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한국의 레저보트산업과 마리나의 발전을 위한 해양관광 정책에 관한 연구

- 한국의 현실에 부합하는 미국의 경험 -

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머 리 말

국민소득의 증가와 함께 웰빙에 대한 욕구가 증가함에 따라 어메니티(Amenity), 친환경 먹거리 등 웰빙 자원이 풍부한 연안에서 이루어지는 해양관광의 수요는 증가할 것으로 기대된다. 이러한 해양관광 수요는 해수욕장 위주의 해양관광에서 모터보트, 요트, 해상 낚시, 연안 크루즈 등의 해양레저관광으로 확산되고 있다.

그러나 레저선박을 이용하는 우리나라 해양관광은 동호인 중심으로 이루어지고 있다. 연안 선진국인 미국, 일본, 프랑스 등에서는 해양레저관광이 해양관광에서 차지하는 비중이 매우 높아 해양레저산업 육성에 크게 기여하고 있다. 이러한 선진국의 해양레저산업 발전은 해양환경, 해상안전, 마리나 건설, 레저선박과 관련한 금융 및 보험, 해양레저 관련 교육, 경영 등 서비스 등의 발전과 연계되어 있다.

이와 같이 해양레저산업을 활성화하기 위해서는 해양레저 관련 해양환경 보전과 안전사고 대비 등에 관한 법·제도의 정비와 필요할 뿐만 아니라 해양레저산업의 내수시장 확보를 위한 해양레저 관련 교육 인프라 구축이 필요하다. 또한 해양레저 회사 경영에 필요한 인적자원 육성과 레저선박의 구입과 임차와 관련한 금융·보험 상품의 개발 또한 필요하다.

그러나 해양레저의 도입단계인 우리나라는 레저선박 운항에 따른 안전, 환경 등에 관련된 법·제도가 미흡하며, 동호인 중심의 해양레저 활동으로는 해양레저산업의 발전에 필수적인 수요시장의 확보가 어려운 실정이다. 또한 쾌적한 해양레저 활동의 배후단지 조성 및 마리나 건설 등에 대한 경험이 부족하다. 따라서 해양레저산업 분야의 선진국인 미국의 마리나 및 레저보트산업에 대한 전반적인 인프라 구축 실태와 우리나라 실태를 비교·분석하여 앞으로 우리나라 실정에 부합하는 레저보트산업 및 마리나 관련 해양관광 정책의 방향을 제시하

기 위하여 본 연구가 수행되었다.

본 연구는 우리 연구원의 해양국토연구부 해양관광·문화연구팀의 이승우 팀장을 중심으로 이종훈 부연구위원, 홍장원 책임연구원, 그리고 이윤정 연구원 등이 공동으로 조사·연구한 결과이다. 본 연구에는 우리 원 한미해양정책연구센터의 센터장으로 미국 로드아일랜드대학교에 파견, 근무하시는 김성귀 박사와 동 대학에 근무하시는 Henry Schwarzbach 교수께서 바쁘신 가운데 자료 조사와 자문에 적극 응하여 주시는 등 많은 도움을 주셔서 효과적인 결과가 도출될 수 있었다.

앞으로도 우리나라 해양레저산업의 발전에 대한 후속 연구가 이루어져 해양레저선박을 이용한 해양관광이 활성화되기를 바라는 바이다.

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차 례

Executive Summary	i
제1장 서론	1
1. 연구의 배경 및 목적	1
2. 연구방법	1
제2장 한국과 미국의 레저보트와 레저보트 인프라 실태	3
1. 한국과 미국의 지형적 특성	3
2. 한국의 레저보트와 마리나사업	4
3. 최근 미국의 레저보트와 마리나사업	5
제3장 미국의 레저보트와 마리나 관련 규정	7
1. 연방정부 관련 법	7
2. 주 정부 관련법	8
3. 레저낚시의 규정	9
제4장 레저보트를 위한 인프라	10
1. 보트 재정과 보험	10
2. 미국의 보트산업 육성	10
3. 보트 관련 이벤트의 중요성	11
4. 요트 클럽	12
5. 주요 보트경기	12

6. 낚시대회	12
7. 모터보트대회	13
제5장 레저보트와 마리나 개발에 따른 환경 문제	14
제6장 사례 조사	16
제7장 마리나 이용고객의 선호도에 대한 조사	18
제8장 두 나라 사이의 차이를 극복할 수 있는 전략 모색	23
1. 한국 해양레저산업의 특징	23
2. 한국의 마리나 및 레저보트 발전을 위한 전략	24
제9장 정책적 시사점	27
1. 해양 레저보트산업의 육성은 단계별로 추진	27
2. 기존의 상업항 혹은 어항의 여유공간을 활용한 마리나항 조성	28
3. 해양레저 활성화 추진전략	28

표 차 례

표 2-1. 레저보트 산업의 발달에 있어 한국의 강점과 약점	4
표 7-1. 마리나 선택에 영향을 주는 요인에 대한 기술통계	19
표 7-2. 한국과 미국의 순위 비교	21
표 8-1. 최근 한국과 미국의 상황에 대한 비교	23
표 8-2. 두 나라 간의 격차를 줄이기 위한 한국의 개발전략	25

Contents

Chapter 1. Overview	31
Chapter 2. Research Approach	32
1. Literature Review and discussion with key marina authorities to develop a description of pleasure boating and pleasure boating infrastructure (both physical and social) in Korea and the US	32
2. An examination of competitive recreational boating	33
3. Environmental issues in marina development and pleasure boating	33
4. Case study and survey of US marinas	34
5. Analysis of sections 2.1 through 2.4 showing the differences between US and Korea and recommendations of how the gaps between the two countries can be filled	34
Chapter 3. Description of pleasure boating and pleasure boating infrastructure (both physical and social) in Korea and the US	35
1. Comparison of Koreanand United States Marine Geography	35
2. The Current State of the Korean Pleasure Boating and Marina Industry	40
1) Leisure boat manufacturing industry	41
2) Promotion of Boating in Korea	42
3) Current state of leisure boating activities	42
4) Korea’s strengths and weaknesses in developing a strong recreational	

boating industry	43
3. The Current State of the U.S. Pleasure Boating and Marina Industry ·	44
1) Background and Development	45
2) Recent US Marina Development	49
3) The Current State of Marina Management	52
 Chapter 4. Regulation of Boating and Marinas in the US —	56
1. Federal Regulations	56
1) United States Army Corps of Engineers Oversight of Marina Develop- ment	56
2) U.S. Environmental Protection Agency Responsible for Protecting Water Quality	57
3) Dredging Regulations	57
4) The Jones Act	61
5) The United States Coast Guard	61
2. State Regulations	65
3. Regulation of Recreational Fishing	68
 Chapter 5. Recreational Boating Infrastructure —	69
1. Boat Finance and Insurance	69
1) Boat Financing	70
2) Boat Insurance	74
2. Promotion of Boating in the U.S	78
1) Sport Fish Restoration and Boating Trust Fund	78
2) Private sector organizations promoting boating	79
3. The Importance of Boat Shows	85
4. Yacht Clubs	86

5. Major Boating Competitions	87
6. Fishing Competitions	97
7. Motor boat racing	102
 Chapter 6. Environmental issues in marina development and leisure boating	 103
1. Green Boating and the Green Marina	103
1) Marina Design	106
2) Boat Maintenance	109
3) Boat Propulsion Systems	110
4) Boating Activity	110
5) Reducing Recreational Boating's Carbon Footprint	111
 Chapter 7. Case Study – Upscale award winning medium sized Marina	 113
 Chapter 8. Survey of Marina Customer Preferences	 118
 Chapter 9. Analysis of the differences between US and Korea and recommendations of how the gaps between the two countries can be filled	 126
1. Comparison of current situation of Korea with USA	127
1) Hardware	127
2) Software	127
3) Human-ware	128
2. Strategies for future development in Korea	129
1) Hardware	129

2) Software	130
3) Human-ware	131
References	133
Appendix A	136
Appendix B	139
Appendix C	141
Appendix D	146
Appendix E	148
Appendix F	149
Appendix G	150

List of Tables

Table 8-1.	Descriptive Statistics of Factors that Influence the Choice of a Marina	120
Table 8-2.	Comparison on Ratings for US and Korean Sample	123
Table 9-1.	Comparison of current situation of Korea with USA and gaps between them	126
Table 9-2.	Strategies for future development in Korea to cover the gaps between two countries	130

List of Figures

Figure 3-1.	Maps of South Korea and California	37
Figure 4-1.	The Dredging Permit Process	60
Figure 6-1.	Several marina designs that promote natural fishing	107

Executive Summary

A Study on Marine Tourism Policies to Upgrade the Marine and Pleasure Boat Industry of Korea

- **Laws and Institutions to regulate the US marina industry**
 - Federal laws regulate marina development/operation to prevent environmental degradation and pollution.
 - The 2006 US Coast Guard report shows 700 safety-related accidents occurring, an annual average of 70% of which failed to follow safety guidelines. So the coast guards oversee safety measures of recreational boat users.
 - Both fishing on the yacht and on the ground is regulated under federal and state laws. Other organizations include the American Fishing Association, the American Shore and Beach Preservation Association and the International Game Fishing Association (IGFA) which are also engaged in sustainable fishing and management/protection of pleasure boating activities.
 - Boat loans and yacht financing market in the US is well-developed because most people rely on loans to buy high-end yachts.
- **Korea's marine leisure industry vs. the USA**
 - The study compared the marine leisure industry of each country from the aspects of hardware, software and humanware. The results show that

Korea's marine leisure industry is at its "infant stage" on all three fronts. Thus, Korea needs to actively benchmark other advanced countries to develop its industry.

Division	Elements	U.S	Korea
Hardware	Number of marinas	12,000	5
	Motor boat manufacturing	Many	Few
	Sail boat manufacturing	Many	At experimental state
	Boat supplies manufacturing	Developed	Highly-developed
	Other markets for marine leisure activities	Developed	-
Software	Marina operations	Developed	No experience
	Large scale international events	Many	None
	Boat show	Many	Two
	Leisure boat loans	Developed	None
	Leisure boat insurance	Developed	None
	Second- hand market	Developed	Few
Humanware	Yacht clubs	Many	Few
	Yacht schools	Many	Few
	Environmental consciousness of the marinas	High level	Low level
	Private investments into the marinas	Active	Inactive
	Public investments into the marinas	Active	Inactive

■ Case study

- A study was conducted on Saybrook Point Marina, which was named the National Marina of the Year in 2007 by the Marina Dock Age magazine.
- Marina managers think that customers chose marinas based on the interiors of the marinas, service types of the local restaurants, staff quality,

information, clean restrooms/shower facilities, fuel price at ports, convenient parking spaces and its location.

- Saybrook Point Marina won high marks for its good docking facilities, clean water, easy access to the marina, amenities, a well-maintained marina, award-winning restaurants, plenty of slips, business hours, security, swimming pools, golf courses, cable TV/internet services, picnic areas with grills and laundry facilities.

■ Survey results

- In order to figure out what makes good marinas, the study conducted a survey of customers at 8 US and 4 Korean marinas respectively.
- It used the Likert-type 5 scale method and the results are as follows.

Priorities	Contents	Priorities	Contents
1	Clean marina	1	Parking space
2	Kind managers and staff	2	Used fees at the marina
2	Recreational facilities	2	Security at the marina
2	Clean recreational facilities	2	Convenient slips
5	Clean shower facilities	5	Distance to the marina from home
6	Well-maintained marina	6	Fees for slip (including the electricity bill)
7	Well-furnished shower rooms	7	Tidal difference
7	Security at the marina	7	Easy access to local attractions
9	Information offered by the marina staff	9	Well-maintained marina
10	Parking space	10	Electricity service

- Marina customers of the US value clean marina, kind managers and staff and information offered by the marina staff while Korea's customers ap-

preciate parking space and use fees at the marina.

■ Policy recommendations

- In order to foster recreational boating industry in Korea, its customer market and related service industries need to be developed step by step. The government also needs to develop a leisure complex where people enjoy various marine leisure activities and beautiful scenery.
- Small scale marinas can be built at available spaces in existing ports before large scale marinas are newly built.
- The reduction of fishing boats increases available space at fishing ports. So "Fisharina" (Fish + Arina) which plays as a marina and offers seafood restaurants, marine sports and other leisure activities needs to be promoted.
- The government should create marine leisure market potential by holding small but unique boat shows and other marine events.
- Investment should be made first to acquire boat manufacturing technologies of advanced countries. Then relevant manufacturing industry, one of high value added industry, can be fostered.

제 1 장 서 론

1. 연구의 배경 및 목적

한국은 지리적 특성상 해양자원 개발 잠재력이 매우 큰 지역이다. 최근 이러한 강점을 살려 해양관광을 성숙시키기 위해 중앙정부 및 지방정부에서 마리나 조성사업을 적극 추진하고 있다. 그러나 이를 통해 해양관광을 활성화시키고 레저보트산업을 육성하기 위해서는 하드웨어 구축뿐만 아니라 소프트웨어와 휴먼웨어 관련 투자정책도 필요하다.

따라서 본 연구에서는 해양 레저보트산업이 성숙기에 있는 미국의 관련 정책과 사례를 통하여 한국의 해양 레저보트산업을 활성화하기 위한 정책방향을 도출하고자 한다.

2. 연구방법

한국과 미국의 마리나 시설에 대한 문헌조사와 이용객 설문조사를 실시하고, 미국의 우수 사례 및 법·제도 등을 조사·분석함으로써 정책적 시사점을 얻고자 한다. 이와 더불어 최근 부각되는 환경문제를 점검하고 레저보트산업 활성화를 위한 국제 보트 쇼를 살펴보고자 한다.

연구방법을 구체적으로 언급하자면 먼저, 한국과 미국의 레저보트와 인프라 시설 발전의 주요 요인을 문헌조사를 통하여 도출한다. 그리고 미국의 마리나 관련 법·제도를 조사·분석함과 동시에 보트 제조업, 보트 소매업체, 보트 쇼, 전문 단체, 유치기관 및 관련 산업기관의 활동, 금융과 보험 등 미국 레저보트 관련 활동을 살펴본다.

해양 레저보트산업의 중요한 홍보수단인 국제 보트 쇼, 세계적 이슈인 지구 온난화 등의 환경문제, 해양 레저보트산업의 영향 등에 대한 문헌조사를 수행한다. 즉 미국의 환경오염을 고려한 클린 마리나 프로그램(Clean Marina Program)에 대해 분석하고, 보트 활동이 온난화 가속에 미치는 영향, 각종 보트 활동의 탄소 배출, 연료 비용 등을 조사한다.

미국의 마리나 조성 및 운영을 벤치마킹하기 위해서 미국의 마리나 잡지인 *Marina Dock Ages*에서 우수 마리나로 소개된 세계적 수준의 Saybrook Point Marina를 사례 조사한다.

마지막으로 미국과 한국의 마리나 이용객을 대상으로 설문조사를 실시하고, 마리나 시설 이용 요인의 중요도를 상호 비교함으로써 마리나 조성의 시사점을 도출한다.

제 2 장 한국과 미국의 레저보트와 레저보트 인프라 실태

1. 한국과 미국의 지형적 특성

한국의 동해안은 큰 만과 섬이 거의 없으며, 조수간만의 차가 크지 않고, 파고가 상대적으로 높다. 따라서 안전한 보트 보관을 위해서는 마리나 조성 시 방파제 축조가 필수적이며, 이로 인한 건설비용이 남해안과 서해안보다 상대적으로 큰 편이다. 이러한 지리적 특성은 미국 서부의 몬터레이(Monterey)와 로스 엔젤레스 사이의 캘리포니아 해안과 유사하다.

남해안을 살펴보면, 동측 해안의 조석간만의 차는 1~2m이며, 서측 해안의 조석간만의 차는 4~5m이다. 이 지역은 태풍의 길목으로, 태풍의 피해를 최소화 하기 위한 시설이 필요하기 때문에 마리나 건설비용이 많이 소요된다. 한국의 남해안과 비슷한 지리적 특성을 가진 미국의 지역은 대서양 중부에 위치하고 있는 델라웨어(Delaware), 메릴랜드(Maryland), 버지니아(Virginia), 노스 캐롤라이나(North Carolina) 등이다. National Marine Manufacturers Association(NMMA)의 통계에 따르면 델라웨어에는 5만 2,000척의 레저보트가 등록되어 있으며, 메릴랜드에는 20만 6,000척, 버지니아에는 24만 5,000척, 노스 캐롤라이나에는 32만 1,000척이 등록되어 있다. 이는 인구 약 26.6명당 보트 한 척이 등록되어 있는 수준이며, 모터가 없는 카누 또는 카약의 등록 통계는 제외된 것이다.

2. 한국의 레저보트와 마리나사업

한국의 마리나 개발은 초기단계로서, 한국의 8개 마리나 중에는 부산의 수영만이 양호한 시설과 공간을 가지고 있다. 경상남도 통영의 마리나는 98대의 보트를 수용할 수 있고, 콘도가 있으며, 고급 요트와 크루즈 보트들이 이용되고 있다. 그러나 마리나의 주요 수요자가 거주하는 수도권과의 거리가 멀어 마리나 이용의 회전율이 낮은 편이다. 현재 6개의 마리나가 정부 또는 민간 부문의 재정적 지원에 의해 개발되고 있다.

한국은 세계에서 가장 큰 선박건조 국가지만 대형 상업선 건조에 그 역량이 집중되어 있어, 레저보트 제조는 중소 조선소가 담당하고 있으며 그 기술 수준은 낮은 편이다. 특히 레저보트의 주요부품인 모터 제조기술은 일본보다 뒤쳐져 있다.

해양레저 시장 형성과 홍보의 주요 수단인 보트 쇼는 경상남도에서 처음 개최하였으며, 수도권의 경우 2008년에 전곡항에서 처음으로 개최하였다. 국제 보트 쇼에 대한 지방정부의 관심이 증가하고 있기 때문에 해양레저에 대한 국민의 관심이 커질 것으로 기대한다.

| 표 2-1 | 레저보트 산업의 발달에 있어 한국의 강점과 약점

	분석 내용
강점	바다 접근성이 용이함 상업선박의 우수한 건조능력 지방정부의 해양자원 개발의지가 강함
약점	동해의 만 형성 부족 서해의 높은 조수간만의 차와 얇은 수심 레저용 또는 경기용 항해에 대한 전통이 없음 고가 요트 소유의 부담

3. 최근 미국의 레저보트와 마리나사업

미국 NMMA의 2006년 레저보트 통계에 따르면 약 87만 5,000척의 선박이 운영되고 있다. The National Sporting Goods Association(NSGA)의 보고서에 따르면 2007년 레저보트, 모터, 부속품의 매출액은 175억 달러로 골프 장비 매출액 37억 달러의 약 4.7배이다.

미국의 50개 주 중 23개의 주가 연안에 입지해 있으며, 3억 명 미국인의 절반 이상이 대서양과 태평양을 끼고 있는 17개 주에 거주하고 있다. 미국의 워터프런트는 1960년대부터 개발되기 시작되었으며, 콘도미니엄프로젝트, 리조트, 호텔, 레스토랑, 주택, 사무실 등으로 종합적인 마리나 개발 수요가 있다.

투자자는 체인마리나 형태로 회사를 전문적으로 관리하는 사업으로 전환하여 규모의 경제 효과를 얻고, 정교한 관리, 설비, 저비용의 형태로 운영·관리하고 있다. 높은 비용으로 인해 기존 마리나의 재개발과 마리나 보관창고의 개발이 줄어들고, 새로운 마리나는 대부분 부동산 회사와 체인 형태의 회사에 의해 개발되고 있다.

워싱턴의 Port Gardner Warf 마리나는 새로운 마리나의 형태로 2,300개 이상의 슬립(slip)과 집, 독특한 상점, 레스토랑, 오픈마켓, 18에이커의 공원, 비즈니스 사무실, 숙박시설, 최상위 어메니티(Amenity)와 서비스가 특별히 혼합되어 있는 마리나이다.

마리나가 성공하기 위해서는 전략적 관리, 인적자원 관리, 재무 및 회계 관리, 운영 관리, 마케팅 관리, 공급망 관리, 고객관계 관리가 필요하며, 마리나 관리 서비스에 대한 교육을 제공하는 전문경영회사는 마리나 운영회사의 발전에 매우 중요한 요소이다.

국제마리나협회(ICOMIA)는 1967년 여러 국가의 보트 연맹과 해양산업에 관여하는 협회로 구성되어 국제적인 조직으로 손색이 없다. 동 협회에 참여한 회원국은 총 29개국이며, 한국은 아직 가입하지 않고 있다. 각국의 보트 관련

정책에 대한 정보를 수집하고, 최근 마리나가 환경에 미치는 영향 등에 관심이 높다. 이 협회의 역할은 마리나 개발 및 관리, 보관시설, 보트 이용방법, 인프라에 관한 정보의 국제적 공유 및 교류를 촉진 및 장려하는 것이며, 클린 마리나 프로그램의 스폰서 역할 또한 맡고 있다.

마리나산업협회(AMI)는 마리나 산업에 대한 주요 국제 무역협회로, 1,500개 이상의 마리나, 요트 클럽, 공공/민간의 정박소 등 다양한 구성원으로 이루어져 있다. 마리나산업협회에 소속된 회원에는 가족 경영의 소규모 회사에서부터 대규모 회사에 이르는 다양한 규모의 회사들이 있으며, 사업 형태도 비영리 기업, 클럽, 민간협동조합, 시설운영자, 장비제조업체, 회원제 학원과 정부기관 사업체, 컨설턴트, 보험 및 엔지니어링 업체, 그리고 해양무역협회 등 다양하다.

제 3 장 미국의 레저보트와 마리나 관련 규정

1. 연방정부 관련 법

마리나의 개발은 The United States Army Corps of Engineers(USACE)가 조정하며, 해양 건축, 발굴 등은 River and Harbor Act of 1899에 의해 허가를 받아야 한다. Section 404 of the Clean Water Act에서는 수질과 해양자원, 습지 보호 등을 규정하고 있으며, 마리가 환경에 미치는 영향 분석 등을 규정하고 있다. 그리고 미국 어류 및 야생동물 서비스(US Fish and Wildlife Service : USFWS)는 건설 관련시설이 물고기와 야생 동물에 미치는 영향을 최소화 할 것을 규정하고, 미국수산청(National Marine Fisheries Service : NMFS)은 마리가 상업 낚시업계에 미치는 영향 등을 검토한다.

연방 수질오염 관리법의 1972년 수정안은 정기적으로 폐수 배출에 대한 허가를 받도록 하고 있으며, 연안 관리법은 수질, 해안과 내륙 습지를 보호한다. 환경보호단체와 미국해양대기관리처(National Oceanic and Atmospheric Administration : NOAA)는 오염을 조절하기 위한 가이드라인을 제안하고 있다.

준설규정은 마리의 운영에서 매우 중요하며, 1972년 마리나 보호와 조사 지정에 관한 법과 Ocean Dumping Act에 의해 환경 및 사람의 건강 등에 영향을 주는 쓰레기를 바다에 버리는 것은 금지되어 있다. Clean Water Act(CWA) Section 404에서는 해안이나 내륙의 매립을 위한 물질을 관리하며, 미국환경보호국(Environmental Protection Agency : EPA)과 미육군공병단(US Army Corps of Engineers)은 준설물질에 대한 다음과 같은 법적 책임을 수행한다.

- CWA와 MPRSA(The Marine Protection Research and Sanctuaries Act)의 허가가 필요

- EPA의 환경 가이드라인/기준을 통해 허가
- 준설을 위한 가이드라인을 준수
- EPA는 해양 지역 관리의 책임
- EPA와 협회는 공동으로 해양 관리 및 모니터링 책임

환경과 관련한 허가를 받는 과정은 1년 내지 2년 또는 그 이상이 소요되며 또한 EPA, CROP와 준설 방법 지역에 대한 협의와 협약이 요구된다. 경제적 가치, 레저, 심미적인 영향 등 EPA의 환경기준 부합 여부의 결정은 일련의 테스트 및 평가를 통해 이루어지며, 그 기준에 부합해야 사업 시행이 가능하다.

Jones Act는 요트 소유자가 의무적으로 전문적인 선장 또는 선원을 고용하도록 규정하고 있다. 동 법은 미국에 등록된 요트나 대형요트의 경우, 미국 국적의 선장과 선원을 고용하도록 규정한다. 이러한 이유로 미국의 많은 요트들이 인근 다른 나라에 등록되어 있다. 특히 카브리해의 케이먼, 그레나다(Grenada), 또는 버진 아일랜드(Virgin Island)에 자신의 요트를 등록하는 경우가 많다.

미국 해양경비대(Coast Guard)의 주요 업무는 국민, 환경 그리고 미국의 경제적 이해와 안전을 보호하는 것이다. 해양경비대의 2006년 보고에 따르면 레저보트에 의한 사망사건의 70%가 안전지침을 따르지 않아 발생하였으며, 연평균 700명 이상이 안전사고를 당하고 있다. 레저보트가 국가에 등록되어 있더라도 해양경비대에 다시 등록하여야 하며, 등록자료는 국제적인 증거자료, 특정 거래의 제한 허가, 선박 금융 모기지 이용 등의 목적으로 사용된다.

2. 주 정부 관련법

주 규정은 해당 주에 적용된다. 마리나의 설계, 구축, 운영, 보트 및 엔진의

등록에 관한 규정과 허가 취득 과정에 관한 주의 규정은 서로 상이하다. 예를 들어, 로드아일랜드(Rhode Island)에는 지역의 발전과 해안 지역의 보존을 감독하는 규제 협의회가 조직되어 있다. 연안자원관리위원회(CRMC)는 1971년 설립되었으며 정부의 해양 보존과 개발 전문가들로 구성되어 연안 관리 계획, 허가, 그리고 해안 지역을 관리한다.

3. 레저낚시의 규정

낚시도 연방 및 주 정부에 의해 규제된다. 1995년 정부 및 연방 수역 및 해양 보호를 위한 규정이 제정되어 낚시행위도 규제되고 있다. 이 규정은 낚시가 국립 야생동식물보호구역, 국립공원, 국립기념물, 해양보호구역, 시타 보호구역이나 정부관리구역에서 지속가능한 활동이 되도록 관리한다. 이를 위해 미국 NMMA, 스포츠 낚시 협회, Billfish 재단, 센터 해안 보전, 연안 보전 협회, 국제 게임 피쉬 협회와 의회 스포츠맨 재단이 함께 참여하고 있다.

제 4 장 레저보트를 위한 인프라

미국의 레저보트 인프라는 보트 소유자, 정부, 해양기업, 전문기관과 클럽, 교육단체 등 다양한 분야에 의해 만들어지고 있다. 각 기관이 보트와 보트장비, 마리나와 인프라 등에 대한 아이디어와 디자인을 개발한다.

1. 보트 재정과 보험

가격이 천차만별인 모터보트의 구입은 자동차 구입과 유사하다. 즉 고가의 보트 판매와 구입을 위해서는 재정 관리와 보험이 필요하다. 대형보트는 주로 15년 정도의 선박 대출을 하며 보험은 반드시 필요하다. 보험회사의 옵션이 다양하기 때문에 고객은 옵션을 분석하여 자신에 적합한 보험회사를 선택하여야 한다. 대형레저보트나 요트를 현금으로 거래하는 사람은 극히 소수이며, 대부분의 보트 구입자는 대출로 구입자금을 마련하기 때문에 금융시장의 이용도가 높다.

2. 미국의 보트산업 육성

미국의 보트산업은 보트협회, 보트 제조업자, 보트 관련 장비 및 소모품, 보트 서비스업체, 소매업체, 정부 등에 의해 육성되고 있다. NMMA는 1979년에 설립되었으며 1,400개의 회사로 구성된 가장 큰 보트협회이다. 프라임 보트 시장의 지역 고객을 대상으로 자사 제품의 전시회를 개최하며, 회원은 운송비용과 특별회원 임대 할인 등의 혜택을 받는다. 협회가 발행하는 연례 보트 통계

보고서는 회원에게 보트 정보를 제공한다.

미국에는 마린협회가 여러 지역에 설립, 운영되고 있다. 남가주해양협회(South California Marine Association : SCMA)는 남부 캘리포니아의 레저보트 산업의 발전을 목적으로 1956년 10월에 45개의 해양관련 업계의 대표들에 의해 설립되었다. SCMA는 800명이 가입한 미국에서 가장 오래된 최대 규모의 협회 중 하나로서 5개의 큰 보트 쇼를 운영하며, 지역간·국가간 보트무역 업무도 하고 있다.

북부캘리포니아마린협회(Northern California Marine Association : NCMA)는 1972년에 조직되었으며, 6개의 보트 쇼를 개최하고 있다. 이중 3개 보트 쇼는 NCMA에서 운영하며, 다른 3개는 새크라멘토 밸리 해양 협회(SVMA)가 운영하고 있다. 그 외의 협회는 다음과 같다.

- Maryland Marine Trade Association
- North Carolina Small Business and Technology Development Center
- Rhode Island Marine Trade Association
- South Carolina Marine Association
- Marine Industries Association of Florida

3. 보트 관련 이벤트의 중요성

미시간 주립 대학교(MSU)의 휴양 해양 연구 센터에서 NMMA의 지원으로 Boating Industry가 2008년 9월 30일에 실시한 보트 쇼의 효과를 분석하였다. 그 결과, 보트 관련 이벤트가 소비자에게 보트 구입의 잠재적 욕구를 창출하는 것으로 조사되었다.

4. 요트 클럽

미국에서는 요트 클럽이 레저용 보트 업계에서 중요한 역할을 한다. 파티에서부터 요트 대회에 이르기까지 많은 사회적 모임을 가지는 요트 클럽은 레저용 보트 소비시장에서 중요한 역할을 하며, 대부분의 요트 클럽은 홍보를 위해 청소년을 위한 세일링(sailing) 레슨을 실시하고 있다.

5. 주요 보트경기

보트경기는 레저보트의 중요한 홍보의 장이다. 주요 3대 보트경기는 항해 보트경주, 모터보트대회, 낚시대회 등이다. 대부분의 요트 경주는 요트클럽이 개최하며, 미국의 주요 요트대회로는 아메리카 컵, 버뮤다 레이스, 국가 마린 레이스가 있다. 1851년에 처음 개최된 아메리카 컵은 국제 스포츠에서 가장 오래된 경기로서 미국에서는 주로 뉴포트에서 개최되었다.

뉴질랜드에서 아메리카 컵 레이스의 경제적 영향에 대한 연구가 다섯 번째 실시되었으며, 연구 결과 뉴질랜드 경제에 640억 달러의 부가가치를 창출한 것으로 나타났다. 스페인 발렌시아 대학의 Joaquin Maudos 교수의 지도 하에 발렌시아에서 열린 2007년 아메리카 컵의 효과를 분석한 결과, 2004년부터 2007년까지 27억 6,800만 유로의 지출효과와 7만 3,000개의 일자리가 창출되었다고 한다.

6. 낚시대회

낚시 애호가로 구성된 낚시 클럽은 매년 스포츠 낚시대회를 개최하여 클럽을 홍보하며, 낚시대회의 수익금을 깨끗한 수질 보전과 해중립 조성 등 해양

환경 조성을 위하여 사용하고 있다. Water Life Kids Cup 낚시대회는 아이들에게 환경의 중요성에 대해 공부할 기회를 제공하며 이와 동시에 레저보트와 같은 해양레저를 같이 소개하고 있다.

7. 모터보트대회

미국의 모터보트대회의 역사는 항해보트경주와 비슷하며, 미국 파워 보트 협회(American Power Boat Association : APBA)등 여러 협회를 통해 파워보트경주를 위한 국제적인 조직을 형성하고 있으며, 모터 보트대회는 인기가 높고 경제적 영향력도 크다.

제 5 장 레저보트와 마리나 개발에 따른 환경 문제

보트 이용자와 마리나 개발·관리자는 자연친화적인 관행을 채택하여 환경 보전 및 개선을 위해 노력하고 있다. NOAA는 클린 마리나 프로그램을 EPA에 포함시키고, 마리나 계류시설 관리자 및 소유자에게 프로그램을 제공한다. 클린 마리나 프로그램의 장점은 다음과 같다.

- 폐기물 처리 비용 절감
- 최적관리방안(The Best Management Practices : BMPs) 실행으로 발생하는 폐기물의 양을 줄여 처리비용 절감
- 높은 수수료 지불
- 무료 기술 지원, 교육, 워크숍 및 마리나 사이트 방문자 계산
- 마리나 규제 요건 충족으로 벌금부과 사례 감소
- 무료 홍보, 미국 보도자료, 뉴스레터, 보트 가이드 등을 통해 클린 마리나 홍보
- 클린 마리나는 보기 좋은 형태로 신뢰할 만한 고객을 유치할 수 있음
- 수질과 주거환경의 개선
- 마리나의 환경 개선
- 클린 마리나 표지판 배포
- 모든 공식 문서에 국가의 클린 마리나 로고 사용 허용

또한 프로그램과 자신의 보트에 다음과 같은 추가 혜택을 제공한다.

- 보트 교육 : 클린 마리나 프로그램은 레저보트 이용의 가장 좋은 방법이며 해양 환경에 미치는 영향을 최소화함
- 클린 마리나 프로그램의 개발을 통해서 지역은 NOAA/EPA 프로그램에

의해 마리나 운영

클린 마리나 설계의 요점은 깨끗한 수질보전이다. 마리나 외부의 물과 내부의 물을 순환시켜서 수질을 최상으로 유지시키는 방식으로, 자연적인 방법에 의해 물의 수질을 유지시키는 방법을 권고한다. 마리나로 들어가는 입구는 자연적인 해안에 정렬되어 물의 흐름과 바람의 방향에 평행하게 정렬되어야 한다. 조수간만의 차이로 적당한 양의 물을 공급하는 방법을 이용할 수 있는데 이것은 조수간만의 차이에 따라 마리나의 크기와 대비하여 계획해야 한다.

정박지 입구의 크기는 지리적 제약에 의해 제한될 수 있으나 선착장 내만의 갑문과 같은 것을 통해 물의 자유로운 흐름을 촉진하는 한 개 이상의 입구를 만드는 것이 좋다. 하나의 입구를 만드는 것은 원형의 정박지에 효과적이며 이런 경우 오염물질이 마리나 모서리에 모이지 않게 된다. 정사각형이나 직사각형의 경우 입구를 중심에 두는 것이 가장 좋다.

보트에 왁스칠을 함으로써 선체 표면에 오염물질이 붙는 것을 방지할 수 있으며, 또한 그로 인해 청소 시의 세제 사용을 감소시킬 수 있기 때문에 마리나 사업자는 고객에게 왁스의 사용을 권장해야 한다. 대부분의 보트추진 시스템은 가솔린 또는 디젤을 이용하는 내부연소 시스템을 사용하기 때문에 탄화수소와 기타 오염물질을 물속으로 방출하는 것 이외에도 많은 양의 탄소를 공기중으로 방출한다.

휘발유 1갤런당 약 20파운드의 이산화탄소(CO₂)를 배출한다고 가정한다면, 만약 보트가 1년에 200갤런의 연료를 사용하였을 경우 이산화탄소의 방출은 4,000파운드가 된다. 지구온난화 문제로 인해 레저보트의 사용 또한 중요한 이슈가 될 것이며, 따라서 연소시스템에 대한 기술적 연구가 필요하다.

제 6 장 사례조사

사례지는 2007 Marina Dock Age가 우수 마리나로 선정한 Saybrook Point Marina로, 로드아일랜드 대학에서 약 50마일 떨어진 코네티컷(Connecticut) 강 하구에 위치하고 있다. 이곳은 보트를 140척 수용할 수 있으며 리조트와 온천을 연계하고 있다. Atlantic Cruising Clubs에서 우수 마리나로 지정되었으며 뉴욕 타임즈 및 미국 자동차 협회에서도 상을 수상하였으며 ValvTect Marina's 2006에서 올해의 마리나상을 받았다.

연구자는 2008년 10월 16일에 사례 대상지 마리나를 방문하여 20년 동안 마리나의 매니저로 근무하고 있는 제프하우와 인터뷰를 하였다. 매니저는 고객들이 마리나에 대해 가장 중요하게 여기는 부분에 대한 정보를 제공하였으며, 보트 소유자를 위한 설문지를 작성하였다.

고객들이 마리나 이용에 있어 중요하게 여기는 요소는 다음과 같다.

- 마리나 내부나 인근 지역의 음식점
- 전기 서비스
- 직원과 경영진의 지식과 친절
- 욕실, 샤워 시설의 청결 정도
- 부두에서의 연료의 가격
- 주차장의 위치와 유용성(부두 근처 주차)

Saybrook Point Marina는 좋은 수리 시설 및 저장장소, 하역장의 품질, 물의 청결, 진입의 용이성, 우수한 어메니티와 마리나의 청결 상태, 선착장 근처의 좋은 레스토랑, 슬립, 영업시간, 보안, 수영장, 골프 코스, 케이블 TV와 인터넷 접속, 바비큐와 피크닉 구역, 세탁 시설 등을 잘 갖추어 레저 시설로서 매우 훌륭한

를하다. 최고의 마리가 되기 위한 직원 관리와 더불어 마리아 이용 고객에게 가장 좋은 마리아 시설을 제공하기 위한 노력, 특히 마리아 사용자의 요구사항을 항상 인식하고 개선하기 위한 노력을 지속하고 있다.

제 7 장 마리나 이용고객의 선호도에 대한 조사

마리나 이용자를 대상으로 우수 마리나 요인에 대한 설문조사를 실시하였다. 대상지는 미국 동부에 있는 마리나 4개소로 남캘리포니아에 1개소, 나머지는 로드아일랜드에 3개소이며, 설문항목은 보트의 경험과 요구에 대한 14가지 질문으로 총 51개의 요인으로 구성되었다.

한국의 보트 이용자에 대한 조사는 한국해양수산개발원(Korea Maritime Institute : KMI)에서 설문지를 수정, 조사를 실시하였다. 한국은 마리나에 대한 시설수준 및 이용형태의 한계로 미국과 많은 차이가 있으며, 리커트 척도(Likert Scales)에 대한 반응 또한 다르기 때문에 정교한 통계분석을 사용하지 못하고, 대신 중요 순위를 비교하였다.

미국의 조사 결과 10개의 요인이 평균 4점 이상이었으며, 상위 9개 요인의 최빈값이 '5'였다. 미국의 마리나 이용자는 청결과 직원의 친절 정도를 가장 중요하게 여기며, 또한 깨끗한 시설, 보안, 주차에 대한 중요도가 높았다. 마리나 이용 비용은 51개의 요인 중 18위에 있었지만 최빈값은 '5'점으로 비용과 거리 또한 보트활동에 매우 중요한 요소임을 알 수 있다.

마리나의 수리시설과 수리비용에 대해서는 중요하지 않게 측정되었으며, 휘트니스 센터, 운동장, 수영장, 레저 시설 등 부수 시설, 그리고 심지어는 좋은 술집 역시 중요하게 여기지 않는 것으로 나타났다.

한국에서는 51개의 요인 중 49개의 질문을 사용하였고 다른 두 가지 질문을 포함시켰다. 표본 수가 많지 않았으며 최종 사용된 표본은 27개이다. 아래의 표에서 미국의 순위와 한국의 순위를 비교하였으며, 표본에 따른 오류의 가능성이 있음을 알려준다.

미국의 상위 10개 중 6개가 한국의 상위 20개 안에 포함되지 않았으며, 미

국의 보트 이용자들은 마리나의 청결에 대해 매우 중요하게 여겼으나 한국에서는 주차공간의 순위가 가장 높게 나타났다. 이것은 일반적으로 한국의 마리나에서 주차장의 부족현상이 일어나고 있는 것으로 해석되었다.

한국의 마리나 관리에 대해서는 다음과 같은 시사점을 얻을 수 있다.

- 주차공간이 매우 중요
- 정박지로부터 용이한 출입이 가능한 설계가 필요함
- 마리나로의 접근 거리가 짧아야 함
- 정박 비용이 비싸지 않아야 함

| 표 7-1 | 마리나 선택에 영향을 주는 요인에 대한 기술통계 - 중요도 순서로 배열

The factors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately importance", and 1 is "not a factor.	MeanRank (by Mean)	Mean	Median	Mode	Std Dev.
Cleanliness of the marina grounds and docks	1	4.45	5.00	5.00	0.89
Friendliness of the marina staff and management	2	4.40	5.00	5.00	0.73
Quality of restroom facilities	2	4.40	5.00	5.00	1.00
Cleanliness of the restroom facilities	2	4.40	5.00	5.00	1.05
Cleanliness of the showers	5	4.33	5.00	5.00	1.03
Quality of the docks	6	4.26	4.00	5.00	0.88
Quality of showers	7	4.21	5.00	5.00	1.15
Security at the marina	7	4.21	4.00	5.00	0.91
Knowledge of marina staff and management	9	4.14	4.00	5.00	1.08
Parking availability	10	4.09	4.00	4.00	0.75
Visual attractiveness of marina	12	3.98	4.00	5.00	1.08
Ease of entering and exiting the slip	12	3.98	4.00	5.00	1.24
Electrical Service	14	3.93	4.00	5.00	1.40
Cleanliness of the waters that you use outside the marina	14	3.93	4.00	4.00	1.26
Environmental stewardship	16	3.88	4.00	4.00	1.26
Distance from home	17	3.83	4.00	5.00	1.23
Price of the slip (including electricity, etc.)	18	3.81	4.00	5.00	1.22
Cleanliness of the water in the marina	19	3.77	4.00	5.00	1.21
Closeness, by boat, to places of interest	20	3.70	4.00	4.00	1.06

| 표 7-1 | 마리나 선택에 영향을 주는 요인에 대한 기술통계 - 중요도 순서로 배열(계속)

Th efactors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately importance", and 1 is "not a factor.	MeanRank (by Mean)	Mean	Median	Mode	Std Dev.
Visual attractiveness of waterfront and businesses around the marina	21	3.67	4.00	4.00	1.19
Quality of maintenance work performed by the marina	22	3.63	5.00	5.00	1.70
Hours of operation of the marina	23	3.58	4.00	4.00	1.18
Marine supply store near the marina	24	3.51	4.00	4.00	1.28
Pump Out	25	3.47	4.00	5.00	1.61
Good restaurants near the marina	26	3.35	4.00	4.00	1.19
Grocery/Convenience store at or near the marina	27	3.30	4.00	4.00	1.35
Pick up and disposal of hazardous waste	28	3.28	4.00	5.00	1.47
Friend(s) or relatives have boat(s) at the marina	29	3.23	4.00	5.00	1.56
Price of gas/diesel at gas dock	29	3.23	3.00	5.00	1.44
Marine supply store at the marina	31	3.16	3.00	3.00	1.34
Repair Facility at the marina	32	3.07	3.00	4.00	1.50
Cost of maintenance work performed by the marina	33	3.05	3.00	1.00	1.55
Magnitude of the tides	34	3.05	3.00	3.00	1.11
BBQ/picnic area	35	2.98	3.00	1.00	1.55
Repair Facility very near the marina	36	2.93	3.00	4.00	1.33
Condition of other boats	37	2.88	3.00	4.00	1.37
Good restaurants at the marina	38	2.81	3.00	3.00	1.30
Newness of the marina	38	2.81	3.00	1.00	1.48
Good bar near the marina	40	2.56	3.00	1.00	1.30
Internet Access	41	2.51	2.00	1.00	1.58
Reciprocal Club Affiliations	41	2.51	2.00	1.00	1.44
Pools	43	2.35	2.00	1.00	1.43
Laundry facilities	44	2.33	1.00	1.00	1.68
Good bar at the marina	45	2.28	2.00	1.00	1.28
Cable TV	46	2.23	1.00	1.00	1.57
Recreational facilities	47	1.74	1.00	1.00	1.18
Boat brokerage	48	1.72	1.00	1.00	1.20
Playground at the marina	49	1.63	1.00	1.00	1.09
Fitness center at the marina	51	1.42	1.00	1.00	0.82
Fish Cleaning Houses *	50	1.49	1.00	1.00	0.91
Depth of the water in and around the marina *	11	4.05	4.00	5.00	1.19

| 표 7-2 | 한국과 미국의 순위 비교

The factors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately importance", and 1 is "not a factor.	US Rank	Korean Rank	Absolute Difference
Cleanliness of the marina grounds and docks	1	20	19
Friendliness of the marina staff and management	2	23	21
Quality of restroom facilities	2	31	29
Cleanliness of the restroom facilities	2	39	37
Cleanliness of the showers	5	41	36
Quality of the docks	6	13	7
Quality of showers	7	33	26
Security at the marina	7	3	4
Knowledge of marina staff and management	9	17	8
Parking availability	10	1	9
Visual attractiveness of marina	12	11	1
Ease of entering and exiting the slip	12	4	8
Electrical Service	14	10	4
Cleanliness of the waters that you use outside the marina	14	18	4
Environmental stewardship	16	26	10
Distance from home	17	5	12
Price of the slip (including electricity, etc.)	18	6	12
Cleanliness of the water in the marina	19	20	1
Closeness, by boat, to places of interest	20	8	12
Visual attractiveness of waterfront and businesses around the marina	21	22	1
Quality of maintenance work performed by the marina	22	9	13
Hours of operation of the marina	23	15	8
Marine supply store near the marina	24	38	14
Pump Out	25	28	3
Good restaurants near the marina	26	41	15
Grocery/Convenience store at or near the marina	27	48	21
Pick up and disposal of hazardous waste	28	36	8
Friend(s) or relatives have boat(s) at the marina	29	24	5
Price of gas/diesel at gas dock	29	28	1
Marine supply store at the marina	31	25	6
Repair Facility at the marina	32	11	21
Cost of maintenance work performed by the marina	33	2	31
Magnitude of the tides	34	7	27
BBQ/picnic area	35	41	6
Repair Facility very near the marina	36	19	17

| 표 7-2 | 한국과 미국의 순위 비교 (계속)

The factors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately importance", and 1 is "not a factor.	US Rank	Korean Rank	Absolute Difference
Condition of other boats	37	30	7
Good restaurants at the marina	38	41	3
Newness of the marina	38	41	3
Good bar near the marina	40	50	10
Internet Access	41	31	10
Reciprocal Club Affiliations	41	36	5
Pools	43	33	10
Laundry facilities	44	41	3
Good bar at the marina	45	48	3
Cable TV	46	50	4
Recreational facilities	47	41	6
Boat brokerage	48	27	21
Playground at the marina	49	14	35
Fitness center at the marina	51	41	10
Fish Cleaning Houses *	50		-
Depth of the water in and around the marina *	11		-
Proportion of docking/mooring to total space		16	-
Mast repair maintenance house		33	-

제 8 장 두 나라 사이의 차이를 극복할 수 있는 전략 모색

1. 한국 해양레저산업의 특징

해양레저산업에 고려해야 할 세 가지 주요 분야는 하드웨어, 소프트웨어 및 인적자원이다. 한국과 미국 상황의 비교를 통해 얻은 한국의 해양레저 산업의 전략은 다음과 같다.

| 표 8-1 | 최근 한국과 미국의 상황에 대한 비교

분야	아이템	미국	한국
하드웨어	마리나	12,000	10 미만
	모터보트제조	다수	소수
	항해보트제조	다수	실험적
	보트용품제조	발달	매우 발달
	해양레저도구시장	발달	
소프트웨어	마리나 운영	발달	경험과 노하우 없음
	대규모 국제 이벤트	활발함	없음
	보트 쇼	많은 지역	2개 지역
	레저보트 대출	양호한 발달	없음
	레저보트 보험	양호한 발달	없음
	시장의 발달(중고시장)	발달	거의 없음
인적자원	요트클럽	양호한 발달	소수
	요트학교	양호한 발달	소수
	마리나의 환경 인식	높은 인식	낮은 인식
	개인의 참여(마리나 투자)	높은 참여	최근 시작
	정부를 포함한 공공분야	활발한 활동	최근 시작

1) 하드웨어

- 세계적인 수준의 조선업
- 한국의 해양레저는 낚시 위주의 형태
- 항해보트, 요트 제조에 대한 노하우가 거의 없음

2) 소프트웨어

- 마리아 운영에 관한 노하우가 필요
- 이벤트 유치 필요성
- 레저보트 시장의 형성
- 보험과 재정 시스템의 활성화

3) 인적자원

- 교육적 활동과 청소년 및 성인을 위한 회원 관리 필요
- 마리아 환경적 인식 필요
- 안전 관련 시설에 대한 투자
- 민간투자의 활발한 유치를 위한 정부의 노력 필요

2. 한국의 마리아 및 레저보트 발전을 위한 전략

두 나라 사이의 격차를 살펴본 결과 한국 레저보트산업의 발전을 위해서는 단계적 전략이 필요한 것으로 보고, 다음과 같이 5년 단위의 3단계 발전 방향을 제시하고자 한다.

| 표 8-2 | 두 나라간의 격차를 줄이기 위한 한국의 개발전략

분야	정책적 아이템	개발 단계	주요점
하드웨어	마리나의 개발	1단계	형성되어 있음
	보터보트제조		
	항해보트제조	1단계	
	보트용품제조	1단계	
	해양레저도구시장	1단계	
소프트웨어	마리나 운영	1단계	노하우 습득
	대규모 국제 이벤트	2단계	소규모 국제 대회/ 대규모화 1단계부터 시스템 준비
	보트쇼	1단계	
	레저보트 대출	2단계	
	레저보트 보험	2단계	
	시장의 발달(중고시장)	2단계	
인적자원	요트클럽	1단계	
	요트학교	1단계	
	마리나의 환경 인식	2단계, 3단계	
	개인의 참여(마리나 투자)	1단계	
	정부를 포함한 공공분야	1단계	

1) 하드웨어

- 민간과 공공분야 모두에 의한 개발 필요
- 모터보트 제조업의 성장
- 소형 항해보트에서 대형 항해보트와 모터요트로 확장
- 외국 기업과의 협력을 통해 기술 교류/제휴, 라이선스 계약, 설계 기술의 인수

2) 소프트웨어

- 마리나 운영에 대한 전문성을 키우기 위해서는 레저보트와 항해 분야 선진국과의 긴밀한 연계가 필요
- 국제행사 유치 전략을 위해 대형 항해보트나 요트 제조 기술, 승무원의

교육, 금융 등에 많은 시간을 투자

- 소규모 국제행사를 유치함으로써 대규모 행사를 위한 경험 축적
- 한국 정부는 이러한 기회를 해양관광 진흥을 위한 전환점으로 활용
- 보험제도와 보트 구매 금융 지원에 관한 서비스 형성

3) 인적자원

- 적극적인 교육프로그램 필요
- 정부는 교육과 해양스포츠의 진흥을 위해 지역 중심의 민간 요트클럽과의 협력 정책 고려
- 마리나의 환경에 대한 인식 프로그램 도입
- 정부는 태풍이나 높은 파도를 완화하는 시설 조성 시 공공투자 보조
- 민간 분야의 투자 유치

제 9 장 정책적 시사점

1. 해양 레저보트산업의 육성은 단계별로 추진

1) 1단계 : 해양레저 소비시장의 육성

- 해양레저 활동은 레저보트의 운영 기술이 필요하기 때문에 학교교육 혹은 민간교육의 활성화가 필요하다.
- 해양레저 교육을 통해 해양에 대한 청소년의 관심을 증가시켜 해양 인적 자원 육성에 기여해야 한다.

2) 2단계 : 해양레저시설의 경관 조성

- 친환경적 친수공간으로서 해양레저 공간의 인식을 제고한다.
- 해양레저의 배후시설과 해양레저 시설의 어메니티 제고를 위한 기본계획 수립이 필요하다.

3) 3단계 : 해양레저 관련 서비스산업의 육성

- 해양레저 관련 금융서비스 시장의 육성이 필요하다.
- 해양레저 시설의 경영관리를 위한 인적자원 육성이 필요하다.
- 해양문화와 해양레저의 융합이 필요하다.

2. 기존의 상업항 혹은 어항의 여유공간을 활용한 마리나항 조성

대단위 마리나항을 신규로 개발하기에 앞서 기존 항내 유휴공간을 활용한 소규모 마리나 시설의 조성을 검토하여야 하며, 어항을 마리나 기능, 수산물 레스토랑, 해양체험 공간 등이 포함된 복합공간으로 조성해야 한다.

3. 해양레저 활성화 추진전략

소규모의 독창적인 보트 쇼를 개최함으로써 해양레저에 대한 국민의 잠재적 욕구를 창출하며, 소형 모터보트를 대상으로 한 해양레저 이벤트를 개최하여 해양레저 활동에 친밀도를 제고한다. 그리고 선진국의 레저보트 제조 기술을 전수 받아 국내 레저보트 제조산업을 육성해야 한다.

2008 KOREA-AMERICA JOINT MARINE POLICY RESEARCH CENTER

**A Study on Marine Tourism Policies
to Upgrade the Marina and Pleasure
Boat Industry of Korea
– Relevance of the U.S. Experience to Korea –**

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Chapter 1. Overview

The purpose of this project is to provide background on the US pleasure boating industry that can provide insight into how Korea should grow its budding industry. The emphasis is on marinas and boating. Recreational boat and yacht building is left for a second phase. Marine tourism, especially pleasure boating can be a very important recreational activity for South Korea because South Korea has over 12,000 kilometers of coastline and it is less than 300 kilometers wide. Korea's geography makes marine resources close to the entire population. Marine tourism is currently in the developmental stage in Korea and many forms of marine tourism activities have not been fully introduced into the economy. With Korea's rising per capita GDP it is important to develop policies for the enhancement of marine tourism.

This study deals with one sector of marine tourism, recreational boating. The development of marinas and increased boating activity are being actively planned by the central and local South Korean governments because of the newly rising demand for sailing and motor-boating. But policies to enhance pleasure boat activities (so-called software) need further development by the central and local governments as well as the private sector. Our primary research question is: how can Korea develop a world class pleasure boating industry? To answer that question we examine the U.S. pleasure boating industry and determine the factors that are necessary for a thriving industry. The section that follows describes the research approach

Chapter 2. Research Approach

The research approach has five parts. Each will be described briefly:

1. Literature Review and discussion with key marina authorities to develop a description of pleasure boating and pleasure boating infrastructure (both physical and social) in Korea and the US

This section describes pleasure boating in Korea and includes an analysis of Korea's strengths, weaknesses, opportunities, and threats with respect to the pleasure boat industry. For the U.S. it includes Federal, State, and local laws and regulations of pleasure boating and marinas. It also includes a discussion and analysis of the public and private sector entities that promote the pleasure boating industry in the U.S. These include the role of the U.S. Coast Guard Auxiliary, Sailing Clubs, Fishing Clubs, Yacht Clubs, as well as marina owners, boat manufacturers and retailers, boat shows, and professional associations within the pleasure boating industry. US pleasure boat related activities such as financing and insurance are described. Finally the economic impact of boating is examined. The data for section 2.1 has been collected through a literature review, discussions with key officials, and from industry trade association and government secondary data sources.

2. An examination of competitive recreational boating

This part covers sail boat races including America's Cup and other international races. It also includes information on local sailing competitions within the US. Sailing was part of the 1988 Korean Olympics however it still is in its infancy in Korea. There is a possibility of great growth but it needs to be nourished. This section should provide information on how to provide that nourishment. To a lesser extent motorboat racing and fishing competitions are also examined for implications for Korea. The report does not include an analysis of the rapidly growing sports of kayaking, wind surfing, kite surfing, or surfing.

3. Environmental issues in marina development and pleasure boating

In the current times of environmental concern and global warming all activities need to be examined for their impact on the environment. The literature on environmental issues is reviewed. Particular attention is paid to the US clean marina program. This section benefits from a lengthy interview with one of the founders of the clean marina movement in the US, Neil Ross. A Blue Flag marina program in the Europe closely copies the US program. The survey of US boaters discussed in section 6 also contains questions on changing behavior caused by recent publicity on global warming, the carbon footprint of various boating activities, and the significant increase in the cost of fuel.

4. Case study and survey of US marinas

A case study of a world class marina as identified by the magazine Marina Dock Ages as best in class marina is presented in this section. Appendix A also develops a case study on Florida dry stack marinas that are built to withstand level 4 hurricanes. This is something that is important to marina development along the South Sea coast of Korea where typhoons are very common.

In addition to the case studies a survey at a sample of US and Korean marinas is conducted to determine what features boaters desire in a marina. The survey results are analyzed for their implications on the placement and design of new marinas in Korea.

5. Analysis of sections 1) through 4) showing the differences between US and Korea and recommendations of how the gaps between the two countries can be filled.

This part includes

- Strategies in each area to be selected by Korea from USA cases
- Stages for the introduction of policies
- Ways to introduce needed policies
- Other aspects to be considered in Korea

Chapter 3. Description of pleasure boating and pleasure boating infrastructure (both physical and social) in Korea and the US

This section describes the current state of pleasure boating in Korea and the U.S. It includes measures of the number of boaters, types of boats in use, reasons why people enjoy boating, and many other facts and figures about boating, marinas, and other infrastructure. This allows a comparison of U.S. and Korean pleasure boating and infrastructure from which we provide recommendations about what policies and other infrastructure Korea should develop in order to ensure that its people can enjoy boating, as the per capita disposable income increases.

In the United States over half of the boats are used inland on fresh water lakes, rivers, and streams. This study however looks primarily at salt water boating on the oceans, seas, straights, bays, inlets, and harbors. Thus we begin the section with a comparison of the Korean and U.S. Marine Geography, including the types of coast line, and climate.

1. Comparison of Korean and United States Marine Geography

The east coast of South Korea, along the East Sea, is mostly coastline with very few bays and harbors and also few islands. The water temperature is warmer and the

tides much less severe on the east coast. The East Sea is clean, deep and shows below one meter of tidal change, but the waves are rougher than other seas in Korea, because it is open sea. Hence, the construction costs of marinas are higher than other coastal areas where there are bays and inlets. Marina's on the east coast would need to provide breakwaters as protection from the action of the waves. However it is similar to the west coast of the United States. One part of the U.S. west coast, that is similar to Korea's east coast is California between Monterey in the north and Los Angeles in the south. In the south Los Angeles has a very large man made harbor at Marina del Rey. This was built to provide boating for the residents of the Los Angeles area where there was no large natural harbor. It is one of the largest man-made small craft harbors in the United States, with public and private marinas and yacht clubs that have slips for over 5,000 boats and the accompanying infrastructure. A look at the Marina Del Rey web site shows the type of facilities that can be supported by a large population with a high per capita income. <http://www.visitmarina.com/boating/boating>. This harbor is a major economic engine for that part of Los Angeles. South Korea does not have a major population center on the East Coast thus it is hard to imagine a large facility similar to Marina Del Rey. However when Marina Del Rey was developed the area was on the decline. Once the harbor was build residential and commercial development followed. There could be some spots on the East Coast of Korea where development of a large pleasure boat harbor could stimulate significant economic development of high end residential communities, professional service firms, tourism facilities, and marine related commercial businesses.

In southern part of the East Sea coast we reach the major seaport of Busan. Here the coast turns westward along the South Sea with many more islands, inlets, and bays. The South Sea has the tides that vary from a 4-5 m of tidal change in the



source : <http://www.lonelyplanet.com/worldguide/south-korea/>
<http://www.worldatlas.com/webimage/countrys/america/usstates/lccolor/cacolor.htm>

| Figure 3-1 | Maps of South Korea and California

western part and 1-2 m of tidal change in the eastern part. Thus the eastern side would be preferable for building marinas. However marinas could be built in the west especially on some of the islands. The bottom of the Korean peninsula along South Sea is subject to typhoons. These have in the past resulted in considerable damage and death in the port of Busan and surrounding areas. These typhoons start in the South Pacific and move to Japan or Korea. Because of the threat of typhoons building along the coastline need to be able to sustain high winds and sturdy wave-breaking or wave-reducing structures need to be built to protect the marinas. This results in a significant increase in the cost of building a marina.

The Busan area itself contains Korea's largest international commercial port. It is also a major population center. To the west, the coast is a good area for boating with many bays, inlets and small islands. Near the west coast there is the island of Jeju, 50 miles south across the Strait of Jeju from the mainland. This island is already a very important tourist destination, however, it has the potential to be a major

yachting/cruise ship center. It can be reached by large boats from the peninsula, and can be compared to the several popular islands off the coast of the US. Nantucket Island and Martha's Vineyard in Massachusetts are colder in the winter and have shorter boating seasons but they are important U.S. and international yachting destinations. Off the southwest US coast at a similar latitude is Catalina Island in California. It is popular with boaters. There are many other islands in the U.S. that are also popular with boaters, however most are closer than Jeju. Martha's Vineyard, Nantucket, and Catalina are all less than 30 miles offshore. With the current cost of fuel a trip to Jeju would be expensive and probably limited to larger boats. For most sailboats the trip would take a minimum of 10 hours from the mainland, not an easy day sail.

The west coast of the Korean peninsula, along the Yellow Sea, has numerous bays and islands but the sea is very shallow and highly turbid from the high tidal change, amounting to 8-9 meters in Seoul metropolitan area and to 4-5 meters in southern part of the Sea. It is very difficult to find coastal water space with over 4 m of constant depth due to high tidal change, the potential for constructing major marinas on the shoreline is very low. In addition the water quality is not as good as the east coast. However, given these limitations it still has much potential as a place to enjoy pleasure boating. Causeways could be developed to link small islands with the coast. These islands could contain a combination of marinas, housing, golf courses, commercial fishing, and perhaps even a cruise ship dock on the island. A number of such islands have been developed in Dubai and China are considering similar development. Marinas in areas with less shallow water could store the boats on land or in dry stack and use trailers to launch the boats.

Unfortunately, the most difficult part of South Korea for the development of marinas is in the northwest, which is the major population center. As one travels south

along the west coast the tide diminishes somewhat and conventional marina development and boating becomes more feasible.

The best physical comparison of South Korea's marine resources in the US would be Florida, however Florida is at a lower latitude and thus much warmer than South Korea, especially in the winter. The water is at least 10 degrees F warmer. Therefore boaters can be on the water and in the water year round. South Korea's latitude is similar to Delaware in the north to North Carolina in the south, although the water temperature averages about 5 degrees F lower. Jeju Island, could be comparable to the southern part of North Carolina. Although temperate enough to allow boats to be kept in the water year round, boating would not be desirable in the winter months. The Jeju season, like the North Carolina coast would span March through November. In Florida, and other countries around the world below the 30th parallel, the season is year round. Florida, due to its temperate climate, extensive coastline, and inland waterways, is the boating capital of the US. Florida has almost a million registered pleasure boats. (<http://hsmv.state.fl.us/dmv/vslfacts.html>;2007 statistical review)

Due to the weather, tides, and water quality South Korea (especially the west) does not have the potential of Florida in the US, but we see much potential similar to the US mid Atlantic region of Delaware, Maryland, Virginia and North Carolina. According to statistics collected by the National Marine Manufacturers Association (NMMA) (<http://www.nmma.org/facts/boatingstats/2006/files/Abstract.pdf>), Delaware has over 52,000 registered pleasure boats, Maryland 206,000, Virginia 245,000, and North Carolina 321,000. That is a total of over 864 thousand registered pleasure boats. The population of these 4 states that we are using as a model for Korea is approximately 23 million (2006 Census Data - U.S. Census Bureau). That totals approximately one registered boat for every 26.6 people. However the number of

people boating is much higher since many boats are owned by families with 3, 4 or more members and small boats without motors, canoes and kayaks are not registered. This shows a strong potential for Korea since its population is twice that of these mid Atlantic states. As was mentioned previously the one major drawback is that the waters on the west coast near Seoul have very strong tides, more like Alaska and Maine in the US. Developing harbors and marinas with extreme tides is very difficult, but still possible.

2. The Current State of the Korean Pleasure Boating and Marina Industry

Korea has no tradition of recreational sailing and little experience with cruising. There is however a strong tradition of recreational fishing activities and some cruising activities using small motorboats. Accordingly, marina development in Korea is significantly less than that in more developed coastal countries. Seven governments owned small marinas were developed in the different coastal provinces for sailboat racing. The boats at these marinas are small and they have only on-land storage space, maintenance facilities, and parking lots. Of the seven, only Suyoung Bay Marina in Busan has enough storage space on the water and on-land together. In Tongyoung City in Kyoungsang Namdo Province, there is a privately developed marina capable of accommodating 98 boats with a marina hotel, luxury yachts and ocean cruising boats, but it is distant from the major market, Seoul. Because of this distance from a population it has developed slowly and is just now at becoming fully occupied. Currently 5 small scale marinas are being developed by local governments supported financially by central government or by private sectors.

In the past, the income level of the Korean people was not sufficient to sustain yachting. The South Korean government had yachts classified as luxurious goods and had a heavy special goods tax on them. Additionally the government was suspicious of the owners of yachts and they were investigated frequently in search of tax evasion activities. In effect a yacht put one under suspicion of nefarious dealings, thus even wealthy Koreans were discouraged from yacht ownership. Until the luxury tax was repealed in 2004, it was not possible to develop a substantial recreational boating industry other than for small fishing and motor boats. Even today there is no marina near the major Seoul market. As discussed above the tides and shallow waters in the coastal waters near make marina development and boating very difficult.

1) Leisure boat manufacturing industry

Korea has the largest ship building industry in the world, but it is primarily concentrated in the building of large commercial ships. The manufacture of smaller sized ships has been limited to making fishing boats and small ferry or cruise boats. Therefore, especially in the field of yacht making industry, as there was not enough demand, there are few companies to try to make upscale leisure boats such as big motor or sailing yachts. These yachts need a very high quality of interior finish unlike commercial vessels and the existing Korean shipbuilders do not have experience in either yacht design or finishing. But Korea industry and its workers have the potential for future development in this area, because of core competencies in basic ship-building and know-how in hardware design and manufacture.

In the near future, as the income level in Korea surpasses an annual per capita GDP \$20,000, the demand on leisure boats including yachts is expected to rise rapidly. This demand should open opportunities to Korean boat builders. It is also

possible that because of Korea's excellent workforce some international boat builders could open operations in Korea.

2) Promotion of Boating in Korea

Last year, Geongsang provincial government initiated the first boat show in Korea. This year, Gyeonggi provincial government also started to hold a boat show that coincided with an international yacht race, commemorating the opening of their provincial marina in Junggok fishing port. This new marina can hold 100 yachts. There are some provincial or local government that are trying have visions to develop large marinas with yacht related industrial complexes that can replace their existing marine industries such as fishery and traditional boat building. The central government is also establishing plans to make marinas using unused areas in the existing large commercial shipping ports and commercial fishing ports. This combination of marinas along with commercial fishing and shipping has worked well in many US ports such as Seattle, Washington.

3) Current state of leisure boating activities

In Korea, as already mentioned, recreational fishing activities and cruising have been major leisure activities in the off-shore waters. White-water rafting, windsurfing, and water skiing activities are increasing rapidly. As is happening in China and other developing countries, sailing and cruising by yachts and motor boats is also expected to grow at a high rate in the near future. Under a new law, Korean provinces now have the freedom to develop their own coastlines without gaining permission from the federal government. According to a story on Korea.net, the recently passed Special Law of Coastal Areas Development allows local authorities to go ahead with plans to

develop manufacturing and other facilities in order to promote new industries. According to a December 2007 report in IBI News (<http://www.ibinews.com/ibinews/home.htm>), "South Gyeongsangnam-do (Province) and Jeollanam-do have said they will move ahead with development plans that include marinas and boatbuilding facilities. The marinas will contain berths for up to 2,000 yachts. The long-term plan is to turn a chain of southern islands into a tourist destination with marinas and other yachting businesses. Before the passage of the law, the Korea National Park Service had exclusive authority over maritime construction, including marinas, sightseeing routes and observatories. Now, each province will be able to develop its coastline according to local mandates. The south coast's boat building industry is also expected to grow with the new development plans."

4) Korea's strengths and weaknesses in developing a strong recreational boating industry

We can now summarize Korea's strengths and weaknesses in developing a strong recreational boating industry. The strengths include:

- a geography where the majority of the population are near the sea
- a tradition of fishing and commercial boat building
- changes in the laws which give autonomy to local governments to develop their marine resources

The weaknesses include the following:

- few bays and inlets on the east coast
- high tides and shallow water on the west coast, especially in the north
- no tradition of recreational and competitive sailing
- suspicion of owners of yachts

Korea's recreational boating industry can learn much from countries such as the US with a strong history of boating. This understanding can help to take advantage of the opportunities that arise as personal income and especially disposable income in Korea rises. The sections that follow provide insight into the US recreational boating industry. They can help develop policies to capture the opportunities that exist for recreational boating in South Korea.

3. The Current State of the U.S. Pleasure Boating and Marina Industry

The boating/yachting segment of the marine recreation and tourism industry includes the building of boats and yachts and the equipment used in boats/yachts, as well as related activities such as fishing, water skiing, sailboat racing, scuba diving, etc. It also includes the operation of marinas; the operation of boats and yachts, including the purchase of gas/diesel and supplies, maintenance including special paints for protecting the bottoms from marine growth, pump out services for waste, and other related services. This phase of marine tourism research is limited to a review of US pleasure boating and marinas. Pleasure boat/yacht building is beyond the scope of this project.

Much of boating/yachting takes place at marinas. The building of marinas is a necessary ingredient for the growth of boating/yachting. There are currently very few marinas in Korea whereas, according to The National Marine Manufacturers Association (NMMA) 2006 Recreational Boating Statistical Abstract, there were "approximately 12,073 marinas in operation in the U.S. in 2006, accounting for nearly 875,000 total slips. The National Sporting Goods Association (NSGA) reports that in 2007 \$17.5 billion was spent on Pleasure Boats, Motors, and Accessories. This

compares to \$3.7 billion spent on golf equipment. They also tell us that 31.9 million people in the US participate in motor boating and 35.3 million participated in fishing. Fishing however can be from shore or in a boat. As a comparison golf participation was 22.7 million. The NSGA report found that motor boating participation increased by 8.9% from 2006. Sailing was not ranked.

In summary the US marina and recreational boating industry is thus a significant economic force and there is no reason that the Korean people and economy should not be able to experience similar growth and enjoyment that the US has seen over the past several decades. The sections that follow provide further a picture of the history and current state of boating and marina management.

1) Background and Development

The early settlement of the United States, by people from England, Spain, France, Portugal, and Italy was primarily along the coasts as the early settlers arrived only by boat. Through the 18th and early 19th century many of the early settlers moved inland for better farm land, but the majority continued to live close to the coast. Twenty-three of the fifty U.S. states have shoreline on the Pacific Ocean, Atlantic Ocean, or Gulf of Mexico. Over half the 300 million Americans live in the 17 states along the Atlantic and Pacific oceans. (U.S. Bureau of the Census www.census.gov). However, as far as boating and marinas are concerned a comprehensive 2002 study conducted by STG - Strategic Research Group (www.strategicresearchgroup.com), for the U.S. Coast Guard, found that the most popular place for boating was inland, on lakes and ponds (52%) and the second most popular type of boating was on inland waterways (rivers, streams, and creeks). They found that only 8.6% boated in the ocean and 11.8% boated in bays, inlets, harbors

and the inter-coastal waterway. However of those using sailboats with engines, 69% did their boating on the ocean, bays, inlets and harbors. More, 55%, of the larger powerboats, namely those with cabins, also boat on the coastal waters.

In the United States, marinas have been slowly developing over the last 100 years. The U.S. Congress passed The River and Harbor Act of 1899, which authorized the Secretary of the Army, through the Army Corps of Engineers, to approve the building of any structure on or over navigable waters. Recreational boating increased. In the early 1900s boating was an activity for the wealthy as they built private harbors. The term marina (Italian for small craft harbor) was added to the English vocabulary early in the 20th century.

Recreational boating in the US started its growth phase after the end of World War II. The end of the war saw a growing US economy with many good paying middle class jobs, particularly in manufacturing, which provided a high enough disposable income to purchase and operate a recreational boat. Whereas the workers were earning enough to buy small boats many business owners, lawyers, financiers and other professionals grew wealthy enough to buy larger boats and yachts. The ease of boat building and maintenance was also a factor with the introduction of aluminum and fiberglass hulls. Not only did the new material lower to cost of boat building it also reduced maintenance. This made the total cost of ownership affordable to many more Americans.

During this post war period until the late 1960s most private marinas (versus government marinas) were family owned and operated. However in the late 1960s and the period that followed the demand for land near the water grew significantly and since the supply of land was constant, the price of waterfront property increased. During this period the number of people involved in recreational boating continued to increase. To protect the waterways, in 1968 Congress modified The River and Harbor

Act. It required approval for building recreational structures.

In the 1970s, a poor economy, stagflation, and high fuel prices, led to a decline in recreational boating. Sales of recreational boats reached 729,000 new boats in 1974. From 1974 until 1991 there was a general decline with the 1990 recession pushing boat sales down to approximately 426,800 in the 1991. However the recession was short lived and by 2006 sales had reached 900,000 boats. These numbers however include not just motor boats and sail boats but also canoes and kayaks. The 2006 numbers are somewhat misleading since the greatest growth has been in the very low priced kayak. Almost 400,000 of the 900,000 boats sold in 2006 were Kayaks. (from <http://www.nmma.org/facts/>)

In 2008 U.S. powerboat sales are decreasing as the U.S. economy appears to be entering a recession similar to the early 1970s and marine gasoline and diesel fuel has increased to record levels. (Just recently as this report is being completed – October 2008 - the price of fuel has declined over the past 2 months by almost 40%, however the economy has worsened) And since the recession is global in nature we can expect the same for the rest of the world. Boating Industry, August 2008 issue, shows that although interest in boating is high, sales are subject to the economy, including GDP growth, consumer confidence, and the cost of fuel. Because of the downturn in the economy new boat sales are expected to fall by at least 20% in 2008. According to the Boating Industry article the industry as a whole is unprofitable during 2008. They also claim that many dealers will go out of business this year. However as with past recessions the industry should rebound once the economy turns.

In the last 20 years technology has increasingly impacted the marina industry. This includes information technology, technology for building docks and piers, and service/repair equipment. Many of the U.S. marinas are using this technology as they upgrade their operations and most new marinas are using state of the art technology.

The new technology is allowing for stronger more durable docks that can withstand hurricanes. Also information systems allow more accurate and timely billing and delivery of services. Use of electricity, water, and other services can be monitored electronically and used for billing. For transients (boats visiting a marina), credit cards can be used at the slip to pay for use of the slip and to turn on electricity, water and other service such as cable TV. Many of the trade journals listed in the bibliography give examples of state of the art technology and there are now a large number of international marina consulting firms that assist in the design and construction of new marinas.

As was mentioned previously the demand to be near the water started growing in the 1960s and has not slowed down. Much of the US waterfront is already developed and for the undeveloped property marinas must compete with condominium projects, resorts and hotels, restaurants, homes, and offices. This demand has continued to increase the price of waterfront land on which existing marinas stand and where new marinas can be build. This high cost, especially from the late 1990s until 2006, caused the marina industry to become less a small family run business and more of a professionally managed business. Owner of marinas began coordinating with government, banks, and insurance companies to maximize the value of their waterfront property. Real estate development companies consolidated foreclosed marinas into multi- million dollar portfolios for publicly traded real estate investment trusts. Real estate/marina developers also submitted long-term plans to accelerate the complex government permitting process for dredging and filling. Many marinas began selling individual marina slips as "dockominiums¹⁾." Investors replaced owner-operated businesses as professionally managed corporations began to form chain marinas. These

1) Comdo-minium moordge의 뜻으로 마리나 사용권을 포함하여 분양된 콘도를 의미.

chains of three, four, five or more marinas could develop their own brand and had the economies of scale to add sophisticated management, equipment, and lower costs. They also had the capital to add large, often hurricane proof buildings with the capacity for several hundred dry stacked boats. The dry stack marinas have the advantage in that they require less waterfront area. The case in Appendix A describes new dry stack marinas in Florida that is hurricane proof (winds in excess of 140 mph).

2) Recent US Marina Development

Due to the high cost from competing uses, marina developed has slowed with much of the recent growth being the renovation of existing marinas and the building of dry stack marinas. Most new marinas are either being developed by real estate developers or corporations adding marinas to their chains. Local governments, often in partnership with private businesses, also are developing new marinas. There are some creative new marina developments. One of the more interesting new ideas is in the state of Washington. There in the city of Bellingham the commercial port is taking a former waste water storage area, that was highly polluted, and converting it to a state of the art marina. The marina will be contained within the port. A description and picture of the project can be found in Appendix B. An article in the local newspaper spells out the benefits of the project. <http://www.livebellingham.com/Default.aspx?tabid=7133> .

One of the larger new marinas is also in Washington. The Port Gardner Warf Marina is one of the new breed of marinas. "Along with the 2,300+ slips and marina there will be an extraordinary mix of homes, unique shops, restaurants, open-air markets, 18 acres of parks and open spaces, business offices, overnight lodging, and

other first-class amenities and services." Pictures are available on the web site <http://www.portgardnerwharf.com/index.html>.

Many new marinas are being built to replace marinas that have been lost to residential and commercial developments. American tourists and boaters, like the old time ambience of the waterfront. That is, they like to see commercial fishing, marine related stores, and old style seafood restaurants. Monroe County, Florida and many other areas in the U.S. are working to issue regulations to ensure that the new marina developments do not destroy the historical waterfront. Monroe County is experiencing the loss and redevelopment of waterfront marine facilities and their associated businesses and employment. A limited supply of waterfront land and an increasing demand by different uses is leading to loss of the "working waterfront," which includes commercial marinas, boatyards, wet and dry storage, fish houses, commercial fishing vessel dockage and marine-related industries such as boat dealers, boat repair and maintenance services, commercial fishing and tourism. The current trends are conversion of waterfront to non-water dependent uses and privatization of waterfront reducing public water access. "Monroe County retained the South Florida Regional Planning Council (SFRPC) and the Center for Urban and Environmental Solutions of Florida Atlantic University (CUES) to develop the Monroe County Marine Management Strategic Plan to provide a comprehensive strategy for protecting and preserving the working waterfronts of Monroe County. They produced a report that presents a coordinated implementation strategy specifying government policies, programs, regulations and legislative measures that will establish the structure to achieve the objective of preserving the working waterfront. It is available at <http://www.sfrpc.com/mcmmmsp.htm>. Another example of this redevelopment is in Jersey City, New Jersey. This area, across the river from New York City, was neglected and run down with many empty buildings. Over the past 10 years the local

government and real estate developers have been transforming this into a tourists and service business environment. Many new high rise office buildings, hotels, and restaurants have been built. Recently the Jersey City Redevelopment Agency has been looking for private business ventures to build a marina. They have placed advertisements in an attempt to draw interested parties. They want a company experienced in marina development for the "design-build-operate" delivery of a new municipal marina on the Hudson River in Jersey City. This means they want one group who will design the marina, build it and operate it. The local government agency will own it. The proposed project will consist of approximately 350 boat slips, fishing pier, wave screen, facilities building, and associated utility infrastructure with an estimated cost range of between \$17 and \$20 million. The developers are "expected to be experienced in all aspects of marina development, including design and development, financing, construction, and operation. The Agency has done preliminary work for the project, including a market study, preliminary engineering, surveys, and environmental testing of dredge material. Documents and photos of the site can be found on the Agency's website at www.thejcra.org.

A pool of qualified developers will be selected by the Agency from the submissions received. Qualified developers will then be invited to complete and submit a redeveloper questionnaire with a detailed project proposal. The Agency will then select and designate, from the proposals received, the developer whom it judges to be most appropriate for the project. Agency reserves the right to reject any and all letters, statements, and proposals received." Ben Delisle, Director of Development, Jersey City Redevelopment Agency, 30 Montgomery Street – suite 900, Jersey City, New Jersey 07302 Email: DelisleB@jcnj.org www.thejcra.org.

This New Jersey site is an excellent area for a marina since it is very close to the largest city in the US. Although the water quality is not particularly good the

tides are small.

Korean authorities have begun to explore existing waterfronts in Korean fishing villages to incorporate traditional fishing and shipping with recreational boating. They should look at Monroe County and Jersey City as examples. There are many more US examples, but to examine all the redevelopment projects is beyond the scope of this study.

3) The Current State of Marina Management

Managing a marina is similar to managing other recreational businesses. To be successful the marina needs sound strategic management, human resource management, financial/accounting management, operations management, marketing/sales, supply chain management, customer relations management. The specific organization structure of a marina depends on the strategy. There are several organizations that provide education and other management services for marinas. Having such organizations are important for the effective growth of a marina industry. This education function can be accomplished by not for profit association/corporations or private consulting companies. This section will discuss the organization and function of some of the key organization that assist marina managers in continuous improvement. Some of the organizations also act as lobbyists to state and federal government on issues promoting boating and insuring that regulation that harms the industry is not enacted. The two most important US marina management organizations are discussed in the sections that follow.

(1) ICOMIA – the International Council of Marine Industry Associations –

According to the web site (<http://www.icomia.com/>), "ICOMIA was formed in 1967 to bring together in one global organization all the national boating federations and other bodies involved in the recreational marine industry, and to represent them at international level."

ICOMIA works as a worldwide lobbying organization with international organizations, national governments and other regulatory bodies. It also serves as a collection point for relevant boating policy related data. They seek to reduce barriers that hinder boating and marinas. They also promote awareness of the recreational boating industry and especially the care of the marine environment. Twenty-nine countries have organizations that are ICOMIA members. Korea does not currently have a member.

Within the ICOMIA there is a Marina Committee. This committee has its own web page and mission (<http://www.icomia.com/imc/>). The mission is "to promote and facilitate internationally the sharing and exchange of information in respect to the development and best practice management of marinas, boat storage facilities, boating access and associated infrastructure throughout the world." They also sponsor their own "clean marina" program.

(2) AMI –The Association of Marina Industries

AMI is the primary international trade association for the marina industry. According to the web site it "has a diverse membership of over 1,500 marinas, boatyards, yacht clubs, and public/private moorage basins across the United States and around the world. These companies provide slip space for over 240,000 recreation

watercraft and employment for over 13,000 marine tradesmen and women. AMI marina association member companies range from small family owned and operated companies to large corporations, and includes a variety of business types, including for-profit companies, non-profit clubs, private cooperatives, and concessionaires. In addition to facility operators and equipment manufacturers, membership represents academic and government agency interests, consultants, insurance and engineering firms, and many marine trade associations." <https://www.marinaassociation.org/about.php>

AMI also offers an educational program for marina managers through the International Marina Institute. Neil Ross who we interview in a later section along with other URI colleagues was a founder of this Institute. The institute has a full range of courses leading to a professional certification, Certified Marina Manager. Dennis Nixon, Associate Dean of the URI College of Environment and Life Sciences, teaches three courses in the program including marine law. AMI is headquartered in Rhode Island.

The International Marina Institute also puts on a number of events. For example this year they held the 8th Drystack Conference, October 26-28, 2008. conference was a two-day program that looked at current trends and solutions for drystack storage. The conference included a panel of leading experts in Drystack storage in a roundtable discussion format. The event was followed by the 2nd annual Southeast Florida Marina and Boatyard study tour. The tour included visits to West Palm and Ft. Lauderdale, Florida marinas, including Rybovich, Lauderdale Marine Center, Roscioli Yachting Center, Sunrise Harbor, Harbour Towne, Riverbend and The Port Condominium featuring the cutting-edge vertical yacht storage systems. Each day closed with a roundtable discussion lead by Jim Bronstien, Marine Business Advisors, who was the host of the 2-day tour. Tour participants also attended the Fort

Lauderdale International Boat Show." <https://www.marinaassociation.org/seminars-and-events.php?i=87>

AMI also sponsors National Marina Day. "The goal of National Marina Day is the education of politicians, civic leaders and the public about the important role the marina industry plays in cities and towns across the nation as family-friendly gateways to boating and stewards of the environment. This goal is achieved through the promotion of nationwide marina focused events with local flavor that educate politicians, civic leaders, and the public about the value of the marina industry to cities and towns across America." <https://www.marinaassociation.org/nmd/>.

Chapter 4. Regulation of Boating and Marinas in the US

Pleasure boating and marina operations in the U.S. are regulated by a number of agencies at the federal, state and local government level. The overall purpose of the regulations is to protect the welfare of the public and public assets including the environment. The sections that follow are arranged by type of regulator. We begin at the Federal level.

1. Federal Regulations

1) United States Army Corps of Engineers Oversight of Marina Development

The United States Army Corps of Engineers (USACE) has the most oversight on marina development. Section 10 of the River and Harbor Act of 1899 authorized the USACE to oversee a permit program for construction and excavation or deposition of any material in waters that are navigable. Section 404 of the Clean Water Act allows USACE to protect water quality, aquatic resources, and wetlands. The USACE has a six step permit process. The prospective marina owner first receives an application to be filled out and returned to the USACE who proceeds to analyze the permit and review it for environmental impacts. The USACE proceeds to send out a public notice to all agencies and parties who could be involved or interested. For example, the U.S. Fish and Wildlife Service (USFWS) considers if construction in the specified area will

have adverse affects on fish and wildlife and whether there are alternative sites that may minimize this impact. The National Marine Fisheries Service (NMFS) reviews the effects the marina would have on the commercial fishing industry. These groups send feedback to the USACE where comments are reviewed and an optional public hearing may take place. Necessary environmental reviews are conducted based on the comments received and preliminary assessment. Upon completion of the review, the application is denied or approved and development can begin. <http://www.usace.army.mil/publications/eng-manuals/em1110-2-1206/c-1.pdf>

2) U.S. Environmental Protection Agency Responsible for Protecting Water Quality

The federal Water Pollution Control Act amendments of 1972 required permits to regularly discharge waste water. The Coastal Management Act controlled development to protect water quality and coastal and inland wetlands. The Clean Water Act of 1977 further protected natural resources. The Environmental Protection Agency and the National Oceanic and Atmospheric Administration released guideline documents to control non-point source pollution. This is important for marinas as they are often sources of pollution to the adjacent waters. We discuss this in more depth in section 6.1 on Green Marinas.

3) Dredging Regulations

Dredging is an area that we single out for review since it is so critical for the operation of a marina. Dredging is regulated at the federal level by the EPA. They have a several web pages dedicated to dredging. They can be found at: <http://www.epa.gov/owow/oceans/regulatory/dumpdredged/dumpdredged.html>. One of the pages at

this site is an ocean dumping fact sheet. It explains that "in 1972, Congress enacted the Marine Protection, Research, and Sanctuaries Act (MPRSA), also known as the Ocean Dumping Act, to prohibit the ocean dumping of material that would unreasonably degrade or endanger human health or the marine environment." In addition the Clean Water Act (CWA) Section 404 governs discharge of dredged or fill material into U.S. coastal and inland waters. EPA and the U.S. Army Corps of Engineers share responsibility for regulation of dredged material. Those responsibilities follow:

- The Corps issues permits under the CWA and MPRSA.
- EPA has the lead for establishing environmental guidelines/criteria that must be met to receive a permit under either statute.
- Permits for ocean dumping of dredged material are subject to EPA review and concurrence. CWA permits for dredged material discharge are subject to EPA review and veto, if EPA's environmental guidelines are not met.
- EPA is responsible for identifying recommended ocean disposal sites.
- EPA and the Corps are jointly responsible for management and monitoring of ocean disposal sites

This permitting process can take one, two or more years and much dialogue with the EPA and Corps in the determination of where and how to dump the dredged material. Part of the reason for the lengthy period is that the EPA's ocean dumping criteria require consideration of environmental impact of the dumping; the need for the dumping; the effect of the dumping on aesthetic, recreational, or economic values; and the adverse effects of the dumping on other uses of the ocean. Dredged materials, as well as other materials proposed for ocean disposal, must undergo a series of tests and evaluations to determine whether they meet EPA's environmental criteria for ocean dumping. If they don't meet the criteria then they cannot be dumped at sea. The

testing and evaluation procedures are designed to protect against toxicity and bio-accumulation that may adversely impact the marine environment or human health, and to produce information about the potential for these effects efficiently and reliably. No permit may be issued unless there is enough information to make a scientifically sound determination that the ocean dumping will not unreasonably degrade human health or the environment.

The flow chart below shows the permitting process for marinas on the Hudson River, NY. Taken from a Sea Grant report Hudson River Marina Dredging –A guide for marina operators, prepared by: Nordica Holochuck Hudson Estuary Specialist New York Sea Grant. This flowchart illustrates why it takes such a long time for approval.



| Figure 4-1 | The Dredging permit Process

4) The Jones Act

Owners of yachts that have a professional captain and or crew are subject to the Jones Act. The Act was passed by the United States Congress in 1920 to protect injured seamen serving as crew on a marine vessel and may experience unique hazards due to the occupation's demand. Prior to its passage in 1920 there was no law that provided for injured seamen. It was designed to be a liberal law so that it can be adapted to the changing marine commerce industry. This law also requires that ships registered in the United States be owned by U.S. companies and hire U.S. crew. Its constitutionality lies in the Congress' power to regulate commerce given to them by the United States Constitution.

The premise of this law is to give seamen the right to a trial by jury for suffering and injury that occurred during working hours. The injury does not have to take place on the vessel and can include transportation between two locations for business as well as on shore work-related activities. Jones Act did not define the term "vessel," but the courts have interpreted it to mean passenger ships, freighters, crew boats, and supply boats, as well as many other boats that may require hired staff.

The important part of the act with respect to yachts and mega yachts is that if they are registered in the U.S. they must hire U.S. captains and crew. For that reason many Americans register their yachts outside of the U.S. (many owners register their yachts in the Caribbean in the Caymans, Grenada, or the Virgin Islands).

5) The United States Coast Guard

The United States Coast Guard is a military, multi-mission, maritime service within the US Department of Homeland Security and one of the five armed services. Its core roles are to protect the public, the environment, and U.S. economic and

security interests in any maritime region in which those interests may be at risk, including international waters and America's coasts, ports, and inland waterways.

As part of its mission the US Coast Guard is the primary federal agency regulating the manufacture and safety standards of boating. This authority is spelled out in Title 33 and 46 of the Code of Federal Regulations. It gives the Coast Guard authority to regulate the manufacture and safety standards including regulations for Manufacturer certification

According to the Coast Guard web site (2007), more than 76 million recreational boaters use US waterways (<http://www.uscgboating.org/regulations/regulations.htm>). The Coast Guard's recreational boating safety program is focused on minimizing the loss of life and property and damage to the environment. The Coast Guard Auxiliary, is a 35,000-person civilian volunteer arm of the Coast Guard. Its members are key contributors to these boating safety efforts and have augmented the Coast Guard's missions for over 60 years. The Coast Guard Auxiliary provides free boating safety courses, courtesy marine examinations for recreational boaters, verification for aids to navigation, and inspections of commercial. They are a significant force in promoting boating. The members providing classes work as volunteers. This is something that should be considered for Korea.

In addition to safety the US Coast Guard also provides vessel documentation, licensing and port and waterway security. Currently only commercial boaters including charter boat captains need federal licensing. Currently, the recreational boater does not need a federal license. However, there is a movement to have the USCG license in case of recreational boaters for their knowledge of boating safety, but not necessary their seamanship. The Coast Guard Boating Safety web site in May 2008 reported the following: "During the 80th meeting of the National Boating Safety Advisory Council (NBSAC), Council members unanimously voted in favor of a resolution recommending

that that U.S. Coast Guard (USCG) continue to seek Statutory Authority to require that a boat operator, on waters subject to the jurisdiction of the United States, possess a certificate showing completion of an education course or its equivalent. The Council also recommended that the USCG assemble a task force to develop a draft of the minimum proposed mandatory education requirements that meet current educational standards. The objective of this task force is to resolve multiple interpretations, advance the process, and clarify their intent prior to legislative authorization."Consistent with previous years, the Coast Guard's 48th annual report, Boating Statistics 2006, indicates that 70% of reported deaths occurred on recreational boats where the operator had not received any formal boating safety instruction. On average, approximately 700 people die in recreational boating accidents each year. It is the belief of boating safety experts that requiring recreational boaters to have boating safety instruction could save numerous lives each year." (<http://www.uscgboating.org/articles/boatingview.aspx?id=109>)

Most pleasure boats are required to be registered in the State in which they reside, but they can also be registered (documented) with the US Coast Guard. The Coast Guard has a separate web page dealing with documentation. Vessel documentation is the national form of registration. Documentation serves several purposes:

- It provides conclusive evidence of nationality for international purposes
- It admits vessels to certain restricted trades, such as coastwise trade and the fisheries.
- Vessel financing has been enhanced through the availability of preferred mortgages on documented vessels.

To be documented a boat must measure at least five net tons and must be wholly owned by a citizen of the U.S. Vessels of five net tons or more used in

fishing activities on navigable waters of the U.S. or in the Exclusive Economic Zone (EEZ), or used in coastwise trade must be documented unless the vessel is exempt from documentation. Most boats under 25 feet do not meet the 5 net ton criteria and cannot be documented. Most other, owner operated pleasure boats do not need documentation, but for those boats meeting the requirements for documentation many boaters seek documentation. Once documented the owner must renew the documentation annually for a fee. A Certificate of Documentation may be endorsed for fishery, coastwise, registry, or recreation. Any documented vessel may be used for recreational purposes, regardless of its endorsement, but a vessel documented with a recreational endorsement only may not be used for any other purpose. Registry endorsements are generally used for foreign trade. Ownership must be established when documenting a vessel. If the vessel is new and has never been documented, ownership may be established by submission of a Builder's Certification (Form CG-1261), naming the applicant for documentation as the person for whom the vessel was built or to whom the vessel was first transferred. Also acceptable is a transfer on a Manufacturer's Certificate of Origin, a copy of the State Registration or Title, or foreign registration showing that the applicant owns the vessel.

In the case of a previously owned vessel, the applicant must present bills of sale, or other evidence showing transfer of the vessel from the person who last documented, titled, or registered the vessel, or to whom the vessel was transferred on a Builder's Certification or Manufacturer's Certificate of Origin. Citizenship is established by completion of form CG-1258. In addition to individuals, corporations, partnerships, and other entities capable of holding legal title may be deemed citizens for documentation purposes. Corporations must be registered in a state or the U.S.; the chief executive officer and chairman of the board of directors must be U.S. citizens, and no more than a minority of the number of directors necessary to constitute a

quorum may be non-citizens. In addition, at least 75% of the stock must be vested in U.S. citizens for a coastwise or fisheries endorsement. Evidence that a vessel was built in the U.S. is required for a vessel which is to be used in the fisheries or coastwise trade. Build evidence is normally established by submitting a Builder's Certification on form CG-1261. That form must be completed by the person who constructed or oversaw the construction of the vessel or an official of the company that built the vessel who has examined the records of the company to determine the facts of build.

Many boat owners finance the purchase of their boat with a mortgage, often 15 years in length. With documentation a preferred mortgage can be obtained. It is a mortgage which is given status as a maritime lien. As such it enjoys a certain priority in the event of default. In addition, the Coast Guard is prohibited from making certain changes in documentation including, but not limited to, change of vessel ownership, name, and hailing port without consent of the mortgagee. For this reason many financial institutions require vessels which are eligible for documentation to be documented and to have preferred mortgages recorded against them.

"Federally documented vessels must comply with the laws of the state in which they are operated. The vessel's document must be shown to state law enforcement personnel upon their demand. States may require documented vessels to be registered (but not numbered) and to display state decals showing that they have complied with state requirements."Boating Industry Tuesday September 30, 2008

2. State Regulations

States regulate boating within the boundaries of their state waters. They regulate the registration of boats and engines, as well as the design, build, and operation of

marinas.

State regulations vary significantly from state to state and each has a different level of involvement with the permit process. The very minimum amount of involvement a state can have in marina development is to review Section 10 of the permit applications submitted to the USACE. If a Section 404 permit is required, the state must give the USACE certification that the project will not violate the state's water quality standards. In addition, the state must verify to the USACE that all additional permits or licenses required by the state have been met. The most involvement a state may have is similar to that which Rhode Island has where an independent board is created to regulate this type of activity. For this reason we will use Rhode Island as an example to review state regulation

The State of Rhode Island has a regulatory council to oversee the development and preservation of Rhode Island's coastal areas. The Coastal Resources Management Council (CRMC) was formed in 1971 and consists of government appointed representatives who are professionals in marine preservation and development. This council advises the Governor and General Assembly and devises coastal management plans, reviews permits, and manages the coastal region.

The CRMC specifically plays an important role with new marina development and significant marina expansions. The CRMC works in conjunction with the United States Coast Guard, United States Army Corps of Engineers, the Rhode Island Department of Environmental Management, and the owner(s) of the marina to ensure that coastal disruption is minimized and that the land and coast is being used most efficiently.

In order to build or expand an existing marina, the marina owners must submit a Preliminary Determination (PD) application to the CRMC. This analysis needs to focus on both the economic and environmental impacts of the proposition to the local

region. The report must address the appropriateness of the structure in the specific environmental sites so that public trust resources are not disrupted, navigation impacts of the local waters are not significantly disturbed, and whether the public lands will be disturbed temporarily and/or permanently. It should also address the aesthetic impact of the marina to the region and what benefits are conferred upon the public at large. The Council reviews this information looking specifically for affects on water quality, alternatives that may minimize environmental impact while still accommodating the marina, and that the area requested is the minimum possible.

The Council encourages the use of dry stack storage and prefers for marinas to use a mix of wet slips and dry stack for boat storage. A professional land surveyor must designate the area of tidal water used in the project for the Council to review.

The CRMC have created prohibitions and act as regulators in determining where a marina can be located. Marinas cannot be built in Type 1 and Type 2 waters. The CRMC classifies Type 1 waters so that aquatic life and wildlife refuges are not disturbed in areas where there is unique wildlife or scenery. Type 2 water is defined as that which has high scenic value but supports low intensity recreational boating so that people can enjoy the scenic value but not disrupt it.

The design and layout of the marina are also subject to the standards the CRMC have devised. A Rhode Island Engineer must approve the design and bathymetry of the marina so that its basin takes advantage of the natural bathymetry of the land to the best of its ability. The layout of the marina should have boats of similar size grouped together so that the fairway can be minimized but the maximum length of any dock can only be 1000 feet. To maintain the cleanliness of the water and surrounding areas, marinas must submit a "Marina Operations and Maintenance" plan to the CRMC. Once it is approved, the plan is good for three years. In addition, all marinas in Rhode Island are required to have a pump-out facility to maintain sanitary

waters. The dock used for pumpout should not have any other dockage of any kind. A marina must be located 50 feet from approved mooring fields. For additional details see Primary Source: Rhode Island Coastal Resources Management Program, Section 300.4

3. Regulation of Recreational Fishing

Recreational fishing is also regulated by the federal and state governments. In 1995 the President signed an executive order to protect recreational boating and fishing access on federal waters and marine protected. The order also ensures that fishing will be managed as a sustainable activity in national wildlife refuges, national parks, national monuments, marine sanctuaries, marine protected areas or any other relevant conservation or management area under federal authority. It also provides new and clear direction to federal agencies charged with management of natural resources. This order was supported by lobbying from NMMA. NMMA worked closely with the American Sport fishing Association along with the Billfish Foundation, Center for Coastal Conservation, Coastal Conservation Association, International Game Fish Association and the Congressional Sportsmen Foundation to finalize this amendment.

Chapter 5. Recreational Boating Infrastructure

Recreational boating in the US is made of boaters, government regulators, marine businesses, professional organizations and clubs, educational associations, and various other actors. Following Michael Porter's concept of the value chain we need research and development for ideas, product design to convert those ideas into boats, boating equipment, marinas, and supporting infrastructure. We need manufacturing to produce the designs. Marketing and Sales effort is needed to inform the public about boating in general and the products available that provide a great boating experience. In this section we discuss several parts of the value chain. As stated earlier we do not discuss boat manufacturing. We instead concentrate on boat financing and promotion/marketing of boating.

1. Boat Finance and Insurance

Purchasing a sail boat or motor boat 24 feet or less, is like buying a car. They vary in price from a very used small boat that cost in the hundreds of dollars up to a three engine high performance speed boat that has a price similar to a Ferrari or Lamborghini. Like cars the more expensive small boats are financed through a loan and the lender requires that the boat have insurance. As the size of the boat increases beyond 24 feet the purchase of a boat becomes more like the purchase of a home. Most large boats are financed with a loan, usually 15 years in duration. Additionally most U.S. marinas require proof of boat insurance before they will rent a slip. Thus a

strong system of boat financing and insurance is needed for recreational boating. This section describes the status of the boat financing industry and boat insurance.

1) Boat Financing

Few US purchasers of large recreational boats or yachts purchase for cash. Rather they finance the majority of the cost of the boat purchase. Thus it is necessary to have a competitive market for boat loans to ensure that interest rates are low and customer service is good. Since most boats are financed with debt, high interest rates have a negative impact on boat sales since the total cost of boat ownership varies directly with interest rates. In the US there are a large number of boat lenders operating in a relatively competitive market.

Selecting the type of financing and the source of financing is an important decision for the boat buyer. Determining which finance option is the optimum choice for individuals varies across income levels, boat size, down payment, and lender type. There are several lender options for boat buyers, and each option offers comparable primary services, but they can have different terms based on their lender type.

Many local, regional, and national banks offer boat financing to their customers. This has some advantages over other types of lending services because a personal relationship with the banker can be formed. The boat owner and lender can sit across the table from one another and discuss the best financing option. In addition, the lender is easily accessible because they are often members of the same community. Some banks have lenders that are familiar with the boating industry and can address unique needs and concerns of the boat owner. Financing through a bank provides convenience and personal attention.

Financial Service Companies are another lending option that can provide access

to many types of finance programs. They maintain relationships with local, regional, and national lenders so a boat owner can direct his preferences toward the best lending option. Many financial service companies are experts in the marine lending industry so they have expertise that some boat owners find attractive.

Boat owners who are members of a credit union may have the option of financing their boats through the credit union if it offers boat loans. Their rates may be attractive to their members and this financing option allows for a personal relationship to be established between the lender and borrower.

Many boat dealers offer boat financing so that financing can be done on site, but this is unique to each type of dealer. Typically, dealers will have a Finance Manager on hand that can walk the customer through the whole process from the application to the boat closing. Normally the boat dealer does not actually provide the financing but acts as an agent for a bank or other primary lender. Because boat dealers have established relationships with boat manufacturers and lending sources, the boat dealer may be able to provide special rates to certain customers based on boat brand or model or the borrower's credit score. Boat dealers have access to extended warranty programs that can be included in the owner's financing, or they may be able to offer no interest for several months or a delayed first payment. This option is scarcer than the other options, but can offer significant differences that make it an attractive and unique option.

Many of the marine lenders are members of the National Marine Bankers Association (<http://www.marinebankers.org/>) which is comprised of marine lending specialists. The organization claims that membership gives lenders a competitive advantage over non-member lenders because of their access to expertise. Because members are boat lending professionals, credit decisions can be made quicker and they can offer longer financing options and lower monthly payments. In addition, the

National Marine Bankers Association (NMBA) offers financing for extra equipment and electronics, as well as extended service plans and life/disability coverage. These extra amenities are valuable to some boat owners. According to NMBA, the down payment on a boat loan is a function of age, type of boat, price of the boat, and credit profile/score. As of June 2008 National Marine Bankers Association marine lenders offer financing with down payments typically in the 10 percent to 20 percent range and NMBA notes that some members have created special programs that under certain conditions allow lower down payments.

Many lenders can provide a preliminary interest rate quote based on current market conditions, type of boat, and length of the loan, but nothing is permanent until a financing option is chosen and an application is filled out.

The application process varies from company to company and requires different information, but it primarily is focused on the boat owner and the boat. The information typically requested about the boat owner is income verification, copies of tax returns, financial statements indicating net worth, credit score, and debt to income ratio. This information is used to determine the quality of the boat owner's financial status to ensure satisfactory repayment on the loan so that he will not default. This protects both the lender and boat owner. The amount being financed and length of the term also is requested so that the appropriate interest rate and payment method can be determined. The personal financial information collected by the lender usually varies with the amount being financed.

The physical aspects of the boat are also significant factors in boat financing. The lender analyzes the selling price of the boat to ensure that the buyer is getting a fair market price. This analysis typically includes price guides, comparable boats on the market, and anecdotal evidence from various dealers or yacht brokers. With used boats, a boat survey by a professional marine surveyor may be required depending on

the size of the loan and/or preference of the lender. The year, make, model, power, equipment, and upgrades of the boat being purchased are factored into the total cost and worth of the boat.

Once the application process is complete and approved by the lending service, the rates and terms are given to the boat owner for approval. Typically these quotes are good for 30-60 days before the final decision is made by the borrower and the closing documents are issued. There are many types of loans available, which again, vary from lender to lender. The most common and simple loan is a fixed-rate and fixed term simple interest loan. The payment method is monthly with the rate determined at the beginning of the loan and fixed for the loan's duration. Variable rate loans are appealing to some borrower's because they often offer low introductory rates, but the interest rate changes throughout the duration of the loan shifting the interest rate risk to the borrower. The interest rate may be based on different indices, such as the prime rate or LIBOR rate. Another type of loan is a balloon payment loan which has no monthly or annual payments, and instead requires that the boat owner pays the full amount at the end of the loan period. Generally this is used if a boat owner suspects he will only own the boat for a few years and can make the large payment at the end. Other loan types offer equity/cash out, annual payments, bi-weekly payments, and seasonal payments.

The last part of the loan process is finalizing the registration and documentation of the boat. Many financing companies have Notary Publics that can assist in the loan closing document process. Boats longer than 26 feet may also require United States Coast Guard Documentation to ensure the boat has no liens against it and secures the bank's interest on the national level.

We selected a sample of ten current United States boat financing options to analyze. We found that the average loan requires a minimum amount of \$25,000,

approximately 10% down payment, and fixed rates of approximately 6.5%. Shorter loan periods typically have higher annual interest rates, for example 8.99% annual interest rate for a ten year loan ranging \$18,000- \$24,999. Companies vary with the amount of money they will loan. Excel Credit Marine Financial Services will loan from \$25,000 up to \$10 million, whereas Russo Financial Services and Boaters World only requires a minimum loan of \$10,000. Loans do not exceed twenty years in length, and this time frame usually only applies for financing over \$75,000 to \$100,000. The more typical length of a loan is 10-15 years.

The United States offers incentives to boat owners with loans by allowing them deduct interest expense on their annual federal income tax as a form of individual tax return. Section 163(h)(2) of the Internal Revenue Code states that a taxpayer may deduct interest expenses on a qualified residence. A qualified boat would be one of the two residencies the owner can claim on his tax return. To qualify the boat must have a sleeping space, toilet, and cooking facilities. This is an added incentive to boat owners to purchase and finance a boat with these amenities which essentially reduces the interest expense.

Boat financing is an integral part of the boat selection process and its rates can ultimately hinder or promote the boating industry. Much of the financing process is in the hands of the borrower, whose income levels and credit score are important in determining the appropriate financing option. With the market setting the interest rate and consumer preference driving lending options, boat financing provides an array of choices so that borrowers can efficiently allocate their resources to finance their boat.

2) Boat Insurance

There are several important factors that U.S. boat owners consider when choosing

the correct insurance company. These factors, or features of the insurance policy and the company issuing the policy are described in this section. Appendix C lists most of companies offering insurance to U.S. boat owners. Should readers desire additional details of the insurance available they can view the web sites listed in the Appendix.

Purchasing a boat is a significant investment and it is important to choose an insurance company with credibility and financial stability to ensure the policy covers any and all losses. Boaters use rating agencies (for example A.M. Best <http://www.ambest.com/>, Fitch Ratings <http://www.fitchratings.com/> and others), and personal referrals to assist in the choice of an insurance provider. An insurance company that has safe boaters may provide lower rates because it has fewer claims. Boat safety is important to insurance providers, so some companies provide discounts for boat safety courses or additional boat safety equipment. These discounts can be up to 10%. Insurance carriers often offer discounts for boat owners who also use the carrier for their home or automobile insurance. A key factor for both the provider and insured is the efficiency of their claims service. For this reason many insurers offer 24 hours, seven days a week customer support.

Boat insurance policies cover two potential risks. The first is physical loss or damage. There are many potential risks in boating. In addition to accidents, weather poses a serious risk. Many boats are lost or damaged in hurricanes and other storms. There are two types of insurance policies that cover physical loss or damage: Agreed Value and Actual Cash Value. The primary difference between these two policies occurs at the time of a loss when reimbursement is necessary. The Agreed Value does not factor depreciation into the reimbursement and will pay the owner the full insured value when a total loss of the vessel occurs. The fair market value of the boat is agreed upon by the boat owner and the insurance company and typically costs more money up front. If there is a partial loss claim, insurance covers replacement of the

equipment to maintain the boat's condition prior to the loss. The Actual Cash Value takes depreciation into account at the time of a loss. In this case, the boat owner may not receive the full value as stated on the policy but will instead receive the cost of fixing or replacing the boat after subtracting depreciation expenses. If the actual cost of the boat is less than the repair cost, appropriate price estimates of the vessel are determined by pricing books (See for example : <http://www.nadaguides.com/priceguides/pc-20-2-2008-marine-appraisal-guide.aspx>, <http://www.bucvalu.com/>, <http://www.pricedigests.com/boats/boats.htm>).

When a partial loss occurs, the boat owner receives the difference between the total cost of the damage and the deductibles. This type of policy is less expensive up front which is attractive to some boat owners. Deductibles are normally set at \$250, \$500 or \$1,000, but can be set higher or lower. Boat owners can trade off risk versus the cost of insurance with a higher deductible resulting in a lower. Physical damage coverage typically covers similar physical damages and losses to the boat. Optional physical coverage can be purchased through most insurance companies to cover trailer and sporting equipment. The damage insurance normally covers accidental and third party physical damage to the boat and most salvage charges. Coverage includes anything that is required for the normal operation of the vessel such as sails and machinery as well as damage to the hull.

The second risk insurance policies cover is liability. The specific liability coverage varies across different policies and companies. From a sample of ten insurance providers we found that all offered basic liability coverage which included coverage is for property damage caused by the boat and bodily injury, or death of another person during the use of the insured vessel. Some policies cover environmental contamination in the case of a spill and legal costs. Owners' liability to paid crew is an important option for larger yachts with paid captain and crew.

In the case of a boating accident, liability also covers the cost to remove the vessel from the scene. The liability portion of the insurance policy can cover from \$100,000 up to \$1 million or more depending on the policy. Coverage is also provided to cover medical payments of the injured passengers. Accidents include those which occur at any point of the boating trip, from boarding the vessel to leaving it. The payment method is typically on a per person per occurrence basis. In our sample of insurance policies, coverage ranged from \$5,000 to \$25,000.

Additional coverage options common in insurance policies include personal property, uninsured boater, consequential damage, and towage and assistance coverage. Consequential damage covers fires, explosions, sinking, de-masting, collision, and stranding. Uninsured boater coverage can be purchased which matches the owner's liability limits and deductible to protect against a situation wherein an accident or collision occurs with an uninsured boater. Personal property coverage is also a popular add-on to policies because it covers valuables such as stereos, cameras, and jewelry damaged on or while leaving the vessel. Some towing expenses are covered in the liability portion of the policy, but if not, towing insurance can be purchased to pay for the transportation of the boat to a repair center. This also includes gas delivery if the boat is stranded.

There are some additional features offered by insurance companies tailored toward specific geographic region. For example, some plans offer hurricane insurance and escape reimbursement. In regions where the water is cold, lay-up discounts and freeze wrapping are offered. Most boat owners do not have to worry about boating outside of their coverage territory; however, if the boat is navigable in foreign waters, customized coverage options can be purchased. .

There is no federal legislation that mandates boat owners to purchase marine insurance; however, many marinas require it and some states require minimum liability

coverage. If there is a loan on the boat, boat financing companies normally require that insurance is purchased to ensure recovery of their debt. They are often classified as loss payee on the insurance policy.

Our research found over 60 marine insurance companies in the United States(See Appendix C). Because each boat is unique, boat owners look for the best policy for their particular circumstances and boat. An optimum insurance policy would maximize the boat owner's benefits and coverage within their income constraints. Many companies have several different levels of insurance coverage to cover individual needs. Size and model of the boat plays a role in determining the minimum amount of insurance to purchase. Most of the aforementioned policy characteristics are for boats over 26 feet in length with additional features for larger boats.

2. Promotion of Boating in the U.S.

Boating in the US is promoted by the government, not for profit boating organizations, and private boat manufacturers, manufactures of boating related equipment and supplies, boat service companies, retailers, and marinas. There are literally thousands of individual organizations in the US that promote boating. For that reason we cannot provide a comprehensive listing but rather discuss some of the major ways pleasure boating is promoted. Each of these has relevance to South Korea.

1) Sport Fish Restoration and Boating Trust Fund

At the Federal level the US government has a trust fund funded by tax on the sales to recreational boaters of gasoline and diesel fuel. The details of the trust fund are in TITLE 26 - INTERNAL REVENUE CODE, Subtitle I - Trust Fund Code,

CHAPTER 98, TRUST FUND CODE, Subchapter A - Establishment of Trust Funds, Sec. 9504. Sport Fish Restoration and Boating Trust Fund. This trust fund provides money for restoration of marine habitat and fish. The fund also provides money for Boating Safety. This amount is limited to \$80 million per year. The trust fund is administered by the U.S. Coast Guard. One use of the grant has been to publish a coloring book about boater safety which has been given to school children so they can learn about boating and boating safety. The book introduces the children to "Coastie" the mascot of the U.S Coast Guard Auxiliary (USCGA). Coastie is a robotic boat with human like features. The USCGA uses real life "coasties" in their promotion of boating safety. Coastie is 44 inches long, 30 inches wide and 45 inches tall. It weighs 140 pounds. It has a number of attention getting electronics and a siren and air horn. The boat talks and plays music and even has a web site - <http://coastie.auxpa.org/>. Something similar may work in South Korea.

2) Private sector organizations promoting boating.

As the US boating industry has expanded, marine associations and marine trade associations played important roles, not only in this expansion, but in the success of marine businesses at the micro level. Professionals in the boating industry recognize the importance of these associations because it increases their business and provides networking opportunities. By joining together through these professional associations, businesses have the opportunity to share knowledge about the industry and use that knowledge to advance the boating industry as a whole. Most associations are formed around their interest in promoting the boating industry, but now more associations are promoting environmentally friendly reform and boating practices. Many states have formed "Clean Marina" initiatives and provide education programs to further this cause

in addition to lobbying. <http://www.marinadockage.com/trends/2008/77-78> Association.pdf

In the US, boating is promoted by the private sector in many ways. Promotion is done by individual boat manufacturers, boat retailers, marine stores (such as West Marine and Boater's World), marinas, and other many companies that supply goods or services to the boating industry. This paper will not review or analyze promotion activities by individual private companies in the boating industry. Since many of companies in the boating industry are global they already promote boating in Korea and as the Korean pleasure boating industry grows more companies, Korean and global, will enter the market and work to increase demand through promotion. This section explores the role of non profit organizations that promote boating. The major activity of these associations is to put on boat shows, however, they also promote boating in other ways that will be discussed below.

(1) National Marine Manufacturers Association

We begin with the biggest organization, the National Marine Manufacturers Association. This organization, founded in 1979, has 1400 companies as their members. Their mission is to create an environment that promotes excellence in manufacturing services so that their members will achieve financial success. They host several boat shows a year in prime boating markets for their members to exhibit their products to local customers. Members enjoy benefits ranging from discounts of freight expenses and Avis renting to special member rates to the boat shows. They also have affiliate organizations that focus on other industry sectors to give members access to a wide range contacts. This association publishes an annual boating statistical report that members can use to assess the industry. (See the web site for additional information

<http://www.nmma.org/>). One of the biggest efforts they undertake is to promote boating through their web site www.DiscoverBoating.com. This web site should be carefully studied by anyone interested in promoting boating. Creating a similar site and the accompanying activities is something that could be replicated in Korea.

(2) State Marine Associations

There are many state and regional Marine Associations in the U.S. We will look at just a sample of the larger states, however most of the 50 US states have associations that promote boating. We start our review with the largest state. California has over 30 million people and 800 miles of coastline and many lakes and rivers. The state has two large Marine Associations, one for the southern part of the state and one for the north.

① Southern California Marine Association (SCMA).

"The Southern California Marine Association (SCMA) was founded in October 1956 by a group of concerned and dedicated marine industry leaders representing forty-five different companies for the sole purpose of promoting, nurturing and improving the recreational boating business in Southern California." <http://www.scma.com/about.htm>

SCMA now has 800 members making it one of the largest and oldest marine trade associations in the US. They are governed by the members, with an elected 15 member Board of Directors.

SCMA has a paid, full-time staff. A look at the web site shows that their main activity is to run 5 large boat shows. They also work with other regional and national boating trade associations to promote boating.

② Northern California Marine Association (NCMA)

The Northern California Marine Association (NCMA), organized in 1972, has the same mission and activities as the SCMA. Its main purpose is to run boat shows in Northern California. There are 6 boat shows in Northern California. Three are run by the NCMA and the other three are managed for the Sacramento Valley Marine Association (SVMA). SVMA is much smaller and their market is inland boaters on the lakes and rivers of the Sacramento Valley which is about 100 miles inland from San Francisco. The NCMA's web site has a theme song about boating that begins to play when one enters their website, <http://www.ncma.com/>. Perhaps this song could be translated into Korean.

③ Maryland Marine Trade Association

Maryland's Marine Trade Association was founded in 1972 and currently consists of over 400 member businesses working to promote the boating industry with sound business practices. This organization serves as a lobbyist for the boating industry by staying informed with current legislation affecting boating to ensure market driven and environmentally friendly reform occurs. Members of this organization have access to a wide range of boating information and contacts. Their website offers a search engine for members to locate boat services, dealers, maritime lawyers, and other marine professionals who are also members of the Maryland Marine Trade Association. This directory is designed to help member businesses patronize one another. Members also receive a quarterly newsletter and can place ads in it for additional promotion. One notable advantage for members is the association's "Fall Business Improvement Conference," which is a one day seminar focusing on marketing, new business practices, and product demonstrations. To promote boating on a broader scale, both members and non-members alike benefit from the two annual boat shows the trade

association sponsors. These events are open to the public for a fee and members can buy booth spaces for a discount to promote their product. <http://www.mtam.org/>

④ North Carolina Small Business and Technology Development Center

North Carolina's marine organization is a sector of an umbrella group called "Small Business and Technology Development Center." This center has a group specializing in "Boat Industry Services," which is a statewide service for all boat-related development including marinas, boat dealers, boat builders, boatyards, and other marine services. To market this service, the website <http://www.ncwaterways.com> was formed to connect professionals in the marine industry across North Carolina. This site offers search engines for boaters to search for marinas and dealers within a given radius of one's zip code. Businesses can upload their information to the site so that it is searchable. The site also serves as a resource for North Carolina tourism as it provides links to all noteworthy destinations in the state.

⑤ Rhode Island Marine Trade Association

The Rhode Island Marine Trade Association was founded in 1964 and works with various government agencies and marine professionals to encourage safe and environmentally friendly boating. They also lobby against any legislation that may adversely affect the boating industry. There are 231 members in the Rhode Island association ranging from marine sales stores, to private schools, and local attorneys. This organization is leading the Rhode Island Clean Marina initiative and offers several programs to promote environmentally friendly boating. They initiated a shrink wrap recycling program, and teamed up with Beacon Mutual Insurance Company to offer a safe boating group that requires members take safety classes. In addition, they formed a Political Action Committee (PAC) to give more legitimacy and power to

their lobbying force. The marine trade association also sponsors the annual Newport International Boat Show. <http://www.rimta.org/>

⑥ South Carolina Marine Association

The South Carolina Marine Association was formed in 1960 to promote boating in South Carolina and to maintain the quality of the boating industry in that state. They oversee legislation and environmental concerns that may affect boaters and strive to educate the general public on boating concerns. Full membership in this association gives companies voting rights in the management of their association. Associate memberships are also available for non-profit boating groups but they do not have voting privileges. The SCMA has had success in influencing policy in South Carolina to promote boating by having legislators propose laws to keep boat taxes low and by hosting events throughout the year just for lawmakers. They host an annual boat show in Charleston and have previously co-sponsored the Marine Trades and Expos Conference. <http://www.scmarine.org/>

⑦ Marine Industries Association of Florida

Florida is the country's leading state for boating. They have several boating associations. The Marine Industries Association of Florida, a nonprofit organization, is the largest. As with the other state associations its mission is: to promote and protect recreational boating as a traditional family pastime, to protect and enhance the environment and Florida's waterways, to promote boating safety for all of Florida's recreational boaters, to preserve every citizen's right to access Florida's waterways, to promote Florida boating and fishing as a tourism attraction, to represent, educate and advance Florida's marine industry businesses and workforce. More information on this and other trade groups can be found on their web pages. Similar organizations can be formed throughout Korea. <http://www.boatflorida.org/index.html>

3. The Importance of Boat Shows

Boating Industry reported in its September 30, 2008 on-line edition, the results of a study on the effectiveness of boat shows. The study was undertaken, with support from the National Marine Manufacturers Association (NMMA) by the Recreational Marine Research Center at Michigan State University (MSU). The year-long study claims that boat shows "remain a crucial step in consumers' final decisions to purchase a boat."

"Initial exhibitor feedback from NMMA's 2008 fall boat shows supports the MSU study results, as many exhibitors across all four shows reported quality buyers and strong sales, despite a smaller turnout at the gate"

The MSU study surveyed more than 20,000 attendees at NMMA's 2008 consumer boat shows. The study found that 55 percent of boat buyers attended a boat show within six months prior to their purchase. And 65% of survey respondents agreed with the question, "do attending a boat show increased your desire to purchase a boat?" There were other findings that could be important for Korea and perhaps the entire study could be replicated at the Korean boat show. We believe the most important finding for the budding recreational boating industry in Korea is that "86 percent of respondents said attending a show increased their desire to go boating." Also important was the result that 50 percent said they went to the show with no intention of buying a boat, but became interested once they were at the boat show.

In the US many boat shows are on the waterfront but some are held in convention centers or sports arenas. A major boat show in Seoul itself may be an important way to introduce recreational boating to a large number of middle and upper class Koreans.

4. Yacht Clubs

In the United States, Yacht Clubs play an important role in the recreational boating industry. These are formed by boating enthusiasts to celebrate the sport, activity, and social aspects of this hobby. The organization of a yacht club typically has naval terminology to name their officers and leadership. For example, the top officer is called a "commodore," second officer, "vice commodore," etc. Yacht clubs charge fees for membership which varies with the prestige of the club. They host many social gatherings ranging from dinner parties to yacht racing. Many yacht clubs have sailing classes for the youth to promote sailing for future generations. Some open the sailing lessons to youth in the local schools.

The first yacht club was formed in 1844 by a group of New York businessmen who enjoyed yacht racing in the New York harbor. John Cox Stevens was instrumental in initiating the New York Yacht Club along with nine other men. He served as the first commodore of the Yacht Club and also owned *America*, which won the first America's Cup. The club was first opened in Hoboken, New Jersey and then was moved to Long Island.

The New York Yacht Club opened up its Newport, Rhode Island club in 1988 after it was given the home of late John Nicolas Brown, a former commodore of the club. This location has been the site of many historic races, including the Annual Regatta which recently celebrated its 152nd regatta.

Just as marinas have marina associations, the Yachting Club of America (YCA) founded in 1963 promotes all aspects of the yachting industry. The association boasts 300,000 members across the country which is comprised from over 700 individual yacht and sailing clubs. Members of the YCA have access to a register of all yacht

clubs in America, a "members only" section of their website, and a pictorial yearbook of different yacht clubs across the country. Just like marina associations, the YCA lobbies Congress to pass legislation that will help the yachting industry flourish and lobbies against detrimental policies. Their website (<http://www.ycaol.com>) also offers guides to people interested in forming their own yacht club. In addition to the YCA, many states have their own yachting association with similar goals and missions.

5. Major Boating Competitions

Recreational boating receives much promotion from boating competitions. There are three major forms of competition: sail boat racing, motor boat racing and fishing tournaments. Many Americans as well as people throughout the world enjoy competition. In the US competition on the water is extensive. There is a long tradition of sailboat racing and more recently motor boat and fishing competitions have become very popular. Although sailing receives the most international publicity, in the US, fishing competition is the most popular.

■ US Sailing Competition

Much sailboat racing is organized by yacht clubs, but sailboat competition is a hobby for many boating enthusiasts regardless of their membership to a yacht club. Racing is for all ages and all types of boats. Several well known US regattas are America's Cup, the Bermuda Race, and the National Offshore One-Design Race. These events draw in sailing enthusiasts across the world and feature the best sailors in the industry. Regattas can be organized strictly for the sport of sailing, but many are organized to support charity, such as the NYYC's Leukemia Cup. To standardize

and to maintain fair races, the International Sailing Federation, US SAILING, and Offshore Racing Council serve as the governing, regulatory bodies of the sport. Races are classified typically by the type of boat and an age range of the competing sailors. Prizes can be merely titles or trophies or can offer monetary compensation.

To learn to sail, there are a number of private and commercial organizations, sailing associations, high schools, and colleges that teach sailing lessons. Some sailing schools offer lessons nationwide, such as J/World, North U, and Offshore Sailing School, others are local such as Sail Newport and Sail America in Rhode Island. Lessons often focus on navigation, sailing terminology, boat handling, and rigging per the students' experience level. The American Sailing Association certifies instructors and students to international standards and is viewed as one of the leading authorities in educating people on sailing in the United States. A review of their web page will illustrate the large number of sailing instruction programs available. (<http://www.american-sailing.com/index.html>)

US SAILING, mentioned above, also has a significant program of educational activities. Their web site explains that "US SAILING was originally organized as the North American Yacht Racing Union (NAYRU) on October 30, 1897. The founding members were the Inter-Lake Yachting Association, New York Racing Association, Pacific Inter-Club Yacht Association, Yacht Racing Association of Long Island Sound, Yacht Racing Association in Massachusetts, and the Royal St. Lawrence Yacht Club. AYRU inaugurated the Junior Sailing Championship for the Sears Cup in 1931. Today, US SAILING administers 17 National Championships for juniors, adult men and women, and sailors with disabilities, in various forms of fleet racing, match racing, and team racing."

Their web page also explains their history of training young sailors. (<http://www.ussailing.org/directory/history.asp>) "In the early 1980s, USYRU created a

program to train young sailors through a network of certified instructors. In 1988, the Training Committee developed an introductory handbook, *Start Sailing Right!*, which became the standard for teaching beginning sailing. Other sail training publications followed. By 1997, the organization's training materials had become the national standard for "learn to sail" and "learn to race" teaching and student curricula. In 1993, representatives of a number of commercial sailing schools requested that a comprehensive instruction program for adults who desire to learn to sail in keelboats be developed. The US SAILING Keelboat Certification System, directed at several levels of education (learn-to-sail, basic and bareboat cruising, coastal navigation, and passage making), was created.

In the mid-1970s, USYRU recognized the need to improve the quality, consistency, and fairness of decisions by protest committees that interpreted the racing rules at a local level. In 1977, USYRU created a program to certify judges. With the advent of on-the-water umpiring, created in 1987 and introduced nationally in 1988, the Judges Committee expanded its role to include certification of umpires. Following the model developed for judges, USYRU instituted a national recognition program for experienced race officers in 1982.

In the early 1980s the Race Management Committee created the *Race Management Handbook* to assist local race officers in the procedures for conducting races. It has since become the definitive treatise in the management of sailboat races in the United States.

At the October 1991 Annual Meeting, USYRU voted to change its name to the United States Sailing Association, Inc. and to do business as US SAILING. The new name more adequately described the broader activity of the organization and clarified the administration's intention to fulfill every aspect of the responsibilities of a National Governing Body under the auspices of the Amateur Sports Act.

In recent years, US SAILING has created and maintained the definitive national standards for sailing instruction and continues to develop highly successful training programs for young and adult sailors. The organization has embraced and supported the rapidly expanding public access programs known as Community Sailing, continues to create high-quality instructional"

The authors recommend that the reader review the US SAILING web site. As one can see there is over a 100 year tradition of sail boat racing and training. US SAILING would be an excellent organization to partner with as Korea develops a world class sailing program.

(1) America's Cup

Perhaps the most famous sailing competition is the America's Cup sail boat race. The America's Cup is the oldest trophy in international sport. The first race was held in 1851. The United States held the cup from the first race in England in 1851 to 1983 when it lost to Australia. For most of the time it was held in the US, racing took place at Newport, RI.

In 1983, the Louis Vuitton Cup was established to select the challenger for the current holder of the Cup. Years of fighting about the selection process were brought to an end by this decision. The Louis Vuitton Cup has several rounds where all challengers compete in round robin racing. The top four competitors advance to semi-finals, then to finals, where the team is selected to challenge the current holder of America's Cup.

<http://en.wikipedia.org/wiki/Sailing> Dennis Conner brought the cup back to America in 1987 and the US defended twice more with New Zealand winning in 1995. New Zealand defended in 2000 but lost to the Swiss Team Alinghi in 2003.

Since Team Alighi is a Swiss team and since Switzerland is landlocked they had to select a spot to hold the race. They chose to hold the 2007 competition in Valencia, Spain. Team Alighi retained the cup in a very close race against New Zealand. They are now planning the next race. Team Alighi has its own web page where one can learn details of their team (<http://www.alinghi.com/en/>) and there is an America's Cup web site where one can learn more about the cup and the upcoming defense http://www.americascup.com/en/index_archive.php. The next sections discuss some studies on the economic impact.

① New Zealand American's Cup Economic Impact Studies

Five studies have been conducted on the economic impact of the America's Cup race in New Zealand. The full studies are available in pdf files at the New Zealand Ministry of Tourism. <http://www.tourismresearch.govt.nz/Data--Analysis/Research-projects-reports-and-studies/Research-Reports/Economic-Impact-of-the-Americas-Cup/>

The first was a study of the 1999 America's Cup. The major finding of this study was that the cup races generated \$640 million in value added to the NZ economy. A 2003 report entitled, *Economic Benefits to New Zealand Associated with Investment in a Team New Zealand 2007 America's Cup Challenge*, is worth reviewing. This study is important because it doesn't measure the impact of holding a cup race in a given country, but rather about the impact of having a team that competes in a race outside one's country. It provides insight into what is possible if a country, for instance South Korea, were to invest in a team that competes for the America's Cup.

The NZ study was motivated by Team New Zealand's desire to sail in the 2007 America's Cup, and was designed to analyze the economic impact and benefits that would likely occur if there was a significant public investment of \$33.75 million for

this initiative. The study had two main objectives: (1) to determine the impacts arising from economic stimulus in terms of value added and employment, and (2) the impact of additional tax revenue generated.

The distinction between the economic impact and tax implications is important to fully understand the effects of their benefits. From the extra expenditure of Team New Zealand, the study measures the net additional contribution to NZ's Gross Domestic Product (GDP). This includes value added and employment. For the tax impact, the study measures the net additional contribution to NZ's tax revenue as a result of Team NZ. This includes the goods and services tax (GST). The measurements of each cannot be added to identify the total impact and must be analyzed respectively.

There are several issues surrounding this investment because of its public nature. Because the government cannot fully sponsor this, there will need to be additional sponsorships. If outside sponsorship occurs, the study cites two types of impacts arising from this expenditure. First, there will be the direct and tangible impacts in the form of revenue. Secondly, the expertise and knowledge that is required for participating in America's Cup will have intangible benefits conferred upon the society. This may result in several spillover benefits which may include using New Zealand suppliers for other goods and services within the marine industry.

Other sources of revenue and taxes are also thought to be established by Team New Zealand. There will be additional tax revenue from PAYE (Pay as you earn) and GST taxes since jobs will be created, which further results in additional consumption in the economy. Some people also believe that there will be an influx of other syndicates in the marine industry to New Zealand in the early stages of the program because of the low cost of services, knowledge base, and benefits of having a "critical mass" of challengers. In addition, trade and tourism could result from New Zealand's involvement in America's Cup bringing people to New Zealand who contribute to the

economy.

The methodology used in the study is based on similar studies of the economic impacts of the America's Cup in 2000 and 2003 as well as studies of the marine and tourism industries. The data included the total amount of planned funding for Team NZ, including government, private sponsorships, and off shore funding; the total amount of planned expenditure by Team NZ and the sectors that would be affected; and the salary and wages included in this venture. This data has been categorized so that the net additional expenditure is calculated according to the sector and year, region, and scenarios.

The marine industry is expected to gain considerably from Team NZ, so several factors were included. The direct and indirect business and employment consequences and the retention of any competitive advantage that New Zealand may earn from participating in this type of racing were important to this study.

The economic models were designed to evaluate the direct expenditure effect, estimated gross output, and direct value added and employment. The researchers used multipliers to determine the total impact of the Team NZ's economic consequences.

The models and regressions found that the Team New Zealand challenge could result in an injection of \$85 million into the New Zealand economy between 2003 and 2007 depending on the scenario. The study suggests that 56% - 75% of the government funding would be recovered in the form of tax revenue over 2003-2007.

The presence of an America's Cup challenger in New Zealand is thought to bring four significant implications for the marine industry. Because this type of race requires highly skilled and specialized workers and services, New Zealand believes this knowledge will remain in New Zealand and enhance the quality of those types of workers in the marine industry. This set of knowledge and expertise will likely leave New Zealand if it is not in demand and can find work elsewhere. This gives New

Zealand a competitive advantage. Second, the presence of Team NZ will promote marine related business in the country. There will be continued demand for the best products and services which has ripple effects across the industry. Higher demand gives suppliers the profit incentive to keep producing competitive products and can allow for more entry into the industry. This directly affects the third advantage which is an innovative, knowledgeable, and competitive marine industry that can apply this experience to other sectors of the New Zealand economy. Fourth, all of these contributions increase the credibility and quality of the marine industry "brand". America's Cup is a high profile race which can add value to the standard of marine products. Withdrawal of this race may imply a lack of confidence in the industry, so New Zealand finds it important to stay in the race.

In conclusion, the analysis suggests there would be a significant economic and taxation impact to the New Zealand economy. Further, there would be positive impacts on the marine industry because of its competitive need to increase their quality.

② Other Studies of the Economic Impact of America's Cup

Researchers from the Instituto Valenciano De Investigaciones under the direction of Joaquin Maudos of the University of Valencia did a comprehensive economic analysis of the 2007 America's cup races in Valencia, Spain. Their analysis takes over 100 pages and is quite interesting. The magnitude of the impact can be summed up by one number on page 11 in the executive summary. "The holding of the America's cup signified an injection of 2,768 million euros expenditure over the years 2004-7." It also created/maintained over seventy three thousand jobs during that timeframe. As you can see it is a large scale economic event. (The full report is available at http://www.ivie.es /news/2008/ws_ac1.php?idioma=EN)

A recent magazine article in the online magazine Gizmag.com <http://www.gizmag.com/go/7306/>) reports on a study by Allianz, the main sponsor of the BMW Oracle Racing team. The Allianz Economic Report was prepared under the supervision of Professor Tom Cannon, Dean of Buckingham [http://en.wikipedia.org/wiki/Buckingham University Business School](http://en.wikipedia.org/wiki/Buckingham_University_Business_School). They also studied the economic impact of winning and hosting the cup. "The report takes into account a range of factors such as infrastructure investment, international visitors, media, sponsor, business, construction, accommodation, hospitality, retail, entertainment, transport and logistics and the conclusion is that it provides a massive fiscal injection. They claim if the [next cup race was held in Dubai], the economic impact for Dubai would be US\$10 Billion. If BMW ORACLE Racing were to win the Cup and take it to either San Francisco or Newport the corresponding economic impact would be US\$9.9 B or US\$4.5 Billion."

"It's hard to fully appreciate the magnitude of a major sporting event and its economic impact on a city – tens of thousands of people choreographed to near perfection to support the staging of the event and hundreds of millions of spectators via television. The America's Cup offers the biggest prize in world sport, and is the third largest international competitive sporting event behind and similar to Formula 1." Commenting on the Allianz Economic Report Professor Tom Cannon stated: "I have been conducting studies into sport for many years, but I was genuinely surprised by the size of the prize in the America's Cup. A sport competed for by millionaires and billionaires has developed into an event which delivers billions of dollars to the winning syndicate and its chosen city."

We do not suggest that the Korean government get involved in the American's cup. If however a wealthy group of Korean's decided to compete, we believe it would have a major impact on sailing in Korea.

(2) Other Major Sailboat Races

As mentioned in section 5.51 above, there are local races at almost every yacht club and many marinas. These are often sanctioned by the US Sailing or other organizations. They keep score for boats of a like class. Such as all J-24's.

Sailboats are rated for speed. Slower boats get a form of a handicap when determining overall winners. This makes the race competitive for all racers not just those in the fastest boats.

At the national and international level there is competition for the various classes. Each major class of boat has a race for a national champion and for many international championships. For example in 2006 five sailboats (Beneteau 36.7, Farr 40, Farr 395, J/109, Melges 32) all had their class championship in Newport, RI at the 2006 New York Yacht Club Race Week presented by Rolex. This had a significant economic impact on tourism in Newport during the race week and the weeks leading up to the races.

Another series of one design races are the NOOD races. These races were started by Sailing World (<http://www.sailingworld.com/>) in 1988. NOOD stands for National Offshore One-Design. These races include almost 2,000 boats with more than 30,000 racers and spectators. "Each event in the series features three days of sailboat racing for one-design models from 20to 70 feet in length. In addition to local sailors, sailing's top stars - including America's Cup and Olympic champions - are well-represented at the NOODs. Competitive sailors rate the NOODs as the top national event in each region of the country." <http://www.sailingworld.com/nood-regattas/what-is-nood-racing/nood-regattas---what-is-nood-racing-48463.html>

US SAILING has a series of championship races. Their web page lists 18 total championship series between adult and youth series. <http://www.ussailing.org/>

championships/

A detailed review of this source will provide insight into the process of managing a comprehensive competitive sailing program.

6. Fishing Competitions

Americans have always enjoyed fishing both as a hobby and for sustenance. Fishing enthusiasts have grouped together to form clubs and organizations to promote sports fishing by holding fishing tournaments. Many fishing tournaments use their proceeds to advocate environmental and recreational issues surrounding the sport including maintain reef building and clean water initiatives. There are a number of fishing tournaments across the United States each year and each vary in their specifics. This section is dedicated to reviewing the aspects of fishing tournaments to demonstrate how this sport promotes recreational boating.

The first step of a sports fishing tournament is identifying the premise and goal of the tournament. There are hundreds of tournaments each year, and all of them are organized around a different goal. Depending on region, some fishing tournaments are organized to catch a specific fish, such as the Red Snapper Tournament in Orange Beach, Alabama. Because Red Snapper is native to that region, they host an annual world championship competition to catch the largest Red Snapper. Other competitions such as the Grand Lagoon National in Panama City, Florida and the Martha's Vineyard Derby compete for a variety of fish species because of the abundance of fish in those areas.

There are a variety of sports fishermen each with their unique purpose for fishing. Because of this, tournaments are usually organized into divisions so that all

types of fishermen can participate. The Grand Lagoon National boasts eight divisions: Offshore, Dive, Inshore, Flats, Big Game, Party Boat, Charter Boat, and Kayak, and the Red Snapper Tournament have divisions for small boats, large boats, and anglers. Some tournaments even offer a kids tournament to promote fishing at a young age. In addition to the type of tournament, length is an important aspect to consider. The Key West Fishing Tournament, for example, lasts seven months. This encourages participation by a wide variety of boaters and marinas because of the logistics involved with holding a tournament over an extended amount of time. Marinas assist in the tournament by hosting Weigh-In Stations. Participating marinas see a wide range of fishermen across the time period which is good visibility for the marina. Marinas can also benefit by revenues earned from boats re-fueling when the fishermen weigh-in and all other revenue earned from increased sales in their general store or restaurant.

Registration fees for entering competitions are highly variable with some ranging as large as \$6000+. This depends on the size of the tournament and in which division a fishermen chooses to compete. The registration fees cover costs of the event, provide funds for the awards, and to promote sport fishing.

Some tournaments, such as the Grand Lagoon National, have over 2000 participants and so in addition to the competition, a weekend long festival takes place. Sponsorships are sold to cut down on the cost of the event and also serve as advertising for the sponsor because of the tournament's high level of participation. Sponsors include marinas, restaurants, fishing supply stores, and other members of the sports fishing industry. Different levels of sponsorship are available with varying benefits and visibility. This encourages recreational boating by revealing the breadth of the industry and thereby provoking interest of the fishing enthusiasts present.

Each tournament must be run in accordance with local law. In order to

participate in most tournaments, state fishing licenses and boating licenses are required. Fish must be caught in accordance to the rules and regulations of the state concerning size and weight limits, proper fishing rods, and within the boundaries of the tournament.

A major incentive for participation in a tournament is the award. Depending on the tournament, awards are given for the heaviest fish or most number of catches of each type of fish species involved. Awards are usually given per division to create fair competition among fishermen. Award size often depends on the amount of participants and can extend to thousands of dollars. The Red Snapper competition gives a new Ford truck to the participant to breaks the world record for the size of Red Snapper caught. To gain a better understanding of just how many tournaments there are and what a large economic impact this has see the web sites below:

- <http://www.landbigfish.com/tournaments/default.cfm>
- <http://www.redsnapperworldchampionship.com/OBS>
- <http://www.grandlagoonnational.com/index.htm>
- <http://www.keywestfishingtournament.com/>,
- <http://www.cyberangler.com/tournaments/index.htm>

As with sailboat racing the fishing competition not only provides enjoyment for those taking part and for the spectators it's publicity also promotes fishing in general to the public. Expanding the number of fishing tournaments in Korea could be a very good way to promote the sale and use of recreational fishing boats. This is a large market in the US. Some of the large recreational fishing boats sell for over a million dollars. A top of the line 26 foot off shore fishing boat can sell for over \$150,000. However a new 21 foot recreational ocean fishing boat (with 200 hp to 300hp engine(s)) averages in the neighborhood of \$40,000 to \$50,000. Used 21 foot boats however can be found for under \$15,000.

■ Economic Impact of Fishing Tournaments

This section reviews a single fishing tournament, The Water LIFE Kids Cup Fishing Tournament, because of its relevance to Korea. This tournament was the subject of an economic impact study by professors from the University of Florida, Food and Resource Economics Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL, published October 2007. This is not the normal fishing tournament. This one is designed to teach children about the environment "through fishing". Children from 10 to 16 are matched with adult captains. This tournament introduces children to recreational boating and fishing in a fun competitive setting. Prizes are donated tournament sponsors. "The tournament is the sole fundraising event for the Don Ball School of Fishing. Named after a local citizen committed to youth fishing and community support, the School functions as an extra-curricular program offered at Charlotte and Sarasota County middle schools."

"The economic activities associated with the Tournament are thought to have a positive benefit on the Charlotte County economy. For example, participant expenses associated with the tournament might include lodging, vehicle and boat fuel, fishing gear, clothing, and other expenditures. In addition, a \$100 entry fee is required. As a result, these expenses may create a positive benefit to local businesses within Charlotte County, particularly if these local expenses are incurred by individuals who travel from outside Charlotte County to participate." The researchers provided a questionnaire to all participants in the fishing tournament. Of the 122 surveys only 35 were completed. To estimate the economic impact for the entire population of participants, the researchers used an extrapolation process. The result showed that total "expenditures for all tournament participants were estimated to be \$53,938. Of this

amount, \$23,649 (44%) and \$30,268 (56%) were estimated to have been incurred by local and non-local tournament participants, respectively." The researchers then entered the expenditures into the IMPLAN model. We do not endorse the model, however, "the model generated estimates of direct economic output associated with the expenditures for both participant groups, and the indirect and induced economic output associated with non-local expenditures. The total county economic impacts were \$37,760, of which \$12,209 was associated with local participant expenditures and \$25,551 was associated with non-local expenditures. The latter non-local impact component is composed of direct outputs (\$13,811), indirect outputs (\$3,388), and induced outputs (\$8,352). The indirect and induced outputs are also known as "multiplier" effects. In addition, \$20,490 in value-added output was generated, which was composed of \$5,810 from local participant expenditures and \$14,680 from non-local expenditures." Since there are thousands of tournaments of this size or bigger we can see that recreational boating with fishing tournaments does have a significant economic impact. We agree with the researchers, that the biggest impact of this tournament is the immediate economic impact but the impact on the future recreational boating by the children. The researchers explain tell us - Recall that the purpose of the fishing tournament is to teach youth about the marine environment through the fishing experience. Although not specifically addressed by this study, events such as this are often credited with enhancing the awareness level of participants regarding the importance, complexity, and fragility of the coastal marine environment. The non-monetary benefit that hopefully will be generated by the continuance of this event, and others similar to it, is that the young participants will acquire a strong appreciation for the marine environment. Hopefully, these youngsters will, in turn, strive to become better stewards of this precious natural resource and utilize our coastal environment in a sustainable manner. If so, generations in the future

will benefit from a stewardship ethic developed today." <http://edis.ifas.ufl.edu/FE700>

In building any activity emphasis must be placed on the youth. As with sailing, events to teach youngsters about recreational boating will help grow the activity. Local youth fishing tournaments could be sponsored by local Korean government and the marinas. Fishing equipment and boating equipment companies could be approached for financial support and prizes.

7. Motor boat racing

US powerboat racing has a long history similar to sail boat racing. However, we do not review it. Instead we direct the reader American Power Boat Association (APBA) web site <http://www.apba-racing.com/index.html>. The APBA is the US authority for much of US powerboat racing. The U.I.M. is the organization for international powerboat racing. Like sailing it is popular and has a big following with considerable economic impact.

<http://www.uimpowerboating.com/vsite/vtrial/page/home/0,11065,4916-138783-155999-30903-126854-custom-item,00.html>.

Chapter 6. Environmental issues in marina development and leisure boating

Recently there has been considerable concern in the US with the impact of boating on the marine environment. This section begins with a literature review on "green boating" and concludes with an interview with Neil Ross, one of the pioneers in the study of marina management and an early leader in the green marina movement.

1. Green Boating and the Green Marina

The marina industry has remained non-standardized. According to Neil Ross, who we interview in Appendix G, past president and co-director of the International Marina Institute, the marina industry, in its evolution, is like the roadside service industry when motels were replacing family-owned cabins. However, it is changing rapidly in response to management, environmental, and real estate demands and opportunities.

Boaters and marinas alike can enhance their environmental stewardship by adopting eco-friendly practices. The National Oceanic and Atmospheric Administration (NOAA) is involved along with the EPA in the Clean Marina program. NOAA has a Clean Marina web site. <http://coastalmanagement.noaa.gov/marinas.html#3>. This web site explains NOAA's role in the Clean Marina program and lists the following benefits of the program to marina managers and owners

- Reduce waste disposal costs. The Best Management Practices (BMPs) will reduce the amount of wastes produced so disposal costs will be less.

- Generate new sources of revenue. Studies have shown that Clean Marinas can charge slightly higher slip fees and have fewer vacancies.
- Receive free technical assistance. Best Management Practices guidebooks, training workshops and on-site visits are available to marina operators. Often states will even offer on-site assistance for meeting regulatory requirements.
- Reduce legal liabilities. By participating in the Clean Marina Program, marinas can ensure they are meeting all regulatory requirements, thus avoiding fines.
- Enjoy free publicity. States recognize Clean Marinas through press releases, newsletters, and boating guides, etc.
- Attract knowledgeable customers. Clean Marinas are aesthetically pleasing facilities that can attract responsible clientele that will follow good boating practices.
- Improve water quality and habitat for living resources. The marina and boating industry depends on clean waters and a healthy coastal environment for their continued success.
- Demonstrate marina is a good steward of the environment. Many states distribute special burgees and signs for Clean Marinas to display. Clean Marinas are also allowed to use the State's Clean Marina logo on all letterhead.

In addition the program provides the following additional benefits to states and their boaters:

- Educate boaters. The Clean Marina Program is an excellent way to reach out to recreational boaters and demonstrate how they can alter their own practices to minimize impacts on the marine environment.

- Satisfy the requirements of the State Coastal Nonpoint Control Program. By developing a Clean Marina Program, a state will demonstrate a commitment to implement the marina management measures required by the joint NOAA/EPA program.
- Improve Coordination. By joining in the Clean Marina Initiative, states and their partners will be able to join the growing network of Clean Marina Programs nationwide.

"NOAA, jointly responsible for administering the Coastal Nonpoint Control Program with EPA, plays an important role in protecting coastal waters from polluted run off. The Coastal Nonpoint Program establishes a consistent set of management measures for all coastal states to use in controlling nonpoint source pollution. Management measures are designed to prevent or reduce run off from a variety of sources, including marinas.

NOAA recognizes that the Clean Marina Initiative can serve a valuable role in protecting coastal waters from nonpoint source pollution and has promoted the program as a way for states to meet many of the marina management measure requirements under the Coastal Nonpoint Program. As a result, the Coastal Nonpoint Program has been responsible for driving the development of most of the state Clean Marina Programs existing today and developing a national interest in the Initiative. NOAA continues to support the Clean Marina Initiative through targeted grant funding to states developing Clean Marina Programs. Between FY01 and FY06, nearly \$3 million went to support clean marina efforts."

This section is to report the results of a literature review of those best practices that eliminate toxins from entering the marine environment. Much of the work in the section that follows is taken from EPA's landmark report, *National Management Measures Guidance to Control Nonpoint Source Pollution from Marinas and*

Recreational Boating, United States Environmental Protection Agency, 2001.
<http://www.epa.gov/owow/nps/mmmsp/marinas.pdf>

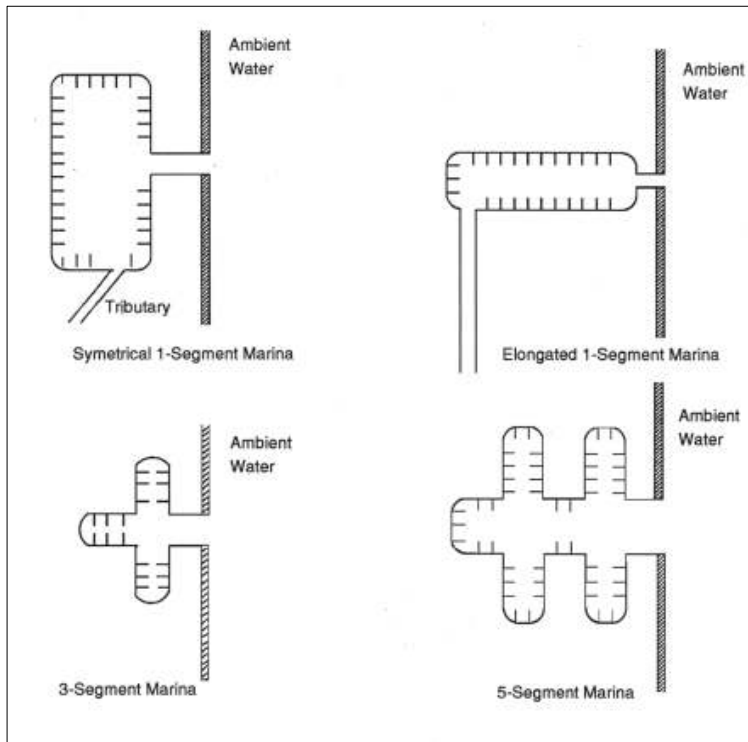
1) Marina Design

The best way to have a clean marina is to design a clean marina. The same goes for the design of boats. Marina designs that are open and have few or no natural barriers work best to enhance water quality by providing an open exchange of water in the marina area with water outside the marina. This promotes natural circulation and can assist in flushing without the use of wave attenuators or other methods. Entrance channels to the marina should follow the natural channel alignment and aligned parallel to water flow or direction of prevailing winds. In some marinas, tidal flushing can provide the adequate amount of flushing where the tides are large, as in parts of South Korea. This can be determined by comparing the volume of the marina basin to the volume of the tide. In this case, one narrow entrance channel may best promote flushing. In areas with small tides or in a marina that does not have good natural circulation, the basin and channel depths should gradually increase toward the open body of water with wide entrance. Flushing is important in reducing pollution, and the Environmental Protection Agency has found that it can reduce pollution within the marina basin from 70%-90% in 24 hours.

The amount of entrances to the marina may be restricted by geographical constraints; however, it is best to have more than one entrance to the marina to promote the free flow of water through the marina basin. An elongated marina with two entrances is an optimum choice for the appropriate location where it can be situated parallel to a tidal river. In the case of only one entrance a circular marina basin is an effective design. This does not allow pollution to gather in the corners. An

entrance assigned off-center best promotes flushing. If a square or rectangular basin is necessary, it is best to have an entrance in the center of the marina.

The following is an image of several marina designs that promote natural flushing. <http://www.epa.gov/owow/nps/mmss/section4-1.pdf>



| Figure 6-1 | Several marina designs that promote natural fishing

The location of boats and dockage options are important in promoting water circulation and the environment. Water circulation is enhanced if the boats at the marina are anchored at floating piers or moorings. Smaller boats should use dry storage and larger boats should be located in slips in naturally deep water where dredging maintenance is not necessary. Dredging should be limited beyond the initial marina design, so that aquatic life is preserved. In addition, the marina should limit

the number of covered slips so that light can reach marine life.

Beyond marina design, marinas can adopt additional practices to promote environmental stewardship. Many marinas offer recycling to encourage boaters to dispose waste properly. Some marinas offer credits to their marine store for recycled batteries, but other recycling opportunities such as antifreeze, oil, cleaning products, storage shrink wrap, plastics, and paper exist at many marinas. Marinas can also restrict the areas where boat maintenance can be performed so that cleaning and maintenance toxins do not end up in the surrounding waters. This eliminates polluted storm water runoff. Hull maintenance work can also be done under a roof so that in the event of a storm, it does not run off into the water. If pollutants fall on the ground under a covered area, vacuums should collect the debris before it has the chance to enter the water. Of particular concern is the painting and paint removal of bottom paints. Physical and operational controls should be in place to capture excess paint and the particles from both the preparation process (washing, scrubbing, sanding) and the painting. In addition to bottom painting, care should be taken in topside painting, fiberglass repair, and engine repair. The marina should be designed so that release of contaminants into the water from boats both in water and on land is minimized.

The location of plant life outside the marina basin can also play a role in minimizing the pollutants that enter the water. Grass planted between impervious areas and the marina basin can assist in catching pollutants from nearby parking lots and sidewalks before it reaches the water.

For any additional runoff that reaches the water, it is a good practice to install catch basins and filters so as to minimize the amount of pollution that reaches the water. Storm drains located near work areas should have a filter and absorbents should be placed in drain inlets. Catch basins located just before water reaches the

marina basin can catch additional debris before it finally reaches the basin.

Because more than half of the United States coastal water pollution comes from runoff, it is important that a marina takes steps to minimize the amount of runoff from their particular marina.

Another important consideration for the marina is design and location of the fuel pump. This should be designed with automatic shutoffs so that the boat is not overfilled and the excess falls into the water. The location of fuel docks should be so that spills can be contained if one occurs.

2) Boat Maintenance

By keeping a boat waxed, the hull will not collect surface dirt engrained in its fibers and it will subsequently make it more difficult for this to occur. This also allows for easy cleaning that does not require detergent because the excess salt, dirt, and pollen will not become as easily engrained into the hull. Detergent can harm the aquatic environment, so waxing is a preventive measure to keep the detergent from entering the water. Marina operators should emphasize the benefit of wax to their customers.

The choice of bottom paint is important since paint has direct contact with the water. Most boats that are stored in the water are painted with antifouling bottom paint which can be expensive and toxic. This type of paint is divided into several types: Ablative, which constantly exposes fresh paint and therefore, the boat cannot be cleaned in the water; hard antifouling, which creates porous film and release biocides; Teflon/silicon, which is non-toxic but do not have a long useful life. SealCoat is an environmentally friendly paint that works because its synthetic micro-fibers work with the movement of the fibers in the water. Boats stored on land do not necessarily have

to use anti-fouling paint. This is an advantage of dry stack storage.

Two stroke outboard boat engines release large amounts of oil waste into the environment and recent developments from higher demand have encouraged more efficient innovations. A typical two-stroke engine releases 30% of all the fuel and oil it needs to run. As a result, new engines such as the four-stroke engine, lean-burn engine, and fuel injection engine have been developed to reduce the amount of waste that ends up in the water. These engines increase fuel efficiency by more than 40% and reduce emissions by 75%- 90%. Eliminating unnecessary idling and not continuously operating the engine at full throttle are ways to further reduce emissions and increase efficiency. Boaters should choose the correct engine for their boat to maximize its efficiency so that its emissions do not exceed the normal standards.

3) Boat Propulsion Systems

The most common boat propulsion systems are internal combustion engines using either gasoline or diesel. In addition to releasing hydrocarbons and other pollutants into the water and air they release a great amount of carbon into the atmosphere. One alternative that is being explored in both the US and internationally is electric propulsion systems. As with automobiles, these will lessen the use of carbon and are a good alternative to gasoline or diesel boat engines. This type of system is quiet and requires little maintenance other than recharging batteries. Some are even equipped to regenerate themselves when the boat is sailing. The efficiency of some of these motors are in the low 90% range and has a design life three times of a diesel engine.

4) Boating Activity

In the case of an on board oil spill, oil-absorbent rags can minimize the amount

of oil that can contaminate the water. It is also necessary to dispose of these rags and excess oil properly.

Simple boating practices such as not overfilling the fuel tanks and closing the vent on portable tanks when they are not in use serve as easy ways to prevent oil spillage into the local environment. It is suggested to leave 10% of the tank empty so that the oil does not expand in the heat and overflow. Devices can also be installed to give warnings when the tank is being filled too high.

5) Reducing Recreational Boating's Carbon Footprint

Most boats use either gasoline or diesel for their fuel. These fuels when burned emit a great deal of carbon dioxide into the atmosphere. The amount of CO₂ emitted into the atmosphere is considered the boat's carbon footprint. It is directly proportional to the amount of gas burned during the year. One gallon gasoline is equal to approximately 20 pounds of CO₂. (www.fueleconomy.com.) If a boat uses 200 gallons of gas for the year, then it would emit 4,000 pounds of carbon dioxide. Many power boat owners will exceed that amount in a month. As society reacts to global warming by reducing its carbon footprint, gas economy in recreational boating will become very important. Gas economy is also becoming increasingly important as the price of gasoline and diesel increases. In addition to carbon in fuel, there is carbon used in the manufacturing of boats and engines. Boat manufacturers are working to decrease their footprint. This is an area where South Korea could leapfrog existing boat manufacturing and recreational boating in developing "green", low carbon, boating. The emphasis could be put on making and selling boats that have a small carbon footprint. These could be highly efficient conventionally powered boats or electric or fuel cell powered boats. We already have wind powered boats, sailboats.

Sales of sailboats in the US had been declining as opposed to powerboats but with both the movement to be "green" and the higher cost of fuel this appears to be changing. The implication for the Korean pleasure boating industry will be left to a later phase of this research. However solar, electric, and fuel cell should all be important in the future. See appendix F for an example of just one solar powered boat.

Chapter 7. Case Study – Upscale award winning medium sized Marina

This section presents a case study of an award winning US marina. The case study provides insight for the development of marinas in Korea, especially along the South Sea. The marina was selected because it won the 2007 Marina Dock Age magazine award for best small marina. *Marina Dock Age* (www.marinadockage.com) is the leading US magazine on marina management.

The Saybrook Point Marina in Old Saybrook, CT is located at the mouth of the Connecticut River, about 50 miles from the University of Rhode Island campus in Kingston, Rhode Island. It is located on a spot where the first settlers in the state of Connecticut came in 1623. Unlike many of the newer US marinas this is a privately and operated marina. It can accommodate up to 140 boats and is integrated with a resort and spa that combined has won a Five Bells designation from the Atlantic Cruising Clubs, as well as awards from the New York Times and American Automobile Association. The marina itself received ValvTect Marina's 2006 "Marina of the Year" award.

Marina Dock Age claims that what separates Saybrook Point Marina from its competitors is its environmental stewardship, satisfied customers, and commitment to the community. In our survey, which is discussed in the next section, we ask boaters how important environmental stewardship is. We have also discussed the important Clean Marina program in our interview with Neil Ross(Appendix G). The clean marina program is being embraced by more marinas each year. Saybrook Point marina is a recognized leader in green practices, offering the first pumpout station in the area

in 1995, obtaining the first Clean Marina Award issued by the state of Connecticut in 2003, and receiving a coveted Energy Star rating (for being energy efficient) from the Environmental Protection Agency in 2007. The Connecticut Department of Environment has given Green Circle Awards to the marina for everything from its energy-efficient water system to its clean boating practices.

Drs. Henry Schwarzbach and Sung Gwi Kim visited the marina on October 16, 2008. We spoke with Jeff Howe who has been a manager at the marina since its reconstruction approximately 20 years ago. We had him complete the same questionnaire that we used for boat owners (see section 8). He gave us his informed opinion as to what his customers care most about the marina and its value proposition. On a scale of 1 to 5 where 1 is unimportant and 5 is extremely important he ranked the following items as a 5:

- Good bar at or near the marina
- Electrical service
- Knowledge and friendliness of marina staff and management
- Quality and cleanliness of the bathrooms and showers
- Price of gas at the dock
- Availability/location of parking (want to be able to park near the docks).

He also had a number of factors ranked as a 4 which is very important. They include the visual attractiveness and cleanliness of the marina, having good restaurants at or near the marina, good repair facility and marine store at or near the marina, quality of the docks, quality/cleanliness of the water in the marina, ease of entering and exiting the slip, hours of operation(more hours desired), condition/cleanliness of other boats at the marina, security, swimming pool, recreational facilities including golf course, Cable TV and internet access, barbeque and picnic area, laundry facilities.

Consistent with these rankings, one of the factors *Marina Dock Age* used in awarding Saybrook Point Marina the 2007 best marina award is that the marina management and staff work especially hard to make marina guests feel part of a special boating community. The marina holds parties at the beginning and end of the boating season and provides a "Boater of the Year" award to the marina customer who best exemplifies good marina citizenship. The owner and dockmaster walk the docks daily, talking and listening to customers, striving to identify needs and deliver on them.

In addition to concentration on customer service the marina is active in the Old Saybrook community. The marina celebrates National Marina Day, promotes Safe Boating Week, and hosts the Coast Guard Auxiliary for free boating inspections. The marina also works hard to involve children in boating. It has a "Deck hand in Training Program for youngsters between 12 and 15. The program teaches the children the many facets of becoming more knowledgeable dockhands (<http://www.marinadockage.com/moy/07/07-april.pdf>).

We asked Mr. Howe about the history of the marina and some of the factors that make it profitable as well as problems the marina faces. The marina was rebuilt in the 1980s and shortly thereafter the owners whose primary business is construction built a hotel with a first class restaurant and spa. A couple of years later they added condominiums that overlook the marina. The marina rents slips and has a boat club where members share in the use of several fishing and leisure powerboats. It also is the home to some fishing charter boats. This variety of uses provides synergism between the marina, hotel, restaurant, and condominiums. The golf course next to the marina also adds to the value proposition. Similar multi attraction marine recreational facilities are being built in Korea and as seen in this case study the model can be successful. The hotel occupancy is high because of the golf course, marina, and other

attractions such as nearby beaches. Hotel guests can go fishing, take a pleasure boat ride, play golf and eat at first class restaurants. The area is quite beautiful with good views of the water from the restaurant, hotel rooms, boats in the marina, golf course, and the condominiums.

Mr. Howe said the average boat owner traveled about 2 hours by car to reach the marina, many driving from New York city. Some come from either further, with one owner coming from California (3,000 miles away). Most of the boats are large enough for the owners to spend the weekend or longer living onboard. For the smaller boats owners can either take a day trip or spend the night in the hotel or condominiums. The 2 hours drive is not much less time than a trip from Seoul to the South Sea coast.

The biggest problems faced by the marina are dredging and the northeast wind and waves. The marina is at the mouth of the Connecticut River as it enters onto the Long Island sound. To the northeast is the open Atlantic Ocean. There is a breakwater built many years ago by the US Army Corps of Engineers at the cost of the U.S. taxpayers. This breakwater reduces the ocean swells, but the wind often makes it somewhat difficult to enter and leave the marina. This is really more of an annoyance than a problem. The marina is windy most of the time. This is beneficial for two reasons. First it is good for sailing, however most of the boats in the marina are powerboats. Second it keeps the bugs (like mosquitoes and flies) away.

As stated above the Marina is a "clean marina." The owners are very concerned about the marina's impact on the environment. We asked Mr. Howe whether he felt that being a certified as a "clean marina" was important for the customers. He said that the clean marina designation is prominent in their advertising, but that customers don't really care about the certification. They care more about the factors discussed above.

Water in the river is quite deep but as you enter the marina the depth at low tide there is approximately 5 feet of depth. Approximately every three years the marina silts in to the point where there is 3 feet or less of water. At that point the marina must be dredged at a cost of about \$140,000. The expense is high because of the complicated plan to dispose of the dredged material. Mr. Howe said that the biggest problem with dredging was dealing with the government and the permitting process. It takes significant paper work and over a year and one half lead time to get dredging permits. Mr. Howe said that each year the process had been getting harder to comply with. However without dredging the marina would be too shallow to use, so dredging is a necessity.

To summarize this case study, a marina, should be well built with a good design, in a setting that is visually pleasing. If it is accompanied by other amenities such good restaurants, bars, recreational facilities, clean rest rooms, knowledgeable and friendly staff, good hours of operation and a good location, the marina will be successful. It is very important in designing a marina to listen to the desires of the boaters who will be using the marina. Seabrook Point marina listened/listens to their customers and in return they have full occupancy with profitable rates and also make profit from the other businesses such as the hotel, restaurant, and spa.

Chapter 8. Survey of Marina Customer Preferences

As a first step in determining what factors boaters desire in a marina and compare the long established US boating market with the newer market in Korea we developed a survey questionnaire. The questionnaire has a list of features that a marina can have and asks the boaters (respondents) to rate the importance of each of the factors on a 5 point Likert scale. The US survey also had questions about the impact of high fuel costs. We selected 4marinas on the US east coast to collect the data. One of the marinas was in South Carolina and the others were in Rhode Island. A graduate assistant from the University of Rhode Island visited the Marinas and collected the data from customers that were at the marina at the time of the visits. Since a small percentage of marina customers are at the marina at any point in time the customers sampled represent a small percentage (less than 10%) of the total boaters who use the marina. We have no reason to believe that this sample is not representative of the general boating public. In addition to the marinas surveyed we also collected data from a small sample of boaters who attended the 2008 Newport Rhode Island boat show. The Newport boat show is one of the biggest "in water"boat shows in the world. SG Kim and Henry Schwarzbach both attended the boat show along with our graduate assistant Sara Highland. Dr Kim and Schwarzbach discussed the boating industry with many representatives from marinas, boat manufactures, fractional ownership organizations, boat clubs, the US Coast Guard Auxiliary, boat finance companies, and other vendors. Ms. Highland surveyed boat owners.

The survey asks boaters 14 questions about their boating experience and desires.

It was first pretested on a small sample of boaters and from their comments and those of marketing research expert Dr. Albert Della Bitta of the URI College of Business, the order of questions and design of the survey instrument was changed. We ask US respondents to rate 51 factors that we extracted from the web pages of over 20 different US marinas and from conversations with a marina manager and URI professor Dr. Robert Comerford who has been researching marinas and marine business for over 30 years. In order to better understand the desires of boaters we asked several questions to determine the respondents' demographics and type of boats they have and boating activity they engage in.

A copy of the survey was sent to KMI where it was translated to Korea and modified slightly so that Korean boaters would better be able to provide responses. Since the Korean boaters are exposed to far fewer marinas than US boaters and are not familiar with all the features a marina may have. We can expect many differences. We cannot expect Likert scales to be similar. Therefore we cannot use sophisticated statistical analysis. Instead we compared rankings.

The sample is small and was not selected randomly from all boaters. We can therefore only use it as an exploratory study to give insight into what boaters want in a marina. Further research should expand the sample and test the instrument for reliability and validity. The US sample has 42 observations.

<Table 8-1> provides descriptive statistics for the 51 factors.

US Data Arranged in Rank order of Importance

|Table 8-1| Descriptive Statistics of Factors that Influence the Choice of a Marina

The factors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately importance", and 1 is "not a factor).	Rank (by Mean)	Mean	Median	Mode	Std Dev.
Cleanliness of the marina grounds and docks	1	4.45	5.00	5.00	0.89
Friendliness of the marina staff and management	2	4.40	5.00	5.00	0.73
Quality of restroom facilities	2	4.40	5.00	5.00	1.00
Cleanliness of the restroom facilities	2	4.40	5.00	5.00	1.05
Cleanliness of the showers	5	4.33	5.00	5.00	1.03
Quality of the docks	6	4.26	4.00	5.00	0.88
Quality of showers	7	4.21	5.00	5.00	1.15
Security at the marina	7	4.21	4.00	5.00	0.91
Knowledge of marina staff and management	9	4.14	4.00	5.00	1.08
Parking availability	10	4.09	4.00	4.00	0.75
Visual attractiveness of marina	12	3.98	4.00	5.00	1.08
Ease of entering and exiting the slip	12	3.98	4.00	5.00	1.24
Electrical Service	14	3.93	4.00	5.00	1.40
Cleanliness of the waters that you use outside the marina	14	3.93	4.00	4.00	1.26
Environmental stewardship	16	3.88	4.00	4.00	1.26
Distance from home	17	3.83	4.00	5.00	1.23
Price of the slip (including electricity, etc.)	18	3.81	4.00	5.00	1.22
Cleanliness of the water in the marina	19	3.77	4.00	5.00	1.21
Closeness, by boat, to places of interest	20	3.70	4.00	4.00	1.06
Visual attractiveness of waterfront and businesses around the marina	21	3.67	4.00	4.00	1.19
Quality of maintenance work performed by the marina	22	3.63	5.00	5.00	1.70
Hours of operation of the marina	23	3.58	4.00	4.00	1.18
Marine supply store near the marina	24	3.51	4.00	4.00	1.28
Pump Out	25	3.47	4.00	5.00	1.61
Good restaurants near the marina	26	3.35	4.00	4.00	1.19
Grocery/Convenience store at or near the marina	27	3.30	4.00	4.00	1.35
Pick up and disposal of hazardous waste	28	3.28	4.00	5.00	1.47
Friend(s) or relatives have boat(s) at the marina	29	3.23	4.00	5.00	1.56
Price of gas/diesel at gas dock	29	3.23	3.00	5.00	1.44
Marine supply store at the marina	31	3.16	3.00	3.00	1.34

(continued)

| Table 8-1 | Descriptive Statistics of Factors that Influence the Choice of a Marina(continued)

The factors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately important", and 1 is "not a factor).	Rank (by Mean)	Mean	Median	Mode	Std Dev.
Repair Facility at the marina	32	3.07	3.00	4.00	1.50
Cost of maintenance work performed by the marina	33	3.05	3.00	1.00	1.55
Magnitude of the tides	34	3.05	3.00	3.00	1.11
BBQ/picnic area	35	2.98	3.00	1.00	1.55
Repair Facility very near the marina	36	2.93	3.00	4.00	1.33
Condition of other boats	37	2.88	3.00	4.00	1.37
Good restaurants at the marina	38	2.81	3.00	3.00	1.30
Newness of the marina	38	2.81	3.00	1.00	1.48
Good bar near the marina	40	2.56	3.00	1.00	1.30
Internet Access	41	2.51	2.00	1.00	1.58
Reciprocal Club Affiliations	41	2.51	2.00	1.00	1.44
Pools	43	2.35	2.00	1.00	1.43
Laundry facilities	44	2.33	1.00	1.00	1.68
Good bar at the marina	45	2.28	2.00	1.00	1.28
Cable TV	46	2.23	1.00	1.00	1.57
Recreational facilities	47	1.74	1.00	1.00	1.18
Boat brokerage	48	1.72	1.00	1.00	1.20
Playground at the marina	49	1.63	1.00	1.00	1.09
Fitness center at the marina	51	1.42	1.00	1.00	0.82
Fish Cleaning Houses *	50	1.49	1.00	1.00	0.91
Depth of the water in and around the marina *	11	4.05	4.00	5.00	1.19

* The last two items are the ones replaced in Korean version

There were 10 factors that had a mean score of 4 out of 5. A 4 would be very important. The first 9 of these factors also had a mode of 5. These factors are truly important and should be considered a necessity for US marinas. In visiting US marinas many do not have clean grounds and docks. Those marinas must have many unhappy customers. The best explanation for this is that in many parts of the US there is a shortage of marinas and unhappy boaters will stay at their dirty marina

because they cannot find a space at another marina. People go boating for enjoyment. They want a good experience and that includes friendly/helpful staff at the marina. Again the implication is that marinas should train their staff to be friendly and helpful and they should be evaluated on that factor of their job. From the data, this sample of boaters appear to desire a clean marina with good quality facilities, security and parking. Other factors do not appear nearly as important.

The cost of the marina was only ranked number 18 out of 51, with a mean score of 3.81. It did however have a mode of 5, so for some boaters it is very important. The distance from the boaters home was also rated only 17. In the case study (section 7) Mr. Howe told the researchers that he believed that price and distance were not very important to his customers. One of his customers lives 3000 miles from the marina.

Having a repair facility store at the marina was not considered very important and neither was the cost of the repairs done at the marina.

Ancillary facilities such as fitness center, playground, pool, recreational facilities, and even a good bar were rated as unimportant.

Environmental stewardship although not one of the top ten factors was rate number 16, with a mean importance rating of 3.88.

We asked Korean Boaters 49 of the 51 questions and two different questions. Unfortunately we received many unusable responses. The final sample had 27 good surveys. The Korean sample's rankings are compared to those from the US in table 2, below. Although we caution the reader that these responses are subject to small non random sample bias we review them only for major differences. First Korean respondents rated many more of the variables as not important than did the US respondents. Six of the top 10 most important factors for the US boaters were not in the top 20 of Koreans. US boaters care very much about the cleanliness of their

marina and its facilities. These are often the first thing a US boater looks for in a marina. Not just in Korea, but in much of the rest of the world, these factors are not as important. Parking availability is number one for the Korean sample. This probably means that Korean marinas generally have a shortage of good parking. Most likely because of the higher disposable income in the US, the US boaters appear to be less concerned with the price of the slip or maintenance cost. Even though the sample is small there are some lessons here for Korean marina managers: 1. Parking and security are important; 2. When designing the marina carefully consider the ease of entering and leaving the slip; 3. Koreans may not be willing to locate at a marina that is very far from their home; 4. Cost of the slip and maintenance work are important factors of many Koreans.

[Table 8-2] Comparison on Ratings for US and Korean Sample

The factors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately importance", and 1 is "not a factor).	US Rank	Korean Rank	Absolute Difference
Cleanliness of the marina grounds and docks	1	20	19
Friendliness of the marina staff and management	2	23	21
Quality of restroom facilities	2	31	29
Cleanliness of the restroom facilities	2	39	37
Cleanliness of the showers	5	41	36
Quality of the docks	6	13	7
Quality of showers	7	33	26
Security at the marina	7	3	4
Knowledge of marina staff and management	9	17	8
Parking availability	10	1	9
Visual attractiveness of marina	12	11	1

(continued)

|Table 8-2| Comparison on Ratings for US and Korean Sample(continued)

The factors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately importance", and 1 is "not a factor).	US Rank	Korean Rank	Absolute Difference
Ease of entering and exiting the slip	12	4	8
Electrical Service	14	10	4
Cleanliness of the waters that you use outside the marina	14	18	4
Environmental stewardship	16	26	10
Distance from home	17	5	12
Price of the slip (including electricity, etc.)	18	6	12
Cleanliness of the water in the marina	19	20	1
Closeness, by boat, to places of interest	20	8	12
Visual attractiveness of waterfront and businesses around the marina	21	22	1
Quality of maintenance work performed by the marina	22	9	13
Hours of operation of the marina	23	15	8
Marine supply store near the marina	24	38	14
Pump Out	25	28	3
Good restaurants near the marina	26	41	15
Grocery/Convenience store at or near the marina	27	48	21
Pick up and disposal of hazardous waste	28	36	8
Friend(s) or relatives have boat(s) at the marina	29	24	5
Price of gas/diesel at gas dock	29	28	1
Marine supply store at the marina	31	25	6
Repair Facility at the marina	32	11	21
Cost of maintenance work performed by the marina	33	2	31
Magnitude of the tides	34	7	27
BBQ/picnic area	35	41	6

(continued)

|Table 8-2| Comparison on Ratings for US and Korean Sample(continued)

The factors below are rated as to their importance in the decision to select a marina (a 5 point scale was used where a 5 "extremely important, 3 moderately importance", and 1 is "not a factor).	US Rank	Korean Rank	Absolute Difference
Repair Facility very near the marina	36	19	17
Condition of other boats	37	30	7
Good restaurants at the marina	38	41	3
Newness of the marina	38	41	3
Good bar near the marina	40	50	10
Internet Access	41	31	10
Reciprocal Club Affiliations	41	36	5
Pools	43	33	10
Laundry facilities	44	41	3
Good bar at the marina	45	48	3
Cable TV	46	50	4
Recreational facilities	47	41	6
Boat brokerage	48	27	21
Playground at the marina	49	14	35
Fitness center at the marina	51	41	10
Fish Cleaning Houses *	50		-
Depth of the water in and around the marina *	11		-
Proportion of docking/mooring to total space		16	-
Mast repair maintenance house		33	-

Chapter 9. Analysis of the differences between US and Korea and recommendations of how the gaps between the two countries can be filled

There are three major areas to be considered in the marine leisure industry: hardware, software and human-ware. In the following section, we compare the situation of Korea with that of USA described above. Through this process, we will draw some strategic directions for Korean marine leisure industry focusing on the marina and leisure boat industry.

Table 9-1 | Comparison of current situation of Korea with USA and gaps between them

Areas	Items	USA	Korea
Hardware	<ul style="list-style-type: none"> • Marina • Motor boat manufacturing • Sailing boat manufacturing • Boating supplies manufacturing • Marine leisure equipments market 	<ul style="list-style-type: none"> • 12,000 units • So many units • Many units <p>Activated</p> <ul style="list-style-type: none"> • Well developed • Well developed 	<ul style="list-style-type: none"> • less than 10 • A little developed • Trials from some companies • Well developed • Greatly developed
Software	<ul style="list-style-type: none"> • Operation of marina • Big international event participation • Boat shows • Loans for pleasure boats • Insurance for pleasure boats • Market for new and used boats 2 	<ul style="list-style-type: none"> • Well developed • Actively participated • Many areas • Developed • Developed • Well developed 	<ul style="list-style-type: none"> • No experience and know-how • Almost limited to local events • 2 provinces • No • No • Almost no
Human-ware	<ul style="list-style-type: none"> • Yacht club • Yachting school • Environmental awareness in marina • Private participation(investment for marina) • Lead from public organizations including government 	<ul style="list-style-type: none"> • Developed • Developed • Highly aware • Actively participated • Actively leading 	<ul style="list-style-type: none"> • A few • A few • A little by environ'l org. • Began recently • Recently started

1. Comparison of current situation of Korea with USA

1) Hardware

Korea has a world class of shipbuilding industry, and the strongest competitiveness in the world, so that its hardware environment for pleasure boats manufacturing is excellent. Though sailing is very scarce in Korea, people enjoy recreational fishing very much together with Japanese people, but these activities are prevalent in the neighborhood of fishing ports or commercial ports, not using marinas, because of the lack of marinas. But recreational fishing in Korea is dominated by the development of low value added motor boat using Japanese motor engines such as Yamaha, Suzuki, etc. Equipment manufacturing for pleasure boats also has flourished, but only concentrated on those for recreational fishing and related boats.

There was almost no experience in manufacturing sail boats, yachts, in Korea, though there were some failed trials in several motor boat manufacturing companies. This failure came from lack of experience on yacht design and interior know-how, low demand, etc.

2) Software

Since there are few marinas in Korea, they does not have enough experience or know-how of the operation of marina which will be important when the number of marinas become increasing in the future.

Japan had participated several times in important boat racing events such as America's Cup. These days, even China is considering participation in that racing

event. But until now, there is no movement in Korea to participate in such major international major sailboat races, except small regional events.

Last year, boat shows began to be held in 2 provinces which recognized that it would give large regional economic impact in their regions, so these kinds of events are expected to be spreaded into other areas in the near future.

As there was no formal market to exchange pleasure boats in Korea, it was very difficult to form market price of the used boats, which is the basis of loans from financial institutions or insurance from insurance company. Therefore, in the future, this kind of market should be institutionalized or promoted in advance if loan and insurance system for boats become vitalized together.

3) Human-ware

In Korea, every coastal region has a regional yacht club mostly composed of athletic yacht men, so their activities are mostly for yacht competition events, and their education activities and membership management for youth and adults has not been as extensive as in USA and Japan.

There is no environmental awareness in marinas because leisure life in a marina is not pervasive in Korean life, so that they will become more interested in the environment of marina only after marina will be more increased in Korea.

Investment for marina requires much money, because physical conditions in Korea are not so good for the safe storing of pleasure boats, especially in the typhoon season when a marina has to protect the boats and related facilities. So marinas need strong wave-breaking structures or other systems within their boundary, requiring much investment from developers. This makes it more difficult for marinas to be profitable as compared to other leisure investment opportunities. Therefore the private

sector is reluctant to participate in the marina projects. For this problem, in west USA and Japan of similar physical location with Korea, public sector led the marina investment in their initial phase before 80s, giving the private sectors various incentives such as budget subsidy, loans, tax reduction, etc. They also supplied free commercial or fishery port spaces unused to private sector freely or at a rate below market price. Also in Korea, the central or local governments recently recognized the importance of marinas as a new leisure infrastructure for the high income age, and began to support marina projects based on their capabilities.

2. Strategies for future development in Korea

Through the above-mentioned gap analysis between two countries, we can induce some strategies and steps which Korea should take in the future. In this analysis, we assume 3 steps of development and each step is expected to require 5 years to be executed. So, this means that strategies in step 1 should be executed during 5 years from now on.

1) Hardware

As personal income grows, the demand for pleasure boats and marina in Korea will increase. Many marinas will need to be developed along the Korean coast, both by the public and the private sector in the 1ST step.

As Korean manufacturing of motor boats grows in step 1, there will also be opportunities to make builders produce small sail boats (yachts). Later, maybe from step 2, Korean companies can expand to make bigger high value-added sail boats and motor yachts. In its initial stage, it can build capability with highly advanced USA

| **Table 9-2** | Strategies for future development in Korea to cover the gaps between two countries

Areas	Items	USA	Korea
Hardware	<ul style="list-style-type: none"> • Developments of Marinas • Motor boat manufacturing • Sailing boat manufacturing • Marine leisure equipment market 	<ul style="list-style-type: none"> • from step 1 • from step 1 • from step 1 	<ul style="list-style-type: none"> • Existing
Software	<ul style="list-style-type: none"> • Operation of marina • Big international event participation • Boat shows • Loans for pleasure boats • Insurance for pleasure boats • Market for new and used boats 	<ul style="list-style-type: none"> • from step 1 • from step 2 • from step 1 • from step 2/3* • from step 2/3* • from step 1/2 	<ul style="list-style-type: none"> • Acquisition of know-how • Small international event / later bigger one
Human-ware	<ul style="list-style-type: none"> • Yacht club • Yachting school • Environmental awareness in marina • Private participation(investment for marina) • Lead from public organizations including government 	<ul style="list-style-type: none"> • From step 1 • From step 1 • From step 2/3* • From step 1 • From step 1 	Making the club as a regional marine center

Note : r2/3*: step 2 or 3

corporations or other country companies through business cooperation, technological exchanges/partnerships, license agreements, design imports, or acquisitions of technology.

2) Software

Operational know-how of marinas cannot be easily acquired as there are not enough marinas in Korea to learn operational know-how, so expertise on marina operations will tend to grow slowly. Marina organizations or consulting firms will

need to have close links with counter parts in the advanced countries where recreational boating and sailing is well advanced to acquire that kind of knowledge.

There are many international events such as America's Cup, etc., but Korean experience is not yet sufficient to participate in high level international competition immediately. Therefore, in current stage, we must have some strategies for participation on the long-term basis. Korea needs national competence such as state-of-the art boat making technologies, crew training, financing, etc. And there is a need for a lot of time to prepare for those events, accumulating the experience through participating in the smaller international events.

Recently local boat show tends to be a boom in some areas in Korea, and it is good to try to extend this trend from the first step. Korean government utilizes this opportunity as a turning point for marine tourism promotion and to promote marine leisure industry in Korea.

Exchange market of pleasure boats should also be vitalized in accordance as pleasure boat industry becomes enlarged in step 2, and so loans and insurance system based on market prices formed there follows along that market. But it cannot be fully accomplished immediately, so Korea will need to develop an effective environment for the establishment of this market in step 1, and step 2, and also have to push that policy more aggressively.

3) Human-ware

For new demand in marine leisure, experience from the childhood is usually said to be very important for later life, so advanced countries such as USA and Japan, considers the education greatly when they are in young age as an important part of the promotion policies. Especially, they participate in marine activities naturally from

the childhood as their conventional heritage, but Korean did not have such maritime heritage from the past. Therefore, in Korea, more active education programs have to be set up and be undertaken immediately for this purpose. Government has to take due consideration of policies for the introduction of many private yacht clubs as a regional center for the education and promotion of marine sports.

As the number of marinas becomes increased, the introduction of environmental awareness programs will be necessary from the step 2 or 3. Korea can learn much from the clean marina system in USA.

For the investment, public money have to be subsidized by government for structures to mitigate big typhoon or high waves, similar to how the US Army Corps of Engineers works in the US. In the initial stage, marinas can also be developed by the government, because they have enough old port facilities and unused land which can be developed as a marina very cheaply. Many of old commercial or fishery ports in USA and Japan have converted into marinas in their initial stage, thus leading the investment of private sector. This kind of policy has to be adopted similarly in Korea, and thus many marinas have to be included in the commercial or fishing port planning. The private sector also has to set up many plans to construct coastal leisure complex including a marina to meet the demand for various marine leisure activities in each region.

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<http://www.marinadockage.com/current.htm>

<http://www.ibinews.com/ibinews/home.htm>

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http://www.eartheasy.com/play_eco-friendly_boating.htm

Eco-Friendly Boating: This website gives tips on what materials to have on your boat to keep it clean and avoid spills, the best paint to use, and other marine-friendly boating tips.

http://www.boatus.com/foundation/guide/environment_11.html

Boat US - 10 Ways to be more Environmentally friendly boat maintenance

<http://www.epa.gov/region01/assistance/cmei/tips.html>

EPA Clean Boating tips

<http://www.discoverboating.com/resources/greenboating.aspx>

Discover Boating Green Boating Tips

<http://www.electricmarinepropulsion.org/FAQ.html>

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<http://www.epa.gov/owow/nps/mmssp/section4-1.pdf>

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Appendix A

Hurricane Proof Award Winning Dry Stack Marina

The Loggerhead Club and Marina in Riviera Beach Florida, 2007 winner of the *Marina Dock Age* magazine best marina award for large marinas. Riviera Beach, Florida is approximately 90 miles north of Miami

According to *Marina Dock Age*, "the facility is the first new marina and boat storage facility in the area for several decades, and serves as the north anchor for the city of Rivera Beach's City Redevelopment plan."

The marina was developed by Seven Kings Holdings, Inc. This company is the developer/owner of ten other Florida marinas. These marinas operate as members of the "Loggerhead Club (<http://www.loggerheadclubandmarina.com/>). Seven Kings is one of many real estate development companies developing a chain of marinas with their own brand. Companies such as Seven Kings acquire marinas and reinvigorate them with the features of a modern marina and a consistent set of management policies and practices. Seven Kings bought the Rivera Beach property in 2001. The project had been started by a developer that ran out of money and was forced to sell, two other companies also tried to complete the marina, but failed. Seven Kings bought the marina at a relatively low price and built a hurricane-rated building that provides indoor storage for 300 boats up to 46 ft. in length and weighing up to 52,000 lbs. It uses two of the world's largest marine forklifts to lift and move boats, and it is rated a safe spot from hurricanes.

Seven Kings Holdings is a private real estate and development company that emphasizes environmentally viable and sustainable development. It strives to make

each of its marinas become Clean Marinas under the state of Florida's designation. Loggerhead Club & Marina claims that it takes environmental responsibility seriously. It provides a safe and clean environment for customers, creates environmental awareness programs for its customers, and created the Loggerhead Marinelife Center in Juno Beach


The web page for the award winning Riviera Beach marina describes it as follows:

Loggerhead Club & Marina™ – Riviera Beach

HURRICANE RATED BOAT STORAGE

Loggerhead Club and Marina™ - Riviera Beach, formerly Inlet Harbor Marina, IS NOW OPEN, built to the latest hurricane codes and offering the best of everything you could possibly expect in a dry storage facility! From the newest rack system to the largest ever built marine forklifts, not to mention all the personal amenities, this marina has it all. As for location, less then five minutes from the Palm Beach Inlet, one of the safest all-weather inlets on the East Coast, with no bridges or other obstructions. Direct access to major highways also makes this marina as easy to get to by land as by sea.



<p>MARINA NOW OPEN AND OFFERS:</p> <ul style="list-style-type: none">■ Full marina service seven days a week■ Inside dry storage for 300+ boats up to 46 feet or 52,000 pounds■ Latest design in rack systems■ World's Largest Marine Forklifts■ A professionally stocked ship's store■ Fueling facilities■ Vessel care and service■ Reciprocal dockage at all of the Loggerhead Club & Marina™ facilities located throughout Volusia, Indian River, Palm Beach, Broward Dade & Pinellas counties	
<p>THE LOGGERHEAD CLUB & MARINA™ BRAND</p> <p>The Loggerhead Club & Marina™ brand promotes consistent and outstanding service in the Florida marina business. Uniformed staff greets Members and guests while offering full service benefits including concierge level amenities. The brand has unique amenities, benefits and products, including the Captain's Lounge with free gourmet coffee, daily local papers, and convenient virtual offices with fax, email, and shipping. Reciprocal dockage available with all Loggerhead Club & Marina™ brand marinas located from Miami North to Daytona Beach.</p>	

<http://inletharbormarina.com/>

Another new Florida hurricane proof marina that is almost complete and agreed to discuss their development with us is the Sebastian Inlet Marina. They promote their marina as follows: "Our facility design offers the safety, security and comfort of a state-of-the-art modern marina developed by boaters, for boaters. The WET SLIPS feature floating concrete docks up to 43 foot long. The DRY STORAGE BUILDING features:

- Vessels up to 40 feet and 38,000 lbs.;
- Fire sprinklers and fire alarm systems; and
- Designed to the Florida 140 mph Wind Code.

For more information see their web site:

<http://www.sebastianinletmarina.com/homepg.html>

Appendix B

Picture of the new Marina in Bellingham

Plans for Bellingham's New Downtown Marina

One of the most prominent visual features of Bellingham's current waterfront is the G-P Lagoon, a 35-acre containment pool surrounded by a breakwaterwall. The lagoon, officially called the Aerated Stabilization Basin (ASB), was built by the Georgia-Pacific Corporation in 1979 as a treatment area for industrial wastewater. When G-P's tissue mill closed in 2000, Bellingham was left to decide what to do with a lagoon full of toxic sludge.

The ASB is not built or permitted for storage of toxic materials, so the sludge must be removed. And since the lagoon doesn't offer any practical re-use value for industrial or stormwater treatment, it is time to build something else in its place. The Port of Bellingham is seizing this unique opportunity for aquatic land restoration and re-use of the lagoon by turning it into a new state-of-the-art, environmentally sensitive marina. The plan is to transform a contaminated eyesore into a community asset.



G-P Lagoon at Present



Proposed Marina Design

A new marina will help to improve Bellingham in three general ways:

Community Enrichment

- Create nearly a mile of new waterfront trails and a new landmark waterfront park on the land surrounding the marina.
- Preserve Bellingham's maritime heritage through construction of about 450 new moorage slips to meet needs of current and future local boaters.
- Develop a new public boat launch with opportunities for launching small boats and kayaks.
- Develop a dry stack boat storage facility nearby the marina and boat launch for storage of smaller boats.
- Establish gently sloping beachfronts inside the marina for community access to Bellingham Bay. <http://www.livebellingham.com/Default.aspx?tabid=7133>

Appendix C

Companies offering Boat Insurance to U.S. Recreational Boaters

Below is a list of names and web addresses of companies offering insurance on recreational boats. The list is not exhaustive but based on searches of the boating literature and web sites.

There are many insurance agencies that carry one of more of these lines of insurance.

1. ACE USA

<http://www.acemarineinsurance.com/AceinaRoot/ACEMarine/>

2. All State Insurance

<http://www.allstate.com/boat-insurance.aspx>

3. American Marine Insurance Services

<http://www.americanmarineinsurance.com/>

4. American Modern Insurance Group

<http://www.amig.com/products/boat.html>

5. Amica Marine Insurance

<http://www.amica.com/products/products.aspx>

6. Bankhead Insurance

<http://www.insurancedallas.com/>

7. Biggio Insurance

<http://www.biggioinsurance.com/boat.html>

8. Blackadar Marine Insurance

<http://www.blackadarmarine.com/index.htm>

9. Boat US

<http://www.boatus.com/insurance/>

10. Bradley Insurance Group

<http://www.boatinsuranceflorida.com/sys-tmpl/faqaboutus/>

11. C&L Insurance

<http://www.clinsurance.com/index.aspx>

12. Chubb Insurance

<http://www.chubb.com/personal/yachts.jsp>

13. Dawson/Bradford Marine Insurance

<http://www.dbimarine.com/>

14. Doefer Insurance Services

http://www.marylandinsurance.com/serv_boat.htm

15. Douglas Lambert Insurance Services

<http://douglasins.com/>

16. Encompass Insurance

<http://www.encompassinsurance.com/consumer/cc/products/boat/boat.asp>

17. Erie Insurance Group

<http://www.erieinsurance.com/ProdServ/PersProp/BoatProtector.htm>

18. First Insurance Group of Maryland, Inc.

<http://www.firstinsurancegroup.com/boat.htm>

19. Foremost Insurance Group

<http://www.foremost.com/products/boat/>

20. Fritsch-Kinney Marine Insurance

<http://www.f-k-agency.com/>

21. Geico Direct

<http://www.geicodirect.com/getaquote/boat/>

22. Gene Holt Insurance

<http://geneholt.com/>

23. Geo. M.Stevens Insurance

http://www.geomstevensinsurance.com/new/boat_watercraft_insurance_quote.htm

24. Georgia Boat Insurance
<http://www.gaboatinsurance.com/>
25. H.G. Riehn Insurance
http://www.riehninsurance.com/sec/insurance_boat.php
26. Harbor Insurance Services
<http://www.harborinsurance.com/default.htm>
27. Hugh Cottons Insurance Inc.
<http://www.hughcotton.com/contact.htm>
28. Jack Martin & Associates Inc.
<http://www.jackmartin.com/>
29. James J. Sullivan Insurance Agency
<http://www.jsullivaninsurance.com/html/boat.html>
30. John G. Alden Insurance Agency
<http://www.johngalden.com/>
31. Luxury Yacht Insurance
<http://www.luxuryyachtinsurance.com/>
32. Markel American Insurance
<http://www.markelinsuresfun.com/Boat+and+PWC/>
33. McGraw Insurance
<http://boating.1st-trusted-source.com/insurance/>
34. Met Life Insurance
[http://www.metlife.com/Applications/Corporate/WPS/CDA/PageGenerator/
0,4132,P415,00.html](http://www.metlife.com/Applications/Corporate/WPS/CDA/PageGenerator/0,4132,P415,00.html)
35. Moran Insurance
<http://www.moraninsurance.com/boat.html>
36. Mutual of Enumclaw
<http://www.mutualofenumclaw.com/consumers/Boatowner-Insurance.htm>
37. National Interstate Insurance
<http://www.nationalinterstate.com/products/spl/boat/default.asp>
38. Old United Insurance Companies

<http://www.OLDUNITED.COM/>

39. PEMCO Insurance

<http://www.pemco.com/boat/index.asp>

40. Progressive Insurance

<http://watercraft.progressive.com/>

41. Robertson & Robertson Yacht Insurance Ltd.

<http://www.skippersplan.com/Home.html>

42. Royal Marine Insurance Group

<http://royalmarine.com/>

43. Scott Richards Insurance

<https://www.cfluent.com/plins/forms/indexfb.php?id=1&agencyid=sri98221>

44. SeaDream Finance & Insurance

<http://www.seadreaminc.com/>

45. Smithwick & Mariners Insurance, Inc.

<http://www.smithwick-ins.com/marine-insurance.asp>

46. Snapp & Son Insurance

<http://www.snapp.com/boat.php>

47. State Farm Insurance

<http://www.statefarm.com/insurance/boat/boat.asp>

48. Suncorp Boat Insurance

http://www.suncorp.com.au/Suncorp/personal/boat_insurance/Default.aspx

49. The Boat Insurance Store

<http://www.boatinsurancestore.com/>

50. Thompson Hicks Insurance

<http://www.thompsonhicks.com/>

51. Total Dollar Insurance

<http://www.totaldollarinsurance.com/>

52. Travelers Insurance Company

<http://www.travelers.com/SPT01PortalMain.asp?startpage=/tcom/boat-yacht-insurance/boat-insurance-coverage.html>

53. Utican National Insurance Group
<http://www.uticanational.com/Protection/Boat/boat.asp>
54. Veritas Insurance
<http://www.veritasinsurance.com/>
55. Wallace Welch & Willingham
<http://www.marineins.com/>
56. Watson Insurance
<http://www.watson-ins.com/nh-boat-insurance.html>
57. Western Marine Insurance
<http://www.aquapac.com/westmar/aqua.asp>
58. Western National Insurance
<http://www.wnins.com/products/personal.shtml#misc>
59. WR Hodgens Marine Insurance, Inc.
<http://www.yachtinsure.com/>
60. Zurich North American
<http://www.zurichna.com/zus/zurichus.nsf/pages/Zurich+North+America>

Appendix D

Sources of U.S. and State boating safety regulations, licenses, and courses.

<http://www.marine waypoints.com/learn/courses.shtml>

There are many safe boating courses offered throughout the country. Organizations such as the U.S. Coast Guard Auxiliary and the U.S. Power Squadron sponsor many courses which satisfy requirements for State certification where required.. Visit their websites to find a boating course near you. You can also find a boating course near you at BoatUS. Many state boating agenciesalso provide classes.

NASBLA(the National Association of State Boating Law Administrators) sets standards which serve as a guide for state, non-profit and commercial providers to follow in developing boating education materials. You can find State Boating Safety Education Requirements on their website here.

Here are some online courses which are NASBLA approved and are recognized in many states:

American Boating Education - Welcome to the Internet's best boating safety course and Your Fastest Way to the Water.

Boat U.S. Foundation Online Boating Safety Course - Our free, interactive, non-proctored course and exam has been approved by the National Association of Boating Law Administrators (NASBLA) and is recognized by the U.S. Coast Guard as exceeding the minimum requirements for the National Recreational Boating Safety Program.

Boat Ed Boating Safety Courses - All of Boat Ed's state-specific boating safety courses are approved by the National Association of State Boating Law Administrators

(NASBLA) and recognized by the United States Coast Guard Office of Boating Safety

BoaterExam.com - A leading provider of safe boater education and certification across the United States and Canada. Our online boating safety course allows boaters to meet mandatory education requirements and to obtain their official boater education card or boating license online.

Boating Basics Online - Take a Boating Safety Course and Certification Test online.

PWC Safety School - America's free online source for Personal Watercraft safety education.

U.S. Sailing Programs offer instruction in small and large sailboats, windsurfers, and powerboats. All levels of instruction are available around the country for beginner to advanced skills. Information on courses and instruction is available on their website. They also have online sailing and powerboat courses.

Most yacht clubs also offer boating or sailing courses for juniors and adults. For a list of yacht clubs worldwide, [click here](#).

Appendix E

Examples of U.S. Shared ownership Boat Clubs

As the cost of boat ownership and operation has risen the boat club has gained popularity. A boat club is an organization that owns boats that are shared by the members. Since privately owned boats have a high level of fixed costs, yet are used infrequently, the cost per trip is very high. Boat clubs lower that cost by having members share in the fixed cost of ownership. Boat clubs can be organized by government agencies, non-profit organizations (clubs), and private for profit companies. A form of boat sharing similar to the club is fractional ownership. This is similar to a timeshare for boats. Several individuals share in the ownership of a boat. Examples of U.S. boat club and fractional ownership web sites are presented below. The list is far from comprehensive, but contains a wealth of information.

<http://ultimateboatclubs.com/yachtclub.html>

<http://www.thenavigatorclub.com/>

<http://www.marinasailing.com/>

<http://www.performanceyachtclub.com/>

<http://www.sherpareport.com/boats/fractional-boat-ownership.html>

<http://signatureshares.com/>

<http://www.yachtshare.com/>

<http://www.sailtime.com/member/sail>

<http://www.beneteaufractional.com/>

<http://www.portandstarboard.us/>

<http://www.yachtchartersmagazine.com/category/1014>

<http://www.americanyachtshare.com/fractional-leasing-history/>

Appendix F

Example of Solar Powered Electric Boat

<http://www.greenoptimistic.com/2008/02/15/>

February 15th, 2008



The \$10,500. Hammacher Schlemmer solar powered boat for two person.

- Because the batteries hold up to a 6-hour charge, the boat can be used at night as well; for extended nighttime operation the batteries can be recharged from an outside source. With its fiberglass hull and powder-coated aluminum superstructure that holds the solar panel, the boat is completely maintenance-free and 100% environmentally clean, and can navigate shallow waters, thanks to its 1-foot draught. Includes specially designed galvanized iron boat trailer.

Appendix G

Interview with Neil Ross one of the founders of the US Clean Marina program

On September 2008 Henry Schwarzbach and Sung-Gwi Kim meet with Neil Ross in Ballentine Hall on the University of Rhode Island Kingston campus. Mr. Ross led the URI sea grant's initial research on the marina industry over 30 years ago and he has been active working with Sea Grant, the US EPA, the International Marina Association, and as a private consultant with marinas around the world. He is the primary author of Clean Marinas Clear Value - Environmental and Business Success Stories, August, 1996. United States Environmental Protection Agency, Office of Water, EPA841-R-96-003. The report is available at <http://www.epa.gov/owow/NPS/marinas/>. The report contains a good literature review prepared by Tim Tyrrell, formerly of the URI Department of Environmental and Natural Resource Economics. Also of interest are case studies of 25 marinas (<http://www.epa.gov/owow/nps/marinas/appxc.html>). The interview follows:

Mr. Ross - I was hired by Sea Grant in 1969 as the first member of the Marine Advisory program in New England. In the early 1970s the Sea Grant program head Dr. Niels Rorholm did a study of the economic impact of marine recreation. He determined that marine recreation had reached a point where it had significant enough economic impact to merit a research program directed to it. He assigned Mr. Ross the head the Sea Grant's to conduct research on recreational boating. He was the first Sea Grant person in the U.S. to be assigned to work with marinas. The first project was on the ecology of small boat marinas. The project found that most of the pollution in the small boat harbor was not caused by the boats. Later he started to concentrate on

economic research. [One of the first Sea Grant projects focused on marinas was done by the author, Dr. Schwarzbach, along with Dr. Callaghan and Comerford of the URI College of Business. We looked at the profitability of the marina industry in New England and developed a set of marina industry average financial ratios that banks and others use when evaluating a Marina's loan request.]

Dr. Schwarzbach – When did you start to study marina management?

Mr. Ross – In late 1970s when visiting marinas I saw that there was a lack of standardization in management practices and generally a lack of professional management. Mr. Ross as part of the Sea Grant began to run programs for marina managers. They taught such things as how to use credit cards, management of inventory, and other similar topics. Mr. Ross would run the program and get faculty from the College of Business along with practicing business professionals. He became very involved with the marine trade associations. He then traveled to other Sea Grant programs across the country in California, Oregon, Washington, Michigan, Florida, Texas, New Jersey, New York, and others, to help those Sea Grant offices set up programs with the industry. After 18 years he left the Sea Grant program set up the International Marina Institute. His last two years at URI he ran a week long management training program for marina managers at the URI Alton Jones conference center. The program received very high ratings from the marina managers that attended. He and the marina managers realized that they really weren't competing with each other but with the other recreational activities such as golf, skiing, etc. The managers began to trust each other and compare notes on how to better run their marinas.

Mr. Ross - I went to the NMMA and asked them if they would sponsor programs for marina managers. They rejected the idea. They said they worked for the manufacturers not the marinas. They were not interested in marinas. He then asked the

boat dealers association if they would sponsor a program, but they also turned him down. He then came back to the university and discussed the situation with colleagues at URI and they suggested that the university also was not the place to run management programs for marinas. He then resigned from the URI Sea Grant and started the International Marina Institute where he stayed for 8 years. They ran the world's first conferences on marina design, marina management, dry stack storage, dockminiums, financial management, and legal issues with Dennis Nixon. He then developed the Certified Marina Manager program which is still in effect. They continue to be the only agency in the world that certifies marina managers. They offer courses all over the world, including Asia.

Mr. Ross -In my last three years with Marina Institute environmental issue became the hot topic. The EPA was starting to issue rules and regulations for marinas. I started to focus more of my time on that. I then left the Marina Institute (about 12 years ago) to devote all my effort to environment issues in recreational boating. I was the primary consultant to the US EPA. We wrote the guidelines that all states and agencies must use for environmental management of marinas. I did this as a private consultant and I continue to be a private consultant however I am now semi-retired. I now only projects that are of high interest.

Mr. Ross - What I did over the last 12 years as a consultant was somewhat unique. There are consultants that specialize on servicing government and those that service industry. I was a consultant to industry as well as government. I helped the industry to find ways to comply with government regulations and meet with the government to help them to modify their language so that it was possible for marinas to comply with the regulations. I basically acted as both friend of the marina industry and government. Most of the time industry tells government that the regulations will put them out of business and the environmental groups and government set rules

without considering whether they are workable. In the process of working with the trade groups and government I did a study for the EPA with 27 case studies from around the country at marinas that had made significant environment improvements. This showed that businesses that took action to help the environment actually found these actions to be favorable. I then held a workshop in Florida with nonprofit groups and trade groups to deal with Fish and Wildlife and other government agency regulations. At the workshop I suggested that the industry develop a green marina program. The participants didn't like the word green because green water means polluted water. It's similar to saying brown water. So they decided on the 'Clean Marina' program. It's been adopted by 27 states and territories. The programs recognize marinas for going beyond the regulations and have a marina that considers the environment in everything they do. Many in the industry embraced the program particularly because it was shown how many of the activities that make the marina "clean" also improve profits. What I was able to do was to make the industry that they had to make changes, but that those changes were looked on favorably by their customers. Customers liked the cleaner marina and they were able to pass the costs on to the customers. In the recession in the early 1990's the first marinas to come out of the recession were the clean marinas because they had better customer appreciation.

Dr. Schwarzbach - Were you also involved in "clean boating"

Mr. Ross - Most people want clean water and a clean environment. There are a few boaters who don't care and a few marinas who don't want to spend the money to be "clean." I started the "Clean Boating" program as an educational effort to let boaters know what they could do to improve the waters and marine ecology. This dealt with fueling, sewage, and so forth. Most people want a clean environment and they are willing to make some changes. There are a few marinas that don't want to make the changes to become "clean" and I believe that most of those are not doing well. No

instead of clean marinas and clean boating being special, it is now being accepted as being the standard practice. I feel really happy to see how the attitude that of many marina managers and owners has changed to where they now take it for granted that their marina should follow clean marina practices [those that were discussed in sections 6.11 -6.15 above].

Dr. Schwarzbach - You started the clean marina program about 12 years ago. What have you done recently?

Mr. Ross - Last November I completed a contract with the city of Washington, DC. to initiate a clean marina program there. It was a five year contract and we have 80 percent of the marinas and yacht clubs are designated "clean marinas." The US National Park Service is the land owner where the marinas are located and they are spreading this through all US parks on their lakes and rivers. Just last month I went to Costa Rica and help them start a clean marina program there. We are working with a new marina near the Panama Canal in the design stage. This is less expensive than retrofitting an old marina to make it clean.

Dr. Schwarzbach - What factors do you think are most important with a clean marina?.

Mr. Ross - The first thing is a change of attitude by the management. They have to feel it's good for the business. If you show them they can save money from fines and if you can show them their customers will appreciate the changes then it will be easy. You have to make that first step and make the management believe they need to be a clean marina. Once you have that attitude change then the rest is easy. There are a lot of contaminants used in boating. You have fuel, solvents, resins, cleaning agents, grease, bottom paint, and other paint and protective coatings. Many boats have toilets and they create sewage. The state of the technology is that there are systems that are not complicated that provide solution from having those

contaminants enter the ecosystem. Most activities create pollution but the pollution from boating is relative small. It can be controlled, but government has to be convinced that some pollution can be accepted by the ecosystem. Government initially overestimated the negative impact of boating. In fact there are positive externalities from boating and marinas. For example when you put in docks and piers, their bottoms attract marine life and they in effect become artificial reefs. Ask anyone who's been in a marina and they'll tell you the fishing is better in the marina than around the marina. Another positive externality that most people didn't recognize is dredging. Most environmentalists think dredging has a negative impact on the environment, but often it has the opposite impact. It can increase the flushing of an area which is positive. It can also increase the depth of the water which results in lower water temperature. That in turn improves the water quality. Even where boating lowers the water quality the question is "is the benefit from the enjoyment people get from boating worth the cost of lower water quality." For clean marinas, that the marina doesn't significantly harm the environment and it provides a great deal of enjoyment for those who use and jobs to those who work at the marina.

Dr. Kim – How does this differ from the Blue Flag program?

Mr. Ross - The Blue Flag program was started in Europe for beaches. Flying a blue flag means the water is clean. The Blue Flag program started well after the US clean marina and clean boating programs. I talked to the creators of the Blue Flag program and review their standards. Their program is not as extensive as the US program, but it is a good start.

Mr. Ross - For the most part recreational boating was a post World War II activity that started in the US. We had a robust economy that needed to change from a war time activity to a post war activity. Many of the skills and competencies that were developed during the war were adopted for the post war era. One example is the

outboard engine. The army used them with inflatable boats. That technology was easy to convert to a new recreational market. We also had lost of small boat yards that had been working for the Navy that started to make boats for private recreational use. In Rhode Island we had a company called Pearson Yachts who started building fiberglass boats. This made building small boats much easier and the maintenance much easier and less costly.

Dr. Kim - In Korea golfing is much more popular than recreational boating. How does that compare to the US. [There are only about 7 marinas in Korea but over 250 golf courses. Still most in Korea feel this is not enough golf courses and it causes hundreds of thousands of Koreans to go on overseas vacations to play golf. Whereas we think only a small number of Koreans go overseas for recreational boating.]

Mr. Ross - There are only slightly more golf courses in the US than marinas. About 16,000 golf courses and 14,000 marinas [earlier in the report we cite statistics showing slightly over 12,000 marinas]. Many of the newer marinas are part of a large complex with a marina or dock, condominiums, restaurants, hotels, spas, and health clubs, and golf courses. The difference between a golf course and marina is that a golf course services only the people that play golf. It provides recreation and exercise to those people. The boat provides opportunities for the boat owner and his family to go out on the water. On the average every boat in the US takes out an average of almost 20 other people. Friends, neighbors, co-workers. The boat allows us to use the water. The marina is the gateway to the waters of the sea. Marinas provide access for the public to the water. The public however is usually not allowed to go out on the docks of most marinas. Only people paying to keep the boat at the marina and their guests can go on the docks. How many boats or yachts are there in Korea?

Dr. Kim - There are about 6,000 recreational boats in Korea. [A conversation ensued between Dr. Kim and Mr. Ross as to the difference between a boat and yacht,

sailing and fishing, etc.] Some Koreans have gone to Japan for sailing lessons and to sail. Many Korean people don't trust the rich people that have large yachts. It has a negative image.

Mr. Ross - I would be happy to go to Korea if the government or marina owners would like help with developing clean marinas.

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