

**THE WEST EDMONTON  
MALL DOLPHINS:  
*OPTIONS FOR THE FUTURE***



*Canadian Federation of Humane Societies and Zoocheck Canada Inc.*

# **THE WEST EDMONTON MALL DOLPHINS: *OPTIONS FOR THE FUTURE***

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## EXECUTIVE SUMMARY

*The West Edmonton Mall is a destination that generally provides the public with quality entertainment and shopping. A notable exception is the dolphin exhibit, whose appropriateness as an educational tool and quality entertainment display has been brought into serious question as a result of growing public awareness of the disparity between natural dolphin habitat and behaviour, and that witnessed in a captive dolphin display.*

*A growing body of scientific research demonstrates that the basic needs of dolphins cannot be met while being held captive in facilities such as the West Edmonton Mall.*

*The rate of dissemination of sound educational materials to the public continues to increase, resulting in a growing social conscience relating to the treatment of dolphins as well as other captive wildlife.*

*Those concerned with the welfare of dolphins have developed numerous state-of-the-art alternative displays that are both educational and entertaining.*

*This presents both a social and business opportunity for the owners of the West Edmonton Mall to demonstrate good corporate citizenship by retiring the four dolphins under their control and returning them*

*to their natural habitat. Further, the introduction of a progressive alternative display will educate adults and children alike, while demonstrating moral leadership and respect for these intelligent mammals.*

**DISCONTINUING THE DOLPHIN DISPLAY AT THE**  
**WEST EDMONTON MALL IS GOOD FOR BUSINESS**

*The West Edmonton Mall appears to be a business whose primary concern is to provide an entertaining and educational shopping facility for residents and visitors to Edmonton. With a commitment to service and excellence for its patrons, it has become a focal point in the city of Edmonton and in Canada. It is clear that the visionaries who conceived this facility intended a world class, state-of-the-art attraction. The Dolphin display in Phase III of the West Edmonton Mall is not in keeping with this philosophy. With changing public attitudes, people are increasingly questioning the appropriateness of displays using live animals, particularly marine mammals. The dolphin exhibit holds the West Edmonton Mall back from taking its place among the world leaders within the theme-park industry.*

*As a result of a renewed commitment by environmental and animal protection organizations around the world, education of the public is accelerating, articulating concerns surrounding the keeping of animals in captivity, particularly cetaceans. In 1996, the vast majority of the public accepts that keeping dolphins in a small tank is inhumane and devoid of educational value.*

*No matter how honourable the intentions of the responsible individuals, the basic physical and psychological needs of cetaceans in*

*captivity cannot be met. Referencing The Case Against Marine Mammals in Captivity (see Appendix I) authored by Naomi A. Rose, PhD., marine mammal scientist and Richard Farinato, director, Captive Wildlife Protection for The Humane Society of the United States, illustrates this point.*

*Dolphins in the wild may travel up to one hundred miles in a day, reaching speeds up to thirty miles per hour and diving several hundred feet deep, using their echolocation abilities for navigation. The concrete walls of the tanks where these animals are kept in captivity inhibit their natural acoustic abilities. "The natural activity levels, sociality, hunting behaviours, acoustic perceptions, and indeed the very texture of the natural environment of small cetaceans are all severely compromised by the circumstance of captivity.... Unlike that of some terrestrial mammals, the habitat of marine mammals is difficult, frequently impossible, to recreate or simulate, even in microcosm."*

*It is no longer considered educational to have dolphins performing tricks which are merely "exaggerated variations of their natural behaviours.... These tricks prevent the audience from contemplating the stark concrete and Plexiglas enclosures, so different from the environment from which these animals have been taken." However, the public's*

*growing understanding of dolphin habitat has heightened their sensitivity to this issue.*

*We now know that these highly intelligent mammals live in a complex social environment that is "frequently based on kinship.... Some cetaceans are known to retain family bonds for life."*

*Coupling the available data related to keeping live cetaceans in a captive setting, with the general public's awareness of these issues through educational programming and materials, the media and the entertainment industry, results in patrons who question the appropriateness of such a display, particularly the negative impact it may have on their children. A strong argument is formed for removing the dolphin display from an otherwise impressive facility and replacing it with an exhibit which educate visitors through non-animal state-of-the-art mediums.*

*Statistical information supplied by Economic Development Edmonton (see Appendix II) indicates that 84.9% of visitors to Edmonton are from Alberta and 41% of those people are from the Greater Edmonton Area. The statistics further indicate that 45% of these visitors come to Edmonton for the purpose of shopping and another 10.9% visit for pleasure. Because the West Edmonton Mall meets the*



*needs of both purposes, it is a fair assumption that a majority of these people are regular visitors to the mall.*

*People living in urban areas such as the Edmonton region are well informed of the concerns surrounding live animal displays. In a study conducted by the Government of Canada entitled The Importance of Wildlife to Canadians, a poll was taken of Alberta residents. This poll indicated that twice as many Albertans participate in primary nonconsumptive wildlife trips or outings as do not, with 67.2% of those living in urban areas. This finding demonstrates the high level of awareness urban area dwellers have concerning animal issues.*

*A similar result was obtained in Ontario. In that province, Paramount Canada's Wonderland just outside of Toronto, eliminated their dolphin display in 1993. In 1994, Canada's Wonderland experienced a record year with a 9% increase in attendance. They saw the change in public attitudes because of increased awareness, terminated the dolphin display and saw an increased attendance.*

*The one unknown variable in the West Edmonton Mall's attendance equation is how many people are not coming to the mall because of the live animal displays. The concerns of environmental and animal protection organizations about these displays, particularly the West Edmonton Mall's dolphin exhibit, have been well publicized in the past, and will likely continue to increase as time goes on.*

*With this in mind, the West Edmonton Mall is in the unique position of being able to join such industry leaders as Paramount Communications Inc., who have eliminated all live cetacean exhibits from their theme parks, as well as being on the cutting edge of conservation and education as well as gaining fresh support and interest in their business venture and attracting new customers. By voluntarily retiring the four dolphins at the mall and returning them to their capture site near Charlotte Harbour, Florida or some other suitable location (see Appendix III), the mall would enjoy overwhelming positive publicity and take its position alongside progressive industry leaders. This would be similar to the extraordinary goodwill generated by the campaign being undertaken to readapt Keiko, the orca whale featured in the two "Free Willy" movies (see Appendix IV).*

## ALTERNATIVE DISPLAYS

*There are many types of alternative display options available to replace live animal exhibits. These new, innovative and conservation-minded displays have proven to be both educational and exciting and therefore have demonstrated a successful profit-generating ability. Examples of alternative displays available to replace the West Edmonton Mall's dolphin exhibit include virtual reality equipment such as Dolphin Vision, which shows the user the world through the eyes of a dolphin; robotics displays of marine mammals, which enable the user to understand the movement and acoustic abilities of dolphins; and visual displays such as IMAX and OMNIMAX theatres.*

*A display that has been tried and tested, and has proven to be very impressive is the Cousteau Ocean Center (see Appendix V) which is distributed by Living Design Corporation, an associate of the Cousteau Society.*

*According to the Cousteau Society literature, "In the spirit of the Cousteau philosophy, the Cousteau Ocean Center, a unique ocean-theme pavilion, takes visitors on a voyage of personal discovery into the undersea world. Through the skilful use of sophisticated illusion and film, experiences are created which lead visitors to care about life on our water planet. The experiences are personal, powerful and*

*emotional. Unlike museums, intended primarily to convey information, the Cousteau Ocean Center sets the stage for visitors to learn while participating in an exciting experience. A visit to a Cousteau Ocean Center is the next best thing to being on a Cousteau expedition."*

*The Cousteau Ocean Center's exhibits include:*

*A model of a full-size Blue Whale, the largest living mammal on earth, with lighting and motion effects, gives the illusion that the whale is swimming just below the surface of the ocean. A walk through the inside of the whale to see the heart beating and a calf in the womb with its own heartbeat gives an actual size comparison.*

*After exiting the whale, but still in the underwater ambiance, the visitor sees the history of diving from man's first attempts to current re-breathers.*

*A continuance of the history of diving looking up towards the surface of the ocean.*

*A photo from the children's area "Visions of the Sea" (see Appendix V) allows children to see each TV monitor, as-*

*sociated with a particular animal, showing how that animal would see them.*

*A computerized life-size video of captain Cousteau answering the most common questions is at the visitors' disposal as well.*

*This describes only a portion of the Cousteau Ocean Center.*

*Portions of the Paris Cousteau Ocean Center are available for purchase, and would be an ideal replacement exhibit in the West Edmonton Mall's Deep Sea Adventure.*

*Another cost-effective option for the West Edmonton Mall is the replacement of the dolphin tank with a static display such as a large-scale sculpture of a bottlenose dolphin. A plaque could be installed indicating the humanitarian decision of the owners of the West Edmonton Mall to discontinue its dolphin exhibit and to return Maria, Mavis, Gary and Howard to their natural environment, in recognition of growing public awareness about the suffering of cetaceans in captivity. Needless to say, while such a display would involve an initial capital outlay, this would be compensated for by a reduction in annual operating costs in contrast to the current dolphin display.*

*Replacing an antiquated display with a world-class, state-of-the-art attraction like the Cousteau Ocean Center or a large-scale sculpture will accomplish two goals for the West Edmonton Mall. Firstly, it will*

*indicate to its patrons the mall owners' commitment to conservation, education, and the humane treatment of wildlife and will place the mall and its owners among the leaders in the theme-park industry. These two accomplishments will in return attract new customers in Canada and from around the world.*

# EDUCATION AND CONSERVATION



## • EDUCATION •

There is little objective evidence to indicate that the public-display industry is furthering the public's knowledge of marine mammals and their habitats. While a few zoos, marine parks, and aquaria among the more than sixteen hundred licensed animal exhibitors operating in the United States are involved in serious education and conservation efforts, the main purpose of these operations is to display animals for entertainment rather than to convey information.

Traditional marine mammal exhibits center on animals such as sea lions, dolphins, or whales performing tricks that are exaggerated variations of their natural behaviors. These tricks prevent the audience from contemplating the stark concrete and Plexiglas enclosures, so different from the environment from which these animals have been taken. Almost nothing is taught about natural behaviors, ecology, demographics, or population distribution. Indeed, the one thing that virtually all public-display facilities consistently avoid is providing in-depth educational material concerning marine mammal natural history.<sup>3</sup>

Traditional dogma states that the display of live animals is re-

## EDUCATION AND CONSERVATION

quired to educate people about a species (and therefore to care about the species and its habitat). But robots, videotapes, interactive and traditional museum-type displays, and virtual-reality simulations could and should replace dolphin and sea lion shows and, in many cases, live exhibits altogether.

It is true that people may respond on a basic, emotional level to seeing a live animal on display, and performances may also reinforce the bond with an individual animal felt by members of the audience. But because of the nature of these performances, the perceived bond is not with an actual creature but with an idea of that creature that has been crafted by the facility. Evaluation of the performances' scripts and settings and observation of the audiences' reactions reveal that a performance is not an educational vehicle but a show in which miseducation (in the form of inaccurate representation of such things as normal behavior, life span, appearance, and social structure) occurs more often than not.<sup>4</sup>

When public-display facilities assert their educational effectiveness, they frequently cite annual attendance figures, apparently convinced that visitors learn about marine mammals simply by walking through a turnstile. But the response that is elicited by mere exposure to live captive animals does not translate directly into practical action or even heightened ecological awareness, as the public-display industry claims. In fact, The HSUS maintains that such exposure does exactly the opposite: instead of sensitizing the visitor to marine mammals and their habitat, it desensitizes people to the cruelty inherent in removing these animals from their natural habitat and holding them captive. Repeated exposure to a dolphin swimming in a pool or a polar bear pacing in a concrete enclosure encourages people to consider wildlife as isolated objects or as servants to human needs and desires, rather than as integral elements of an ecosystem with their own intrinsic value.



THE PHYSICAL AND SOCIAL ENVIRONMENT  
• SMALL CETACEANS •

The small cetaceans typically held in captivity, such as bottlenose dolphins (*Tursiops truncatus*) and orcas, are wholly aquatic, far-ranging, fast-moving, deep-diving predators. In the wild they may travel up to a hundred miles in a day, reach speeds of up to thirty miles an hour, and dive several hundred feet deep. Small cetaceans are highly intelligent, extraordinarily social, and behaviorally complex.<sup>20</sup> Their perception of the world is largely acoustic, a difference in mode of perception that makes it virtually impossible for humans to imagine what they "see."

Marine parks and aquaria cannot remotely simulate the natural habitats of these species, any more than they can the polar bear's.<sup>21</sup> The water in their tanks must be chemically treated and filtered to prevent the animals from swimming in their own waste. Smooth concrete walls usually surround these sound-sensitive creatures and inhibit the natural use of their acoustic abilities. As in pinniped pools, the addition of chlorine makes it impossible to have live plants and fish in the pools of small cetaceans. Nothing is further in composition from the coastal environments of Florida, the Hudson Bay, or Iceland—with their algae, fish, storms, rocks, sand, ice, and mud—than the small, empty, chlorinated, smooth-sided tanks of most marine parks and aquaria. The natural activity levels, sociality, hunting behaviors, acoustic perceptions, and indeed the very texture of the natural environment of small cetaceans are all severely compromised by the circumstances of captivity.

Public-display facilities argue that captivity, with its reliable and plentiful food supply, eliminates cetaceans' need to range over large distances daily. A case that disputes this claim is that of orcas in British Columbia's Johnstone Strait, a small section of the Pacific Northwest Inside Passage that orcas frequently visit and that is rich in salmon during the summer months. Orcas leave Johnstone Strait daily, often traveling twenty-five miles north or south of this area in one night.<sup>22</sup> It may be that at one point in their evolutionary history these whales traveled such distances only for foraging purposes, but their physiology has

adapted to this level of exertion, and now, regardless of the availability of food, they may require this amount of exercise for good health. Clearly, whatever the principal reason for their ranging patterns, confining small cetaceans in a pool that is at best only six or seven times their length guarantees a lack of aerobic conditioning and brings on the endless circling and stereotypical negative behaviors seen in other marine mammals. Such confinement is inhumane at a nearly inconceivable level.

The situation is even worse in regard to the social environment provided for these animals in captivity. Small cetaceans are not merely gregarious; they form a complex society that is frequently based on kinship. Some cetacean species are known to retain family bonds for life. In some populations of orcas, family ties are so persistent and well-defined that all family members are usually within a two mile radius.<sup>23</sup> Captive facilities, with their logistical constraints, commercial considerations, and space limitations, cannot provide conditions that allow natural social structures to form. In captivity, social groups are wholly artificial. Facilities mix Atlantic and Pacific stocks; in the case of orcas, races (transient and resident) with disparate diets, habits, and social structures; and unrelated animals. Calves are typically removed from their mothers to separate quarters after only three or four years, if not sooner.<sup>24</sup>

## • C O N C L U S I O N •

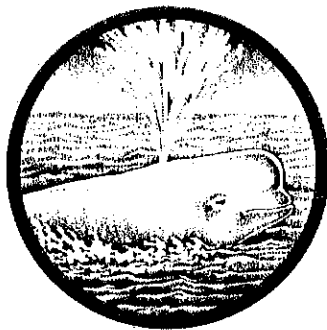
Unlike that of some terrestrial mammals, the habitat of marine mammals is difficult, frequently impossible, to recreate or simulate, even in microcosm. Pinnipeds, if provided with a very large, texturally varied, saltwater tank and a rocky haul-out area, would probably be the most commonly held marine mammals to adapt to the circumstances of cap-

## THE PHYSICAL AND SOCIAL ENVIRONMENT

tivity. Even migratory pinniped species spend much of their time on land resting, and captivity does not specifically compromise this characteristic. What is compromised, however, is the opportunity for the intense physical activity and crucial interactions with conspecifics that typify pinnipeds when mating or at sea. The social environment is not recreated; it is artificially reconfigured. In many cases species such as Atlantic gray seals (*Halichoerus grypus*) and Pacific California sea lions, who, living in their separate oceans, would never interact in the wild, are housed together. Certain marine mammal species who are from remote, specialized habitats, such as polar bears, are severely compromised physiologically.

Cetaceans are in all ways severely compromised by captivity. The reduction in their horizon represented by a tank, even a large one, is extreme. Neither their physical nor their social environment can be simulated or recreated. Tanks must be effectively sterile and social bonds are artificial. Life for captive cetaceans is indeed "different," as many facilities such as Sea World Incorporated admit. Given that this different life has nothing in common with the life for which marine mammals have evolved and for which they are suited, it can only be regarded as worse than life in the wild.

# HUSBANDRY AND HEALTH CARE



Most captive marine mammals receive regular vitamin and mineral pills in their ration of fish. This implies that their diet of a limited variety of frozen fish is deficient in some manner, and indeed the nutritional quality of frozen fish is markedly lower than that of living fish.<sup>25</sup> The constant administration of pills is often referred to as a benefit of captivity; the fact that wild animals do not require such supplements is never mentioned. The limited choices offered to captive animals in regard to food and its methods of provision are cause for concern. The lack of behavioral and physical stimulation (when foraging is eliminated from the behavioral repertoire) and the lack of dietary variety may contribute to behavioral disturbances and health problems.

Medical isolation enclosures are frequently much smaller than primary enclosures; facilities claim that medical tanks are only temporary quarters and insist this distinction makes their restrictiveness acceptable.<sup>26</sup> However, some animals, such as sexually mature males or aggressive individuals of both genders, are often sequestered in these tiny pools on a routine basis.<sup>27</sup> In many facilities animals are frequently held in such secondary enclosures during tank-cleaning procedures.

They are also left in the primary enclosure in only a few inches of water during the cleaning process; this experience is similar to stranding. It may last for up to an hour (and animals have been known to be overlooked and left stranded for several hours when their tanks were being drained<sup>28</sup>) and must be considered a stressful experience.

Another abnormally stressful procedure for marine mammals, for cetaceans in particular, is transport from one location to another, whether it is between tanks within a single facility or between facilities. It is unnatural for cetaceans to remove themselves wholly from the water; even when beached, contact with the water is partially maintained. However, captive cetaceans are routinely placed on stretchers, loaded onto vehicles, either trucks or airplanes, and subjected to an alien environment for as many as twenty-four hours. Some marine mammals are seasonally shipped between various facilities each year for commercial rather than necessary husbandry purposes.<sup>29</sup> They are subjected to chronic, cumulative, and unnecessary levels of stress.

It is routine to administer prophylactic antibiotics and ulcer medication to captive cetaceans.<sup>30</sup> Bacterial infections are a common cause of death in these animals. Pneumonia, which is generally brought about by some other condition, such as stress or a compromised immune system,<sup>31</sup> is the most commonly cited cause of death in The Marine Mammal Inventory Report. Rarely do necropsy (autopsy) reports identify the cause of the pneumonia. Approximately 10 to 20 percent of the deaths stem from undetermined causes. Cetaceans are difficult to diagnose; their lack of mobile facial expressions and body language with which humans can empathize (such as shivering or cowering) make it difficult to recognize that a health problem may be developing. An all too common pattern is for facility personnel to find an animal

## HUSBANDRY AND HEALTH CARE

lacking in appetite and for that animal to die within one or two days of this discovery—long before any treatment program can be determined, let alone administered.<sup>32</sup> Veterinary care for cetaceans is still relatively primitive; for instance, although it has become possible to administer anesthesia to cetaceans, it is extremely risky, and usually anesthesia is administered for surgical procedures as a last resort.

## MORTALITY AND BIRTH RATES

### • BOTTLENOSE DOLPHINS •

Some recent studies indicate that captive bottlenose dolphins live as long as and have the same mortality rates as their counterparts in the wild.<sup>44</sup> Other studies, however, continue to indicate a higher year-to-year mortality rate for animals in captivity than for those in the wild (Table 1).<sup>45</sup> The failure of captive dolphins to exhibit a higher survival rate in spite of fifty-five years of captivity disputes the public-display industry's oft-stated contention that captivity enhances survival by keeping animals safe from predators, parasites, and pollution and by providing animals with regular feeding and ever-improving veterinary care.

The reproductive history of bottlenose dolphins shows a similar pattern. Although calves are now born routinely in captivity, captive-born calf mortality rates fail to show a clear improvement over the wild.<sup>46</sup> As predation, a significant source of calf mortality in the wild, is not a risk factor in captivity and veterinary supervision is intensive when a calf is born, this failure to demonstrate higher calf survivorship is disturbing. Causes of death for captive-born calves include lack of maternal skill, lack of proper fetal development, and abnormal aggression from other animals in artificial social environments and confined spaces.<sup>47</sup>

**T A B L E 1**

Species	Mortality Rate in Captivity				Mortality Rate in the Wild
	Study 1	Study 2	Study 3	Study 4	Studies 5 and 6
Bottlenose Dolphins	7.0% <sup>b*</sup>	7.4% <sup>*</sup>	5.6% <sup>b**</sup>	5.7% <sup>b***</sup>	3.9% <sup>b</sup>
Killer Whales	7.0% <sup>*</sup>	—	6.2% <sup>b**</sup>	6.2% <sup>b***</sup>	2.3% <sup>b</sup>

Annual mortality rates (mean percentage of population dying each year) of bottlenose dolphins and killer whales in captivity vs. in the wild.<sup>a</sup>

*Note:* Studies are as follows: (1) D. P. DeMaster and J. K. Drevenak, "Survivorship Patterns in Three Species of Captive Cetaceans," *Marine Mammal Science* 4 (1988); (2) D. A. Duffield and R. S. Wells, "Bottlenose Dolphins: Comparison of Census Data from Dolphins in Captivity with a Wild Population," *Soundings* (Spring 1991); (3) R. J. Small and D. P. DeMaster, "Survival of Five Species of Captive Marine Mammals," *Marine Mammal Science* 11 (1995); (4) T. H. Woodley, J. L. Hannah, and D. M. Lavigne, "A Comparison of Survival Rates for Free-Ranging Bottlenose Dolphins (*Tursiops truncatus*), Killer Whales (*Orcinus orca*), and Beluga Whales (*Delphinapterus leucas*)," Draft Technical Report No. 93-01 (Guelph: International Marine Mammal Association, Inc.,



## APPENDIX II

*These tables are the most recent demographic information available from Economic Development Edmonton, including statistics on the numbers of people visiting Edmonton and the purpose of their visit.*

**Table 1.1**  
**Visitors to Edmonton by Point of Origin**  
**Estimated for 1994**

Visitor Origin	# of Visitors	% of Total
<b>Alberta</b>	6,676,625	84.9
<b>Other Canada:</b>		
British Columbia	344,510	4.4
Saskatchewan	211,392	2.7
Manitoba	77,596	1.0
Ontario	129,609	1.6
Quebec	52,014	0.7
Atlantic Provinces	23,078	0.3
Northwest Territories/Yukon	14,496	0.2
<b>Total Other Canada</b>	<b>825,695</b>	<b>10.8</b>
<b>United States:</b>		
California	37,412	0.5
Washington	27,221	0.3
Montana	14,801	0.2
Minnesota	10,060	0.1
Alaska	9,009	0.1
Michigan	8,580	0.1
Texas	7,271	0.1
Other West U.S.	42,236	0.5
Other East U.S.	57,916	0.7
<b>Total United States</b>	<b>214,506</b>	<b>2.7</b>
<b>International:</b>		
United Kingdom	25,198	0.3
Japan	21,857	0.3
Australia	13,241	0.2
Germany	10,157	0.1
Other Europe	24,426	0.3
Other International	19,541	0.2
Other Asia	14,142	0.2
<b>Total International</b>	<b>128,561</b>	<b>1.6</b>
<b>TOTAL</b>	<b>7,872,387</b>	<b>100.0</b>

Sources: 1990 Alberta Non-Resident Travel Exit Survey - this data was assumed constant for 1991.  
1991 Alberta Resident Travel Survey - this 1991 data includes all 40+ km trips to Edmonton.  
Statistics Canada: Canadian Travel Survey and International Travel Survey - data used to develop  
indicators of 1994 travel by origin.  
Alberta Economic Development and Tourism.

Note: Numbers may not add due to rounding.

VISITORS IDENTIFYING EDMONTON AS A MAIN DESTINATION OR  
STAYING ONE OR MORE NIGHTS IN EDMONTON  
PLACE OF ORIGIN BY MAIN PURPOSE OF TRIP

ORIGIN	Number of Visitor Trips	MAIN PURPOSE OF TRIP				
		Business/ Convention	VFR	Vacation/ Pleasure	Shopping	Other
Total Alberta	6,549,100	14.0%	22.8%	17.8%	29.7%	15.7%
Southern Alberta	95,600	26.5% **	29.5% **	26.1% **	1.5% **	16.3% **
City of Calgary	754,000	17.3% *	29.8% *	26.3% *	11.2% *	15.4% *
Calgary Surrounding Area	122,200	26.7% *	35.7% *	16.6% **	8.5% **	12.5% **
Red Deer and Area	560,700	23.2% *	21.7% *	19.6% *	22.7% *	12.7% *
City of Edmonton	375,000	3.2% **	50.1% *	27.1% *	14.0% **	5.7% **
Edmonton Surrounding Area	2,713,500	12.2%	16.1%	10.9% *	45.0%	15.8%
Eastern Alberta	840,000	9.6% *	32.0%	19.7% *	22.7% *	16.0% *
Fort McMurray and Area	151,300	14.4% **	16.0% **	39.3% *	10.6% **	19.8% **
Western Alberta	343,500	13.4% *	14.9% *	20.3%	33.3%	18.0%
North Central Alberta	192,300	15.2% *	26.2% *	16.6% *	15.1% *	26.9% *
North Western Alberta	151,400	20.0% *	21.6% *	32.8% *	8.7% **	16.9% *

Source: 1991 Resident Travel Survey

ORIGIN	Number of Visitors	MAIN PURPOSE OF TRIP				
		Business/ Convention	VFR	Vacation/ Pleasure	Shopping	Other
British Columbia	334,800	18.1%	36.3%	12.1%	12.3%	21.2%
Vancouver Island Total	43,800	16.7% **	35.4% *	12.4% **	7.2% **	28.4% *
City of Victoria	22,100	19.3% **	32.5% *	8.4% **	9.3% **	30.6% **
Vancouver Is (excl Victoria)	21,700	14.0% **	38.3% **	16.4% **	5.1% **	26.2% **
Vancouver	67,400	28.6% *	29.8% *	13.0% *	10.7% *	17.9% *
Lower Mainland	64,200	16.6% *	43.9%	13.3% *	10.8% **	15.4% *
Okanagan/Kootenay	76,200	16.9% *	44.9%	9.1% **	8.5% **	20.6% *
Interior B C	65,300	11.7% *	26.8% *	15.8% *	23.7% *	22.1% *
Saskatchewan	205,500	14.2%	31.5%	13.9%	19.6%	20.8%
City of Regina	32,600	23.5% *	25.6% *	15.9% **	16.0% *	19.1% *
Southern Saskatchewan	25,900	6.3% **	43.2% *	8.5% **	19.0% **	23.1% *
City of Saskatoon	54,300	19.7% *	26.5% *	14.5% *	23.5% *	15.8% *
Central Saskatchewan	58,800	6.1% **	36.7%	14.3% *	19.8% *	23.1% *

Source: 1990 Alberta Non-Resident Travel Exit Survey

\* Interpret with caution due to small sample size.

\*\* Data should not be released due to small sample size.

APPENDIX III

**A PRELIMINARY REPORT  
IN CONSIDERATION OF  
RETURNING THE CHARLOTTE HARBOR/  
WEST EDMONTON MALL  
DOLPHINS TO THE WILD**

PREPARED BY  
RETURN TO THE WILD  
MARCH 1996  
FOR USE BY ZOOCHECK CANADA

## REINTRODUCTION TO THE WILD OF CAPTIVE DOLPHINS

" Randy (Wells) points out that the issue isn't just the number of dolphins captured from the wild but the fact that each individual has a role to play, and the loss of one dolphin can have serious repercussions for the rest of the community" (Howard, 1995, p.289).

" ... the concept of reintroduction requires a researched approach and follow-up with documentation that contributes to the development of the necessary technologies" (Brill and Friedl, 1993, D-1).

With a commitment to return bottlenose dolphins Mavis, Maria, Gary and Howard to their home waters off the coast of Florida, the West Edmonton Mall has the opportunity to contribute significantly to the progress being made in amassing reintroduction technologies, protocols and valuable research data; and to allow these individuals to play their intended role in the natural environment and dolphin community.

### **RELEASES - A HISTORICAL OVERVIEW**

From the 1960's to the early 1990's there have been over 100 intentional or inadvertent releases of dolphins and whales around the world. The majority of these releases were at the hands of the captive industry (n=72) and the U.S. Navy (n=24). Half of the Navy dolphins released were longterm captives and for all twenty-four animals, no follow-up studies were reported. Sixty percent of the dolphins released by the public display industry had no follow-up study after release. Twenty-nine of the seventy-two dolphin releases by the public display industry reported follow-up with all but three (who were recaptured and returned to captivity) considered successful (Balcolm, 1994).

Each of the following more recent and well publicized releases employed varying methodologies and degrees of scientific methods, follow-up, and documentation resulting in varied reports of confirmed success. Even so, these reintroductions represent a vast improvement over the common practice of the

public display industry and the Navy, to date employing no readaptation in most cases and conducting no follow-up, scientific or otherwise in their releases of dolphins into the ocean.

In three separate dolphin releases, Joe and Rosie in 1987, Rocky, Missie and Silver in 1991 and Flipper in 1993 readaptation was carried out with all dolphins demonstrating the ability to catch and eat live fish prior to release. While sightings of all dolphins have been reported post release, some with video documentation, within the scientific and captive display communities, the findings are considered inconclusive as scientific follow-up protocols were not employed. According to Nick Gales (1993), a lone male dolphin was released in much the same fashion in South Africa. No official follow-up was conducted but he was sighted on several occasions post release.

In 1992, with the closing of an Australian marine park, the captive facility released 9 dolphins with mixed results. Three dolphins were recaptured, 1 (a calf) presumably died, 2 follow-up successful, and 3 no follow-up (Gales and Waples, 1993).

Of particular interest is the inadvertent release of a female bottlenose in the Bahamas after 17 years in captivity. The escapee, Bahama Mama had no official follow-up but was positively photo-identified up to eight months post release in the company of wild dolphins (Balcolm, 1994).

The most successful release resulting in empirical data and the development of some readaptation and follow-up protocols is the Misha and Echo release in 1990 by Randy Wells. An intensive tracking program of one year after release has been followed by opportunistic tracking that continues through annual dolphin census operations and independent surveys. As of February 1995 the accumulated sightings totaled 62 for Misha on 59 different days and 35 sightings of Echo on 32 different days since their release (Howard, 1995). Clearly this release proves the viability of reintroduction efforts. More details of this successful release will be discussed in the context of the dolphins from Charlotte Harbor/West Edmonton Mall in *The Future of Reintroduction - An Opportunity for West Edmonton Mall*.

## **REINTRODUCTION - CURRENT EFFORTS**

Reintroduction efforts are currently in progress at the Florida Indian River Lagoon. Under the auspices of Dr. John Hall, two female dolphins by the name of Bogie and Bacall are the subjects of the latest state of the art scientific reintroduction efforts. As operations manager of the Welcome Home Project, Dr. Hall brings with him a wealth of knowledge and experience with about 30 years as a marine mammal biologist. No stranger to captive dolphins and whales, Dr. Hall worked as research scientist for the U.S. Navy marine mammal program and at Sea World for 4 years until 1990 when he left to pursue research of wild marine mammals and underwater acoustics. Dr. Hall and Dr. Naomi Rose of the Humane Society of the United States, with the support of a scientific steering committee are designing the readaptation and release protocols that will ensure compliance with National Marine Fisheries Service permit requirements. These statutes emphasize the welfare of both the dolphins being released and the wild population. The process and resulting documentation in the areas of readaptation, reintroduction to the wild, and tracking of Bogie and Bacall promises to add significantly to the information base currently available. In addition to data accumulated from the aforementioned dolphin releases, the data from Bogie and Bacall will also serve in other release efforts of which Mavis, Maria, Gary and Howard can be the direct beneficiaries.

Dr. Hall has generously offered to answer questions regarding, readaptation and reintroduction of captive dolphins to the wild.

## **THE FUTURE OF REINTRODUCTION - AN OPPORTUNITY FOR WEM**

The future of returning marine mammals to the wild will undoubtedly include many individual dolphins and whales from around the world. If the carefully designed and scientifically viable plans for orcas Lolita, Corky and Keiko are allowed to come to fruition these may indeed provide the next phase of development in reintroduction technologies. For the purposes of this discussion however, we need to look at how the Charlotte Harbor dolphins captive at the West Edmonton Mall since 1985 fit into the expanding and

*progressive reintroduction picture.*

*The fact that Mavis and Maria are both pregnant, at first glance would seem to complicate matters. While certainly more challenging, this may not be prohibitive as the industry would lead people to believe. Scientists with the Welcome Home Project are currently dealing with considerations for a pregnant dolphin within the context of reintroduction protocols. Many answers should become available through these efforts. WEM could also contribute significant data in this area of research. Additionally, there is no guarantee that the dolphins born to Mavis and Maria will survive. Both females have previously experienced an unsuccessful birth in their current captive environment.*

*" If the industry's principal justification for captive-breeding programs is to develop successful enhancement programs for current or future endangered or threatened species, then the industry should foster rehabilitation and reintroduction research rather than oppose it" (Rose and Farinato, 1995, p.8).*

*With the West Edmonton Mall espousing conservation and species enhancement motives, they have the ideal opportunity to prove the sincerity of those claims by facilitating the return of Mavis, Maria, Gary and Howard to their natural home under a carefully designed, scientifically controlled rehabilitation program. The results of such efforts, whether retirement in an ocean pen or full reinstatement in the wild would add to the body of knowledge supporting conservation. The potential for the Charlotte Harbor dolphins to contribute to conservation, species enhancement as well as education would be far better served through readaptation and reintroduction than by their remaining in the WEM tank and eventually dying there.*

*A report titled Reintroduction to the Wild as an Option for Managing Navy Marine Mammals, Technical Report 1549 by Randy Brill and William Friedl (1993), for the Naval Command, Control and Ocean Surveillance Center acknowledged that " The developments of methods and technology and the resolution of critical issues would potentially benefit future reintroduction efforts with endangered marine mammal species" (p.iii). The same report, endorsed by the public display industry does not exclude captive born dolphins from candidacy. Should the WEM calves survive, potentially they could be*



transported when appropriate with their mothers to a sea pen to mature until reintroduction suitability is determined. For those concerned with genetic viability of the offspring, again the WEM dolphins are ideal for helping to resolve some of those "critical issues" due to the fact that all the dolphin parents were captured from the same wild dolphin community and at the same time.

The Candidacy section of the Technical Report 1549 serves here, in part, as a preliminary guideline for determining from a distance, the appropriateness of considering the dolphins at the WEM as potential candidates.

From Technical Report 1549 (Brill and Friedl, 1993)

#### DETERMINATION OF CANDIDACY

#### WEM DOLPHINS

#### FOR REINTRODUCTION - IDEAL ATTRIBUTES

The exact knowledge of its group and location from which the animal was acquired.

√ location & community of dolphins known

The animal was either collected in the wild or acquired as beached or stranded.

√ collected in the wild

The animal was self sufficient before acquisition.

√ assumed compliance with NMFS permit

In terms of the animals age at reintroduction, there is a low risk of mortality (optimal ages for reintroduction need to be determined).

WEM dolphins could assist with new data

The animal is socially competent.

√ assumed from WEM statements

The animal has spent a minimal amount of time in captivity.

√ See- discussion that follows this section

The animal has experience in a variety of environments.

½way environment will build experience

*The animal exhibits flexible responses to novel and varied environmental conditions.*

*To be determined in  
½way sea pen*

*The animal's behavior is readily modified through the standard techniques of operant conditioning.*

√ *Assumed from show  
-husbandry training*

*The animal exhibits no aberrant behavior.*

√ *Assumed from WEM  
statements.*

*The animal is in excellent health and physical*

√ *Assumed from WEM  
statements*

*The animal has not been exposed to any life-threatening diseases.*

√ *Assumed from WEM  
statements*

*There are of course many more considerations in deciding to return captive dolphins to their natural environment. This preliminary assessment however, indicates that there are sufficient favourable answers to the current criteria questions to warrant pursuing the matter. In addressing the questions of age and the length of time in captivity, information from researcher Randy Wells along with some little known background in the successful "Dolphin Science Sabbatical" release of Misha and Echo add to the notion that the Charlotte Harbor dolphins in the WEM can be successfully returned to their home.*

*The West Edmonton Mall could take credit for supporting the next scientifically documented "dolphin sabbatical" in the spirit of the successful reintroduction program for Misha and Echo designed by Dr. Ken Norris and Dr. Randy Wells.<sup>1</sup> This notion is not out of line with Dr. Norris' original dolphin sabbatical plans that were to include longtime captives. Misha and Echo, captured from the wild specifically for the project and captive for two years before readaptation and release, were actually part of a fall back plan when it became evident to the researchers that no suitable longtime captive dolphin pairs were available.*

*Dr. Norris initially had chosen an older female dolphin from the Navy for his*

study. "Josephine" was more than 20 years in captivity when she became a candidate for testing the sabbatical idea. Misha and Echo ultimately became the first scientifically proven release cases instead of Josephine for the following reasons: 1) a suitable companion could not be found for her, 2) her original capture site was unknown, 3) she would be released alone in unfamiliar waters and into 4) an unfamiliar dolphin society (Howard, 1995). None of these factors (deemed prohibitive by Dr. Norris) apply to the WEM dolphins.

*It is fascinating to think that Mavis and Maria or Gary and Howard could have accomplished Misha and Echo's return to the wild had they been made available to the release project. Considering that the Charlotte Harbor/WEM dolphins are still much younger than Dr. Norris' first choice, and have spent less than half the time in captivity than Josephine, it would appear the window of opportunity is still wide open for them.*

*In the Journal of the American Cetacean Society, Randy Wells (1989) states that Misha and Echo's expected life span is 40 years; 2yrs.= about 5% of their expected lifespan. With Mavis, Maria, Gary and Howard still only in their mid-teens, well over half their lives can still be lived back in their natural environment.*

*The restocking process especially now that these dolphins are of reproductive age may bring back to the Charlotte Harbor community, some of the balance that was disturbed when these four and many others were removed from the natural environment. Once returned, they have the opportunity to resume their natural evolutionary path as individuals, and as members of their society and species.*

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## NOTES

<sup>1</sup> The redaptation and release portions of Dr. Norris' "Dolphin Science Sabbatical" would be performed with some obvious modifications to account for the differences between Mish and Echo and the West Edmonton Mall dolphins in terms of their life histories and individualities.

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APPENDIX IV

*Article from the March, 1996 edition of Life magazine - The  
Happiest Whale in the World - Free Willy - Almost Home*

his little girl weighed 20 ounces at birth. A stranger's promise helped save her life.



# LIFE

## The Happiest the Whale in World

The  
true—and often  
harrowing—  
story of what  
it took to

FREE WILLY

MARCH 1996/\$3.95



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SPECIAL

# Almost Home

After 11 years in the cramped pool of a Mexican amusement park, the orca named Keiko—known to the world as Willy—begins his long swim to freedom.

Photography by **Gary Braasch** and **Michael Melford** Text by **Kenneth Miller**

# F

or days he has been jumpy, distracted. On Thursday, when he was to give one of his last shows—dancing to disco, catching mackerel on the fly—he sulked on the sidelines instead. “He knows something’s happening,” says trainer Karla Corral. Today, Saturday, January 6, some 27,000 people file past his tank to say adios; the tearful procession lasts 13 hours. Now it is 9:30 p.m., and the moment of departure has come. But as his handlers try to coax him into the holding pen at the side of his pool, the four-ton orca refuses to budge.

Corral and fellow trainer Renata Fernandez ask that the TV lights be dimmed; they shush the crowd of journalists and VIPs. Their wet suits gleaming in the moonlight, the two women kneel by the water. “Keiko, *entra*,” they call gently. The whale pokes his snout into the pen, then glides away.

It is not easy to rush a creature as big or as willful as this one. But a plane is waiting at the Mexico City airport, so the issue is forced. Using a net, the handlers herd Keiko toward the pen. Twice he lunges over the webbing, and the crowd at poolside cheers. Dave Phillips, head of the Free Willy Foundation, is seized with sudden doubt. “My God,” he thinks. “Are we doing the right thing?”

Finally the crew snares him and drags him into the pen. Keiko is slid into a nylon sling, and at a quarter past midnight a crane hoists him 15 feet into the air. Pepe and Lily, Keiko’s dolphin companions, swim below in nervous circles. Dangling there, the leviathan lets out a frantic whizzing sound.

If Keiko knew what the humans were up to—an unprecedented experiment that could lead to freedom for him and

dozens of other mistreated marine mammals—he might be more enthusiastic. For the past two years, he has been the subject of an extraordinary goodwill campaign. Extraordinary—and controversial. Even as fans and corporate donors built him a \$7.3 million halfway house in the Pacific Northwest, others were asking: What is it that makes people open their hearts and wallets for a whale when, as the saying has it, children are starving?

In part, surely, it’s the attraction of any large wild animal—a fascination with what Shakespeare called “the prodigality of Nature.” In part it’s a sense of collective guilt. “We drove most species of whales to the brink of extinction,” says Phillips. “We have a great deal of compassion for them because of that, and a great sense of responsibility.”

And, then, Keiko isn’t just any whale. Thanks to his title role in the 1993 film *Free Willy*, he’s a cetacean celebrity, probably the most beloved beast since Lassie. *Willy* was a monster hit: More than 10 million children and parents cheered Keiko’s star turn, in which he escaped a seedy water park with the help of a young boy. The passions stoked by *Willy* were naturally transferred to Keiko when it became known that he himself—like many of the world’s 50 captive orcas—faced a dire plight. Seized off the Icelandic coast in 1981, Keiko had spent most of his 16 years in bondage. His tank at Mexico City’s Reino Aventura theme park, full of chlorinated and artificially salted water, was barely large enough—90 feet long by 43 wide and 20 deep—for the 21-foot animal to turn around in. His muscles had turned flabby, and constant swimming in one direction had curled his dorsal fin. His water was far too warm—80°—for his Nordic blood. An inadequate filtration system had him swimming in his own wastes, and he was breathing the world’s smoggiest air. These hardships, along with an improper diet, had weakened his immune system. He was 1,300 pounds underweight, and warty eruptions, caused by the papillomavirus, marred his skin. In his frustration he had taken to gnawing at the edge of the pool—a habit that wore his teeth down to stubs.

Freeing Keiko would prove far more complicated than freeing Willy. Reino Aventura’s management, unable—or, as critics charged, unwilling—to pay for a bigger tank, did try to find their orca a new home. Because of his potentially contagious skin disease, however, no other facility would take him. *Free Willy*’s producers, Richard Donner and Lauren Shuler-Donner, backed by Time Warner (which distributed the film and publishes this magazine), sought to locate Keiko in a place of his own on Cape Cod, but the idea came to naught. Even Michael Jackson got into the act, offering Keiko a better life at his Neverland Ranch in California. A more substantial plan, one entertained by Reino Aventura, came from marine biologist Ken Balcomb of Washington

When the move commences, Keiko hasn’t been fed in 24 hours—a precaution against airsickness.

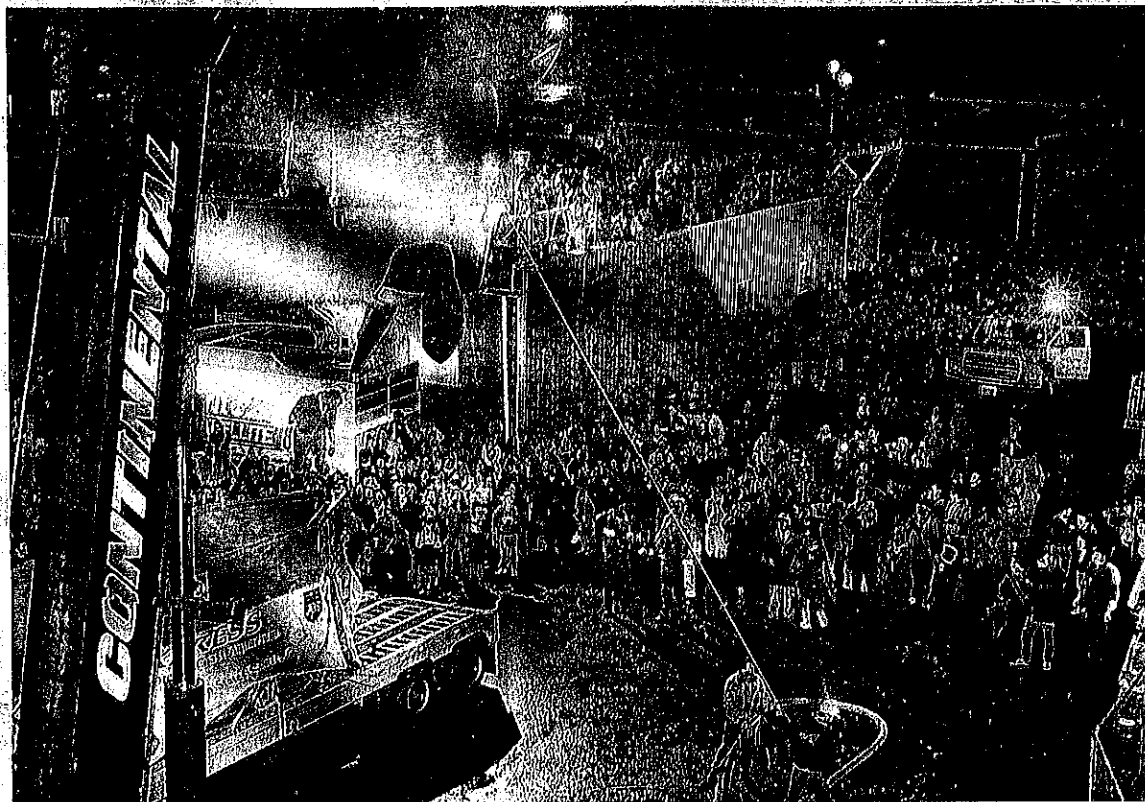


Keiko’s final appearance at Reino Aventura is a surreal drama, fraught with tension.





In a chilly rain, 4,000 Oregonians turn out to watch the strange spectacle of a killer whale being deploied by crane.



State's Center for Whale Research. Animal-welfare groups would take over Keiko's care in Mexico City, Balcomb suggested. When the whale had sufficiently recovered, he would be airlifted to a protected cove in Puget Sound, trained in survival skills and eventually returned to his native waters. There he would rejoin his family, find a mate and live happily ever after.

As Balcomb knew, a few dolphins had been successfully released from long captivity. But this would be an orca first. Could it work?

It is 1:30 a.m. on Sunday, January 7. Four hours after his ordeal began, Keiko is loaded into an ice-water-filled, steel-and-plywood crate—27 feet long by seven feet high, with a sticker reading This End Up. Riding on a flatbed truck, Keiko is escorted by a dozen official cars and 20 motorcycle police. Hundreds of fans pack the exit of the amusement park, chanting their idol's name.

The madness starts immediately. Scores of Keikophiles in battered jalopies join the motorcade, and the 15-mile trek to the airport takes nearly two hours. The police are ignored as they try to break up—or break through—the honking, high-speed tangle. Some of the motorcycle cops have brought their kids along, which does nothing for their efficiency. Time and again, the wild catavan screeches to a halt. In one five-minute period, four collisions occur. Two people are injured, but no whales.

Keiko arrives at the airport at 3:30 a.m. Maybe someone forgot the measuring tape: The giant box gets stuck in the doorway of the C-130 cargo plane. For two hours, as Keiko sends bursts of spray over the top of the crate, movers struggle to get him on board. Finally, at 6:00, the box has been shoved in, and the plane lumbers into the lightening sky.

Keiko dozes peacefully during the nine-hour trip, his metabolism lowered by the ice.

At Reino Aventura, Keiko had known love as well as pain, and to a member of his species, love is no negligible thing. Orcas, also known as killer whales, may be ferocious—tearing through schools of fish like lawn mowers,

scarfing down seals, ganging up on cetaceans twice their size—but they're big on bonding. In nature, they travel in pods of a few dozen, with smaller groups hunting, playing and chattering together their entire lives. In captivity, orcas are as demonstrative as sheepdogs, and none more so than Keiko. As accounts of his predicament spread, so did testimonials to his character. Here was an animal who liked to have his head scratched and his tongue rubbed. He adored kids. "Sometimes when adults tried to touch him, he'd move away," says trainer Fernandez. "But never children. If he saw a child by the edge of the pool, he'd swim over. He knew they were special." Once, Keiko rescued a two-year-old boy who had tumbled into the tank.

Such a creature was, to millions, eminently worth saving. After LIFE first reported on Keiko's troubles, in November 1993, Balcomb's campaign was showered with contributions. But the Alliance of Marine Mammal Parks and Aquariums, which represents the \$600-million-per-year seaquarium industry, challenged Balcomb's plan. Contending that a tame orca would likely die at sea, Alliance officials persuaded Reino Aventura to put them in charge of Keiko's treatment and relocation. By May 1994, Alliance member Sea World, along with Warner Bros., had funded several improvements: a new cooling system, a better diet. But Keiko was as sick as ever, and efforts to move him were ➡



Trainer Corral finally breathes easy. By day two in Newport, it is clear that Keiko is thriving.

At 7,720 pounds, the cargo plane's passenger outweighs the first-class section of a DC-10.

still going nowhere. At last, *Free Willy* producers Donner and Shuler-Donner phoned Dave Phillips.

Phillips, executive director of the Earth Island Institute—best known for its triumphant 1980s save-the-dolphins fight—was reluctant to commit resources to just one orca. But Earth Island's "big goal," he says, "was to change the way man perceives animals. If we could make people care about the fate of a single whale, we could make them care about *all* whales"—and perhaps about marine pollution and overfishing, too. "We began to think that Keiko could help save the oceans of the world."

Phillips adopted elements of Balcomb's plan—the airlift to the chilly Northwest, the ultimate return to Icelandic waters. But instead of trying to cure Keiko in Mexico City, Phillips would heal him in a new marine-mammal rehab facility—the world's first. He established the Free Willy Foundation, and seed money poured in, including \$1.5 million from bake sales and car washes across the U.S. Reino Aventura, happy to solve its PR problem, agreed to hand Keiko over, gratis.

Late last year construction was completed on Keiko's dream home, at the Oregon Coast Aquarium in Newport: a two-million-gallon tank, four times bigger than the one in Mexico. Filled with healthful 40° seawater from nearby Yaquina Bay, the new pool featured reversible currents to work against, waterjets to play among, even submerged rocks for navigation practice (orcas use a natural form of sonar). Keiko's spa also had a freezer with space for a year's supply of seasonal seafood; healthy, he will consume 300 pounds a day. And though Keiko would dance in private for exercise, he would no longer perform for a crowd. He'd simply go about his massively graceful business, watching his admirers watch him through an underwater window.

But would he like it?

Now, at 11 a.m. on January 7, the more pressing question is: Will he get there? Rotten weather promises to make landing at the Newport airport hazardous. The pilots intend to land in Portland, which would mean a three-hour drive to the aquarium. After a night of sleeplessness and snafus, Phillips finally loses his manners. If an exhausted Keiko dies en route, he snaps, "you guys are gonna look pretty bad." Haunted by visions of Willy roadkill—and the accompanying headlines—United Parcel Service officials in charge of the transport make the call: Newport it is.

At 5:30 p.m., Keiko is suspended above his fancy new tank. For the first time on the voyage, he begins to thrash. And when the sling is removed, he plunges deep beneath the surface, then swims up to his handlers with a mighty whoop. He is probably just exploring the terrain with sound waves. But to human ears, it sounds like a shout of joy.

By his second day in Newport, Keiko is probing the pool's recesses, moving with an energy that stuns even his trainers. He's eating like a horse—*many* horses—and gaining weight. He visits the viewing window often, peering at kids who donated lunch money to help him. "There's Willy, Mommy," a young boy exclaims. "He's big!" "God," says his mother, "he's so much more beautiful than I'd imagined."

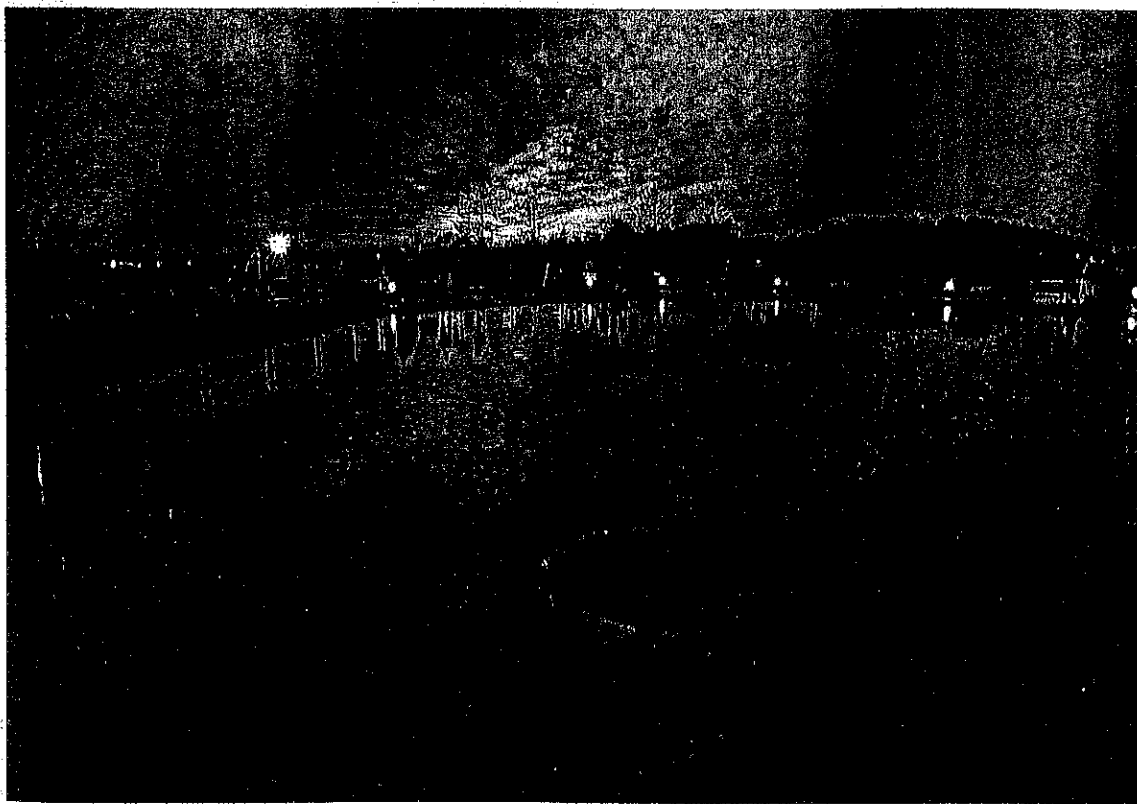
Beauty, however, won't get Keiko far in Iceland. This is a killer whale that has learned to get along with dolphins—animals that his kind often eats for dinner. "He has lost his aggression," says Fernandez, who fears wild orcas will reject, perhaps even attack him. Dr. Lanny Cornell, a San Diego cetacean specialist who oversaw

Keiko's move, gives him better odds. "He'll have to fight to survive," says Cornell. "But he has a strong survival instinct."

Now that Keiko has the room and the strength to leap, he can glimpse Yaquina Bay, 100 feet away. Unlike Willy at the end of the movie, Keiko won't be able to reach the sea by jumping a wall. But if he's lucky, he might see a few Pacific orcas, who come once or twice a year to hunt for sea lions. And if the wind is right, he may hear a scrap of news—and draw a bit of motivation—from the world he left behind so long ago. □

Reporting by **Dirk Mathison**

The sun hasn't set on Keiko's saga. Trainers in Newport will teach him to catch live fish, hoping to rekindle his long-lost instincts for the wild.



Whether Keiko can ever return to Icelandic waters is a question still to be answered.

## APPENDIX V

*Information supplied by Living Design an associate of The Cousteau Society on the Cousteau Ocean Centers - An alternative to live-animal displays.*



## The Cousteau Society

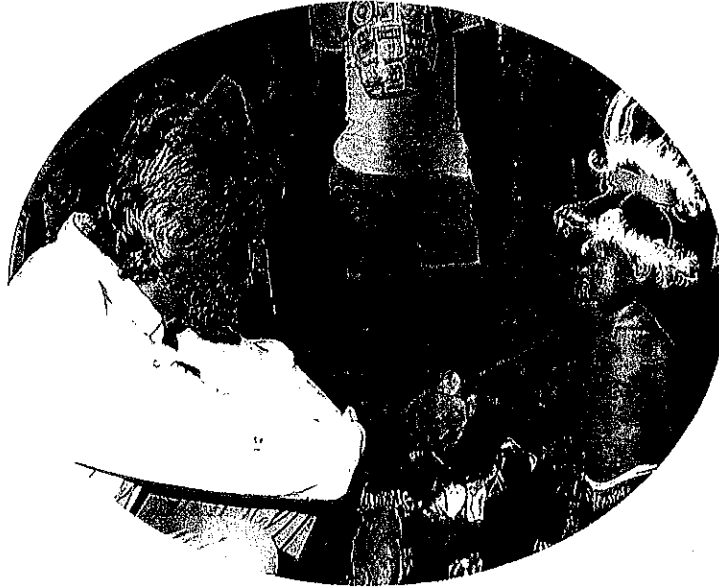
### THE COUSTEAU SOCIETY and COUSTEAU OCEAN CENTERS

The Cousteau Society is a membership-supported, not-for-profit corporation with over 300,000 members throughout the world. Its mission, as outlined by Captain Jacques-Yves Cousteau, is to protect and improve the quality of life for present and future generations. The primary work of the Society is education — education through the medium of television, education through the medium of print, and most recently, education through the medium of public attractions.

The Cousteau Society adopted as a priority the creation of Cousteau Ocean Centers, public facilities that are both educational and highly entertaining; Centers where visitors will participate in a rich and meaningful experience that will have lasting impact. The first Center opened in Paris, France in July 1989. It is the goal of the Society to develop other Centers in locations where a significant number of people can be reached with the Cousteau message.

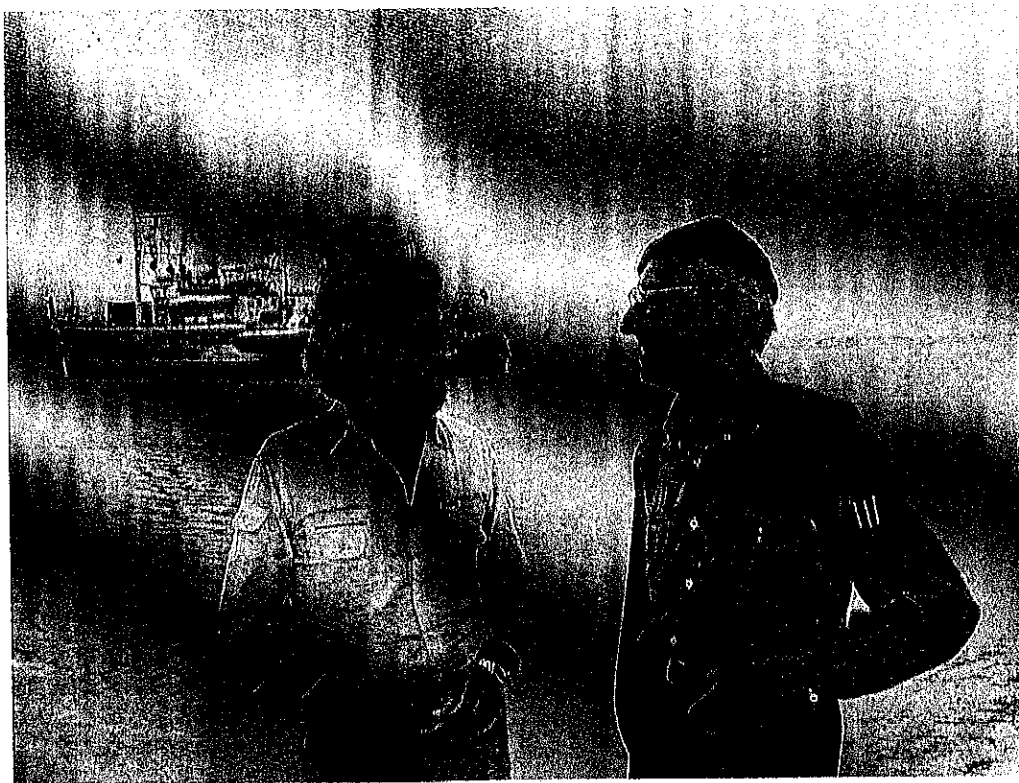
In the spirit of the Cousteau philosophy, the Cousteau Ocean Center, a unique ocean-theme pavilion, takes visitors on a voyage of personal discovery into the undersea world. Through the skillful use of sophisticated illusion and film, experiences are created which lead visitors to care about life on our water planet. The experiences are personal, powerful and emotional. Unlike museums, intended primarily to convey information, the Cousteau Ocean Center sets the stage for visitors to learn while participating in an exciting experience. A visit to a Cousteau Ocean Center is the next best thing to being on a Cousteau expedition.

During the visit, participants experience a cycle of personal feelings. First, guests are awed by the beauty and majesty of life. This positive feeling causes visitors to fear losing this life, unique to our planet. Finally, they are encouraged to dream, to imagine, and to believe in their own personal potential to make a difference to the quality of life on Earth.



Both Captain Cousteau and his son Jean-Michel have long been aware that the future of this planet lies in the hearts and minds of children. They also believe that it is up to us who now shape the world to responsibly guide and educate these rising leaders, to show them ways to live that are in harmony with the natural world.

Since 1985, *Alcyon* and *Calypso* have carried Cousteau teams on a mission to rediscover the world. Their objective is to gather data concerning the health of the planet and the effects on it from a burgeoning global population. It is our hope that these records will better equip the decisionmakers who succeed us to protect the delicately balanced systems that ensure life on this planet. Only time will tell if the mission was accomplished. Today, our most promising sign is the light in a child's eye at the moment of discovery.



© THE COUSTEAU SOCIETY

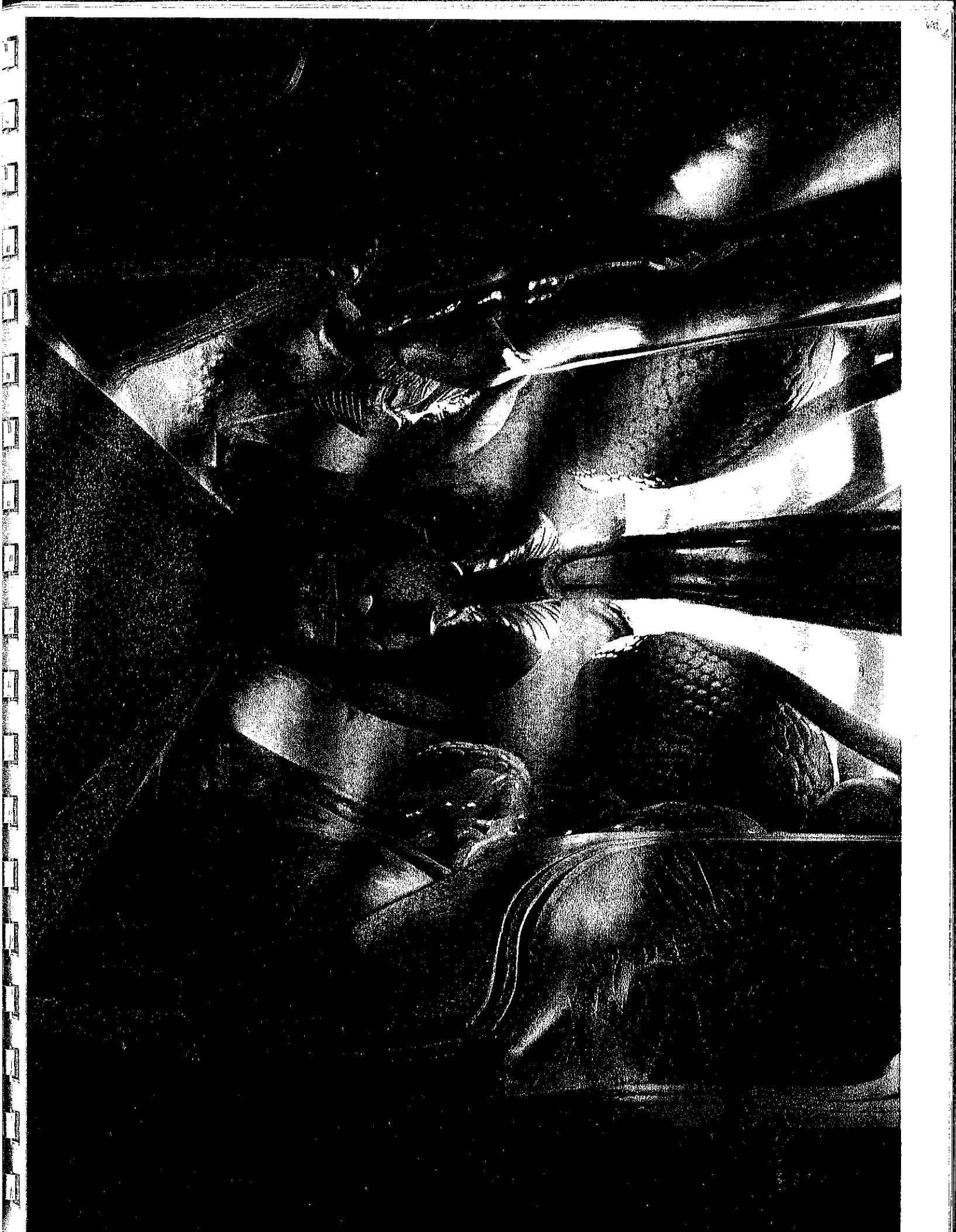
**W**e are explorers, believing that humanity must better educate itself about the exquisite and inexorable mechanisms of life on this planet — and how those mechanisms can be interrupted. We are communicators, using words and pictures to educate living and future generations about our biological home. We are advisers, representing a kind of international “State Department” for the environment, trying to educate the world’s most powerful decisionmakers about the ecological ramifications of their decisions.

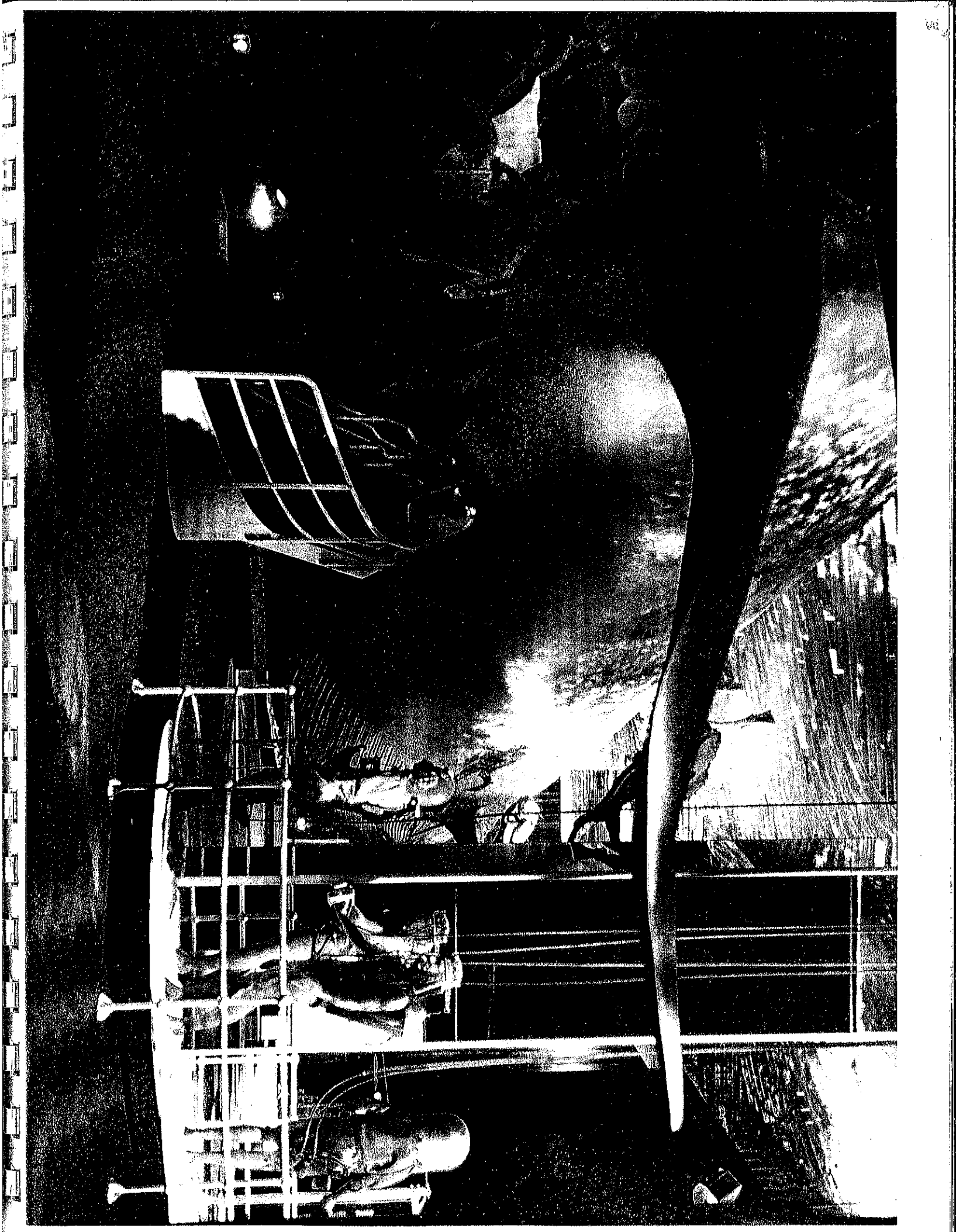
*Y. Cousteau*  
*J. Cousteau*



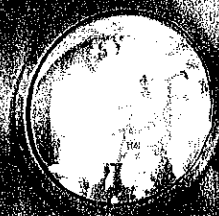
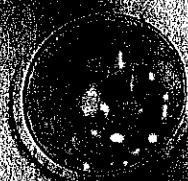




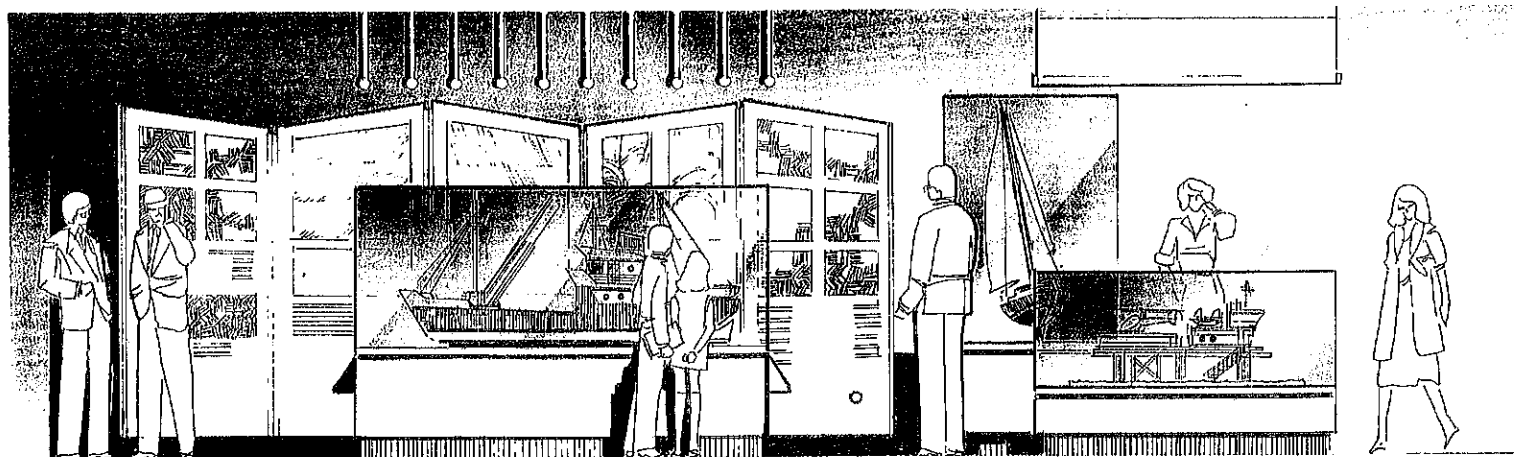








## *Exhibitory: Permanent and Temporary*



*Design and Production*

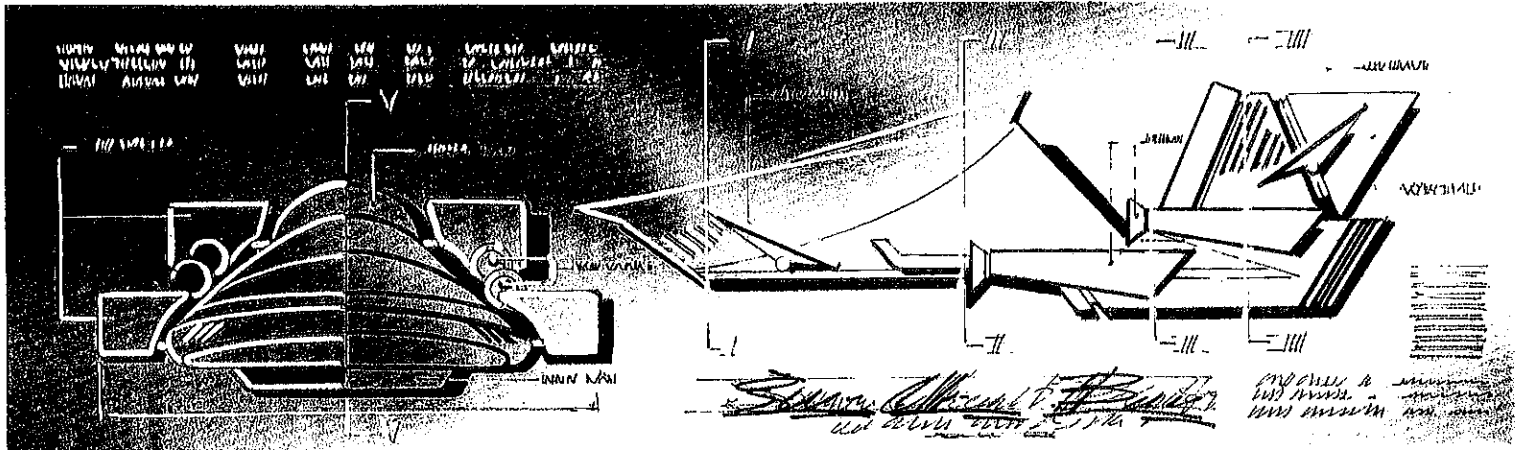
Exhibitory is a principal endeavor of LIVING DESIGN, because it is a medium providing direct contact between the public and an educational experience. Our goal is to complement other environmental education media, such as films and books, with exhibitory that achieves what the other communication forms

cannot. Our efforts are directed toward innovative conceptual designs and production of major permanent museums, pay-to-view attractions, modular exhibits, and product designs, using state-of-the-art techniques. Though our main slant is on exhibits devoted to the sea, we also create attractions about any environment, and about the relationship between humanity and nature.

It is our belief that excellence of design is the starting point for any exhibitory project, and if produced properly, an exhibit can disseminate information in an entertaining way, regardless of the visitor's level of interest or available time. Our design concepts can be adjusted to suit virtually any circumstances.



# Product Development



## Research and Development

Over the years, Jean-Michel Cousteau and his team have served as design consultants in many areas of product development, particularly in the creation of equipment for undersea exploration — such as streamlined scuba backpacks, underwater electric scooters, advanced underwater 35mm cameras and lighting systems, and Zodiac inflatable boats. Other staff members have broad experience in other fields of

commercial product design, as well as in graphics and music.

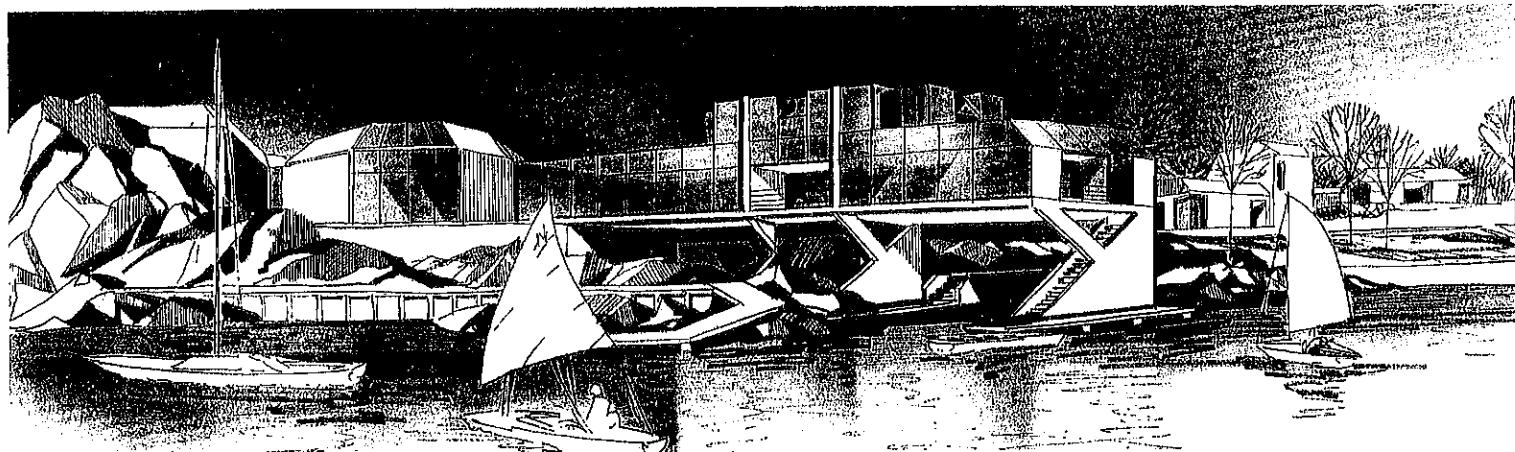
LIVING DESIGN can provide consulting services leading to the design and production of new products that are harmonious with our environmental philosophies, that contribute to education, or enhance the ability of the public to enjoy and protect nature.

LIVING DESIGN also designs a variety of merchandise products that are environmentally oriented,

and that carry messages about ecology or support ecological programs. Such programs can range from T-Shirts, posters, pins, and toys... to energy-saving devices and anti-pollutants.

We welcome proposals from companies interested in joining forces with LIVING DESIGN to create new and valuable products.

## *Education and Entertainment*



*Interactive Learning Centers*

During the past two decades, new ideas and new technologies have radically changed the concept of a museum. The traditional image — staid, dry, passive — has been replaced by the notion of a life through the magic of computers, video games, lasers holograms, and interactive multimedia. The dusty silence of aging museums is being replaced gradually by lively exhibits that entertain while informing.

Jean-Michel Cousteau and his associates have contributed to the development of these new concepts over the years, and have made such projects a major objective of LIVING DESIGN. Our experience in the design of ocean and environmental education exhibits is unequalled, from traveling exhibits to permanent, large-scale centers.

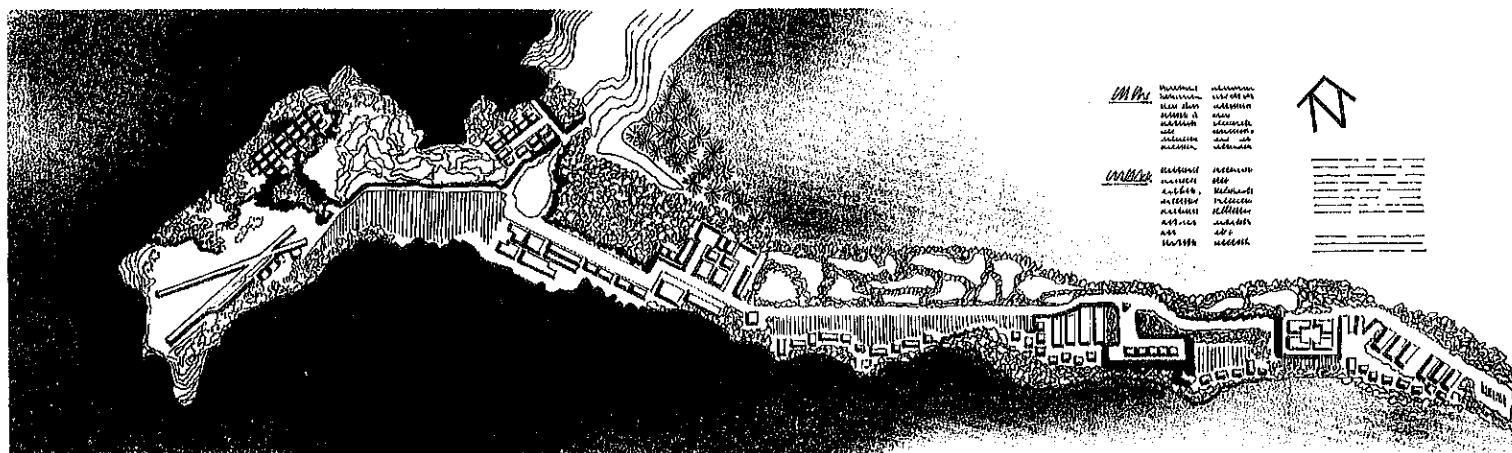
We believe that the only way to capture the public's attention and to encourage learning is to make exhibits relevant, exciting, and unusual. At a seaside location, for example, we might design a communications center linked to an array of closed-circuit, live video cameras positioned along the seafloor, enabling visitors to witness wildlife without getting wet or intruding on natural events. One of the underwater cameras might be trained on a diving naturalist, who is equipped to hear and answer questions from the observing tourists.

LIVING DESIGN also operates "Project Ocean Search," a marine ecology/education field-study program begun by Jean-Michel Cousteau more than two decades ago. Project Ocean Search provides an opportunity for the public to learn about the ocean through a Cousteau

expedition-like experience. It has been conducted in the Caribbean, the South Pacific and off the east and west coasts of the United States.

Similarly, LIVING DESIGN offers educational workshops, conducted by Jean-Michel Cousteau and our staff, for teachers, business executives, and politicians. The goal is to greatly amplify appreciation and knowledge of the sea, so that educators will carry new perspectives into our schools and business and political professionals will incorporate environmental considerations into their decisions.

LIVING DESIGN has plans for a permanent island facility where such educational programs could be expanded, and where we could conduct as well scientific studies, equipment tests, and alternative energy experiments.



*Master Planners / Technical Advisors*

The dream is nearly universal: to escape the modern world to a more natural, more soothing setting... perhaps an empty beach in the tropics, freshened by gentle tradewinds, bordered by a turquoise sea. For more than a century, resorts around the world have tried to provide vacationers with such experiences. But often, ignorant of the environmental impacts of poor planning, developers have built ill-conceived projects that actually damage the natural world they depend upon to lure guests. Today, many of the most famous tourist destinations in the world are suffering the consequences of unregulated growth and inattention to the fragility of local ecosystems.

At the same time, an escalating number of people — many awakened to the wonders of nature by television programs like the Cousteau series — are planning their vacations around

nature-oriented attractions. Aware and concerned, they want to enjoy nature without contributing to its degradation.

LIVING DESIGN, INC. provides services to guide developers in the creation of master plans to ensure that proposed tourism facilities will not damage the natural environment. Our staff conducts scientific studies of local ecosystems, identifies potential problems, and develops an architectural design which will pose no threat to the environment. Jean-Michel Cousteau and the LIVING DESIGN staff have participated in such a program in Mexico, where a large-scale tourist project is under development along a pristine stretch of the coast in the state of Nayarit. While the goal in Nayarit is to preserve an undamaged natural setting, LIVING DESIGN also conducts studies leading to the rehabilitation of ecosystems already suffering from tourism abuses in other famous resorts.

LIVING DESIGN also provides designs for educational communication systems at tourism facilities (see EDUCATION & ENTERTAINMENT). Our communications centers at resorts educate visitors in an entertaining way about the natural world they have entered, increasing their sensitivity to its vulnerabilities and enhancing their vacation experience as well.

Ecotourism is not only a growing trend, it is one of the vital solutions leading toward a better world in the future. But to be successful, ecotourism projects must start with thorough investigation, careful planning, and innovative design concepts. LIVING DESIGN has the experience, knowledge and imagination to help you succeed... and to help you protect both your investment and your ecosystem far into the future.