guarantee proper resource use and protection nor minimize the conflicts between resource users. Standards are designed for the safety of the diving public. Restricted entry makes it more difficult for other firms to enter the market, thereby guaranteeing only limited competition in the industry. This limited competition allows firms currently in the market to increase revenues above the level prior to entry restrictions. Other problems with permits are enforceability and increasing operating costs to the state of Hawaii and/or City and County of Honolulu and the dive shops themselves.

Enforceable permits do have certain advantages. They increase the revenue to the state and/or county. Also, some of the cost to the public taxpayer of maintaining Hanauma Bay, Shark's Cove, and Three Tables would be shifted to those using the facilities (dive shops). Enforceable permits could be devised to help insure proper resource use and protection and minimize the conflicts between resource users.

REFERENCES CITED

- Kimmerer, W.J., and W.W. Durbin. 1975. The potential for additional marine conservation districts on Oahu and Hawaii. UNIHI-SEAGRANT-TR-76-03. University of Hawaii Sea Grant College Program, Honolulu.
- Professional Association of Dive Instructors. 1981. The Retail Dive Store: Management and Operation.

APPENDICES

Appendix A. Estimate of State Tax Revenues Gained from the
Recreational Scuba Diving Industry

All Islands

Revenue Item and Method of Calculation

1. 1982 state income tax on full-time employees, assuming 2 exemptions, filing jointly, with no other income or deductions:

$\$983 \times 12 \text{ months} = \$11,796$ yearly average per employee.

Taxable income is $\$9,796$, and taxes owed are $\$488$.

Estimated total number of full-time employees:

Total number of full-time employees accounted for in this survey plus an average of 1.5 full-time employees per non-respondents:

$123 + (1.5 \times 21) = 155$ full-time employees.

1982 state income tax on full-time employees equals:

Total number of full-time employees times taxes owed per employee:

$155 \times \$488 = \$75,640$.

2. 1982 state income tax on part-time employees, assuming 1 exemption, filing single, with no other income or deductions:

a. $\$4.16 \times 30 \text{ hours/week} \times 50 \text{ weeks} = \$6,240$

b. $\$4.16 \times 20 \text{ hours/week} \times 50 \text{ weeks} = \$4,160$

c. $\$4.16 \times 10 \text{ hours/week} \times 50 \text{ weeks} = \$2,080$

a. Taxable income: $\$5,240$; taxes owed: $\$247$

b. Taxable income: $\$3,160$; taxes owed: $\$99$

c. Taxable income: $\$1,080$; taxes owed: $\$6$

Estimated total number of part-time employees equals the number found in this survey. It is assumed that non-respondents do not have any part-time employees.

a. 30 hours/week employees: $\$247 \times 7 = \$1,729$

b. 20 hours/week employees: $\$99 \times 24 = \$2,376$

c. 10 hours/week employees: $\$6 \times 18 = \108

1982 state income tax on part-time employees =

$\$4,213$

3. 1982 self-employed excise tax:

40% of the full-time employees are self-employed:

$\$11,796 \times 4\% = \472 excise taxes owed.

1982 self-employed excise tax equals:

$\$472 \times (40\% \text{ of } 155) = \$29,264.$

4. 1982 additional, unaffiliated, independent, self-employed scuba diving instructors' state income and excise taxes:

Estimated total number: 60

Assuming they work providing this service as a second job, once a week for eight hours, at \$6.14 an hour, and work an average of 30 weeks:

$\$6.14 \times 8 \text{ hours} \times 30 \text{ weeks} = \$1,474$ annually.

Excise tax: $\$1,474 \times 60 \text{ individuals} \times 4\% = \$3,538$

To estimate state income taxes due, it would require information which we lack on the gross income from their primary jobs.

5. 1982 gross sales excise taxes:

Industry gross sales: $\$6,716,000 \times 4\%$

Gross sales excise tax: $\$268,640.$

6. Gross sales excise tax from the wholesale suppliers:

Estimated suppliers' sales:

$\$6,716,000 / (1 + \text{the average mark-up}) =$

$\$6,716,000 / 1.62 = \$4,145,679$

Wholesale excise tax: $\$4,145,679 \times 0.5\% = \$20,728.$

7. Business net income taxes (corporate and sole proprietorship). Lack information to estimate.

TOTALS:

State income taxes:

Full-time employees	\$ 75,640
Part-time employees	4,213
Unaffiliated scuba diving instructors	--

Excise taxes:

Full-time employees	29,264
Unaffiliated scuba instructors	3,538

Gross sales excise taxes:

Dive shops	268,640
Wholesalers	20,728

Business income taxes:

Corporations	--
Sole proprietorships	--
	<hr/>

Total taxes: \$402,023

or about \$400,000.

Appendix B. Financial Condition of the Scuba Diving Industry in Hawaii

The following tables are working tools for the members of the recreational scuba diving industry. They were developed by averaging certain financial data which can be compared with those of an individual firm's. They present an aggregate view of the industry and by no means are a standard or objective on which to set a firm's goals. An individual firm almost always has conditions which are different, and these must be taken into consideration. The survey results serve to provide a basis for a firm to view itself in a more proper perspective by providing guidelines for comparison of financial data with other scuba diving firms in Hawaii.

The legal form of business in the industry is primarily corporations (74 percent), with a few sole proprietorships (26 percent). The funds to start the industry originated from Hawaii (76 percent), the mainland U.S. (20 percent), and foreign (4 percent) sources. As with any other industry, certain firms have recently gone bankrupt. The primary reasons for bankruptcy were mismanagement (58 percent), lack of business (21 percent), cash flow problems (12 percent), and the lack of diving sites due to the beach closing regulations (8 percent). These reasons are the same as those causing other small businesses to go bankrupt (except for the beach-closing regulation problem which only applied to bankrupt firms on Oahu).

The response of the dive shop operators surveyed regarding the major problems encountered in business on Oahu are as follows:

1. Twenty-five percent stated unfair competition from other dive shops.
2. Nineteen percent stated beach access regulations.
3. Nineteen percent stated internal management problems.
4. Thirteen percent stated competition with military exchanges (PX).

Unfair competition means price cutting, and price wars result in a lower quality of service. This is especially dangerous to the industry and public when the quality of instruction and the safety of dive tours are affected, i.e., three-day scuba certification versus the diving association's standards of five days, or one instructor (escort) for every 20 customers in the water versus one instructor for every five customers.

The beach access regulation problem, especially concerning Hanauma Bay, reduces revenue to the dive shops. By having less students, the decreased revenue from instructions as well as the

sale of scuba and skin diving equipment affects overall sales of the dive shops.

The competition with the military exchanges is brought on by the suppliers of the scuba and skin diving equipment selling to the PX which in turn can sell to customers below the retail value of the dive shops. This decreases the overall sales of the dive shops.

The response of the dive shop operators surveyed on the neighbor islands regarding major problems encountered in business are as follows:

1. Fifty-eight percent mentioned the problem of state laws and regulations, especially the regulations of the Department of Transportation's Harbor Division and the worker's compensation rules concerning scuba instructors.
2. Seventeen percent stated the major problem was finding good quality, steady-working employees.

RECREATIONAL SCUBA DIVING INDUSTRY'S PARTIAL FINANCIAL DATA OF 1982

Assets	As a % of Total Assets	Your Firm's Figures	
Current assets			
Cash		\$ _____	_____ %
Accounts receivable		\$ _____	_____ %
Inventories		\$ _____	_____ %
Other		\$ _____	_____ %
Fixed assets			
Land, building(s), leasehold improvements		\$ _____	_____ %
Equipment and machinery		\$ _____	_____ %
Other		\$ _____	_____ %

Liabilities	As a % of Total Liabilities	Your Firm's Figures	
Current liabilities			
Accounts payable		\$ _____	_____ %
Short-term bank loans		\$ _____	_____ %
Other		\$ _____	_____ %
Long-term liabilities			
Mortgages payable		\$ _____	_____ %
Long-term bank loans		\$ _____	_____ %
Stockholders loans (due to owners)		\$ _____	_____ %
Other		\$ _____	_____ %

Financial Indicators	Mean	Units	Your Firm's Figures
Average working capital per firm		Dollars	_____
Current ratio		Times	_____
Quick asset ratio		Times	_____
Liquidity ratio		Times	_____
Current assets/Total assets		%	_____
Fixed assets/Net worth		Times	_____
Total assets/Net worth		Times	_____
Current liabilities/Total liabilities		%	_____
Current liabilities/Net worth		%	_____
Current liabilities/Total assets		%	_____
Current liabilities/Inventory		%	_____
Total liabilities/Net worth		%	_____
Sales/Receivables		Times	_____
Average collection period		Days	_____
Sales/Inventories		Times	_____
Sales/Total assets		Times	_____
Sales/Net worth		Times	_____
Sales/Working capital		Times	_____

Note: Total assets = \$5,000 to \$350,000 per firm

**RECREATIONAL SCUBA DIVING INDUSTRY'S PARTIAL FINANCIAL DATA OF 1982:
BREAKDOWN BY SALES CATEGORIES**

Assets	As a % of Total Assets		Your Firm's Figures	
	Group I*	Group II†	\$	%
Current assets				
Cash	1.94	6.13	\$	%
Accounts receivable	2.41	7.00	\$	%
Inventories	12.58	34.91	\$	%
Other	1.90	0.46	\$	%
Fixed assets				
Land, building(s), leasehold improvements	0.24	4.62	\$	%
Equipment and machinery	80.15	42.62	\$	%
Other	0.79	4.26	\$	%

Liabilities	As a % of Total Liabilities		Your Firm's Figures	
	Group I	Group II	\$	%
Current liabilities				
Accounts payable	28.55	22.34	\$	%
Short-term bank loans	27.68	11.51	\$	%
Other	—	8.89	\$	%
Long-term liabilities				
Mortgages payable	—	—	\$	%
Long-term bank loans	33.31	26.49	\$	%
Stockholders loans (due to owners)	10.46	25.57	\$	%
Other	—	5.20	\$	%

Financial Indicators	Mean Group I	Mean Group II	Units	Your Firm's Figures
Average working capital per firm	33,800	26,700	Dollars	
Current ratio	6.72	1.72	Times	
Quick asset ratio	2.23	0.43	Times	
Liquidity ratio	0.69	0.23	Times	
Current assets/Total assets	18.80	48.50	%	
Fixed assets/Net worth	0.85	1.40	Times	
Total assets/Net worth	1.05	2.71	Times	
Current liabilities/Total liabilities	56.20	42.70	%	
Current liabilities/Net worth	2.90	0.73	%	
Current liabilities/Total assets	2.80	27.00	%	
Current liabilities/Inventory	22.30	77.20	%	
Total liabilities/Net worth	5.20	1.71	%	
Total liabilities/Total assets	5.00	63.10	%	
Sales/Receivables	16.3	47.3	Times	
Average collection period	22.4	7.7	Days	
Sales/Inventories	3.1	9.5	Times	
Sales/Total assets	0.4	3.3	Times	
Sales/Net worth	0.4	9.0	Times	
Sales/Working capital	2.5	17.0	Times	

*Sales range under \$150,000 per firm

†Sales range \$150,000 and up per firm

**RECREATIONAL SCUBA DIVING INDUSTRY'S PARTIAL FINANCIAL DATA OF 1982:
BREAKDOWN BY TOTAL ASSETS CATEGORIES**

Assets	As a % of Total <u>Assets</u>		Your Firm's Figures	
	Group III*	Group IV†		
Current assets				
Cash	7.22	5.88	\$ _____	_____ %
Accounts receivable	17.27	4.43	\$ _____	_____ %
Inventories	25.80	38.70	\$ _____	_____ %
Other	0.83	2.41	\$ _____	_____ %
Fixed assets				
Land, building(s), leasehold improvements	1.03	4.12	\$ _____	_____ %
Equipment and machinery	44.41	40.67	\$ _____	_____ %
Other	3.44	3.79	\$ _____	_____ %

Liabilities	As a % of Total <u>Liabilities</u>		Your Firm's Figures	
	Group III	Group IV		
Current liabilities				
Accounts payable	9.28	26.15	\$ _____	_____ %
Short-term bank loans	9.10	12.58	\$ _____	_____ %
Other	29.41	3.75	\$ _____	_____ %
Long-term liabilities				
Mortgages payable	—	—	\$ _____	_____ %
Long-term bank loans	18.55	29.27	\$ _____	_____ %
Stockholders loans (due to owners)	5.83	28.25	\$ _____	_____ %
Other	27.83	—	\$ _____	_____ %

Financial Indicators	Mean Group III	Mean Group IV	Units	Your Firm's Figures
Average working capital per firm	15,750	40,250	Dollars	_____
Current ratio	2.75	2.38	Times	_____
Quick asset ratio	1.36	0.59	Times	_____
Liquidity ratio	0.39	0.27	Times	_____
Current assets/Total assets	51.10	51.40	%	_____
Fixed assets/Net worth	0.80	0.99	Times	_____
Total assets/Net worth	1.64	2.03	Times	_____
Current liabilities/Total liabilities	47.80	42.50	%	_____
Current liabilities/Net worth	30.50	43.90	%	_____
Current liabilities/Total assets	18.60	21.60	%	_____
Current liabilities/Inventory	72.10	55.80	%	_____
Total liabilities/Net worth	63.80	1.03	%	_____
Total liabilities/Total assets	38.90	50.80	%	_____
Sales/Receivables	14.8	61.9	Times	_____
Average collection period	24.6	5.9	Days	_____
Sales/Inventories	9.9	7.1	Times	_____
Sales/Total assets	2.6	2.7	Times	_____
Sales/Net worth	4.2	5.6	Times	_____
Sales/Working capital	7.9	9.2	Times	_____

*Total assets under \$100,000 per firm

† Total assets \$100,000 and up per firm

Appendix C. Presentation to the City and County of Honolulu by
Michael Engler, May 26, 1982

Chairman Pacarro, council members, concerned citizens, and fellow divers, my name is Michael Engler. I am representing the Professional Association of Diving Instructors (PADI). Most of the retail dive stores and instructors on Oahu are members of PADI.

I flew in from California specifically to attend this meeting to express our concern and desire to help resolve the existing situation concerning the commercial activities related to aquatic activity on the beaches and also to share with you some scuba diving industry market data related to travel; this will also require familiarization with PADI.

PADI is the largest scuba certifying agency in the world. We have affiliates in over 80 countries throughout the world. We have offices in the United States, Asia, Europe, and South America. Our text materials are being published in English, Japanese, Chinese, and Spanish.

A 1979 skin diver survey showed two million divers in the continental U.S. This does not include Canada, Virgin Islands, Hawaii, Europe, Asia, or South America. PADI certifies approximately 150,000 divers a year which equals 60 percent of the U.S. market and the industry certifies approximately 225,000 per year.

In 1981, PADI surveyed 30,000 divers and found that 41 percent of the diver activities would include long distance travel that year; 87 percent stated at some point in time.

A 1979 Sport Diver Magazine survey found that 46 percent of the divers took one or more dive trips outside of the continental U.S. that year. The average dollar spent was \$1,300 per person.

The implications are that the average diver intends to combine travel with his diving activity and he will look for areas where he can accomplish this.

These are the number one dive vacation destinations in the world. Why? Because they go after the market.

It is interesting to note, however, that Hawaii is rated fifth as a desired dive vacation destination by divers.

A 1980 study by Travel Leisure Magazine showed that the basic motivation for choosing a vacation destination has changed in the past ten years. Factors used to be history, exotic locations, and other interest factors. Today the prime concern is what will one do once he/she gets there.

Forty-nine percent of the divers surveyed prefer to be land-based, with time evenly divided between diving and non-diving activities.

A 1980 Gallup Poll -- Leisure Activities Survey -- shows that an estimated five percent of the U.S. population is interested in diving activities. That represents some 11.5 million people.

PADI has travel society for its membership throughout the world. One of its purposes is to direct travelers to vacation areas where they are welcome and can, through the direction of their professional dive store, resorts on tour guide, enjoy a day of fun diving in a safe, controlled manner.

Summary

Eleven and a half million people in the United States want to get involved in diving.

Approximately 50 percent of existing divers want to travel; most prefer warm water vacation areas.

In 1979, the average diver spent \$1,300 on travel.

PADI's travel society funnels vacationing divers to those areas where they can dive.

Conclusion

There are a number of professional retail dive stores, tour guides, and instructors on Oahu who would like to see the negative elements of commercialism on the beaches eliminated and, at the same time, contribute to the health of Honolulu's economy by allowing both tourists and local residents the opportunity to participate in safe, fun scuba.

PADI offers its services in an effort to establish these goals.