

1997 WATER FRONT CENTER  
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**TRICITIES**  
*Rivershore Enhancement*

This report is submitted to the  
community by the Tri-Cities Rivershore  
Enhancement Council (TREC,) a  
division of the Tri-Cities Visitor &  
Convention Bureau (TCVCB)

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# RIVERSHORE REPORT TO THE CITIZENS OF TRI-CITIES, WA

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APRIL, 1997

Prepared for  
TRI-CITIES RIVERSHORE ENHANCEMENT COUNCIL

by  
THE WATERFRONT CENTER  
a not-for-profit corporation  
WASHINGTON, D.C.



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## Introduction

The co-directors of The Waterfront Center, Ann Breen and Dick Rigby, were invited to the Tri-Cities on April 1 to 3, 1997, by the Tri-Cities Rivershore Enhancement Council (TREC), an initiative of the Tri-Cities Visitor and Convention Bureau. TREC defines its mission as “the community catalyst for rivershore enhancement, to achieve economic diversity and to improve the quality of life.”

### **The Waterfront Center**

The Waterfront Center is a 16 year old non-profit corporation that works with communities of all sizes to help them develop plans and projects to maximize the potential of their waterfront resources. It has worked in over 100 communities in North America and abroad, including Bellevue, Wash., Hood River, Ore., Grand Junction, Colo., and Saskatoon, Sask., Canada, among others.

The Center’s philosophy is to encourage each city and town to aim for the highest aspirations for itself and its waterfront. It encourages bold, visionary thinking, keeping in mind the waterfront planned today may be in existence generations from now. The Center combines these visionary goals with practical, here-and-now implementation. It also emphasizes connections between the waterfront resource and overall downtown and community development efforts.

The Center has organized the major annual international conference on waterfront planning, development and culture since 1983, has published the periodical *Waterfront World* since 1982, and has run specialty workshops on such topics as aquarium planning and management, gambling pros and cons, project financing and “the spirit of cities.”

McGraw-Hill, Inc., published in 1994 *WATERFRONTS: Cities Reclaim Their Edge* by Ann Breen and Dick Rigby (hardback, 220 illustrations, 333 pages, featuring 75 case studies), “the definitive work” on the North American urban waterfront redevelopment phenomenon of the past 30 years (CBS News).

*The New Waterfront: A Worldwide Urban Success Story* by the same authors (London: Thames and Hudson Ltd.; New York: McGraw-Hill Inc., 224 pages, 363 illustrations, 177 in color), released in late 1996, covers 129 waterfront projects around the globe.

## Report Structure

This report is in three parts. Part One summarizes a brain-storming session held Thursday morning, April 3, with members of TREC. They were asked to put forward their individual ideas on three topics:

- The Meaning of the River to the Community and Personal Reflections of the Columbia, Yakima and Snake Rivers.
- The Economic Development Potential of the Riverfront.
- The Proposed Trail System and Public Realm Issues.

Part Two consists of the finding and recommendations of the Center co-directors, based on their review of existing planning documents, interviews with 38 individuals and site inspections covering more than 300 miles. A preliminary summary of these findings and recommendations was presented in the afternoon of April 3 to members of TREC who were asked to comment and critique them.

The recommendations represent the independent assessment and suggestions of the Waterfront Center's directors. Any errors are entirely the responsibility of the Center.

Part Three is a list of Resources on a range of subjects that might be helpful to TREC and the citizens in advancing rivershore enhancement initiatives.

## **PART ONE: Summary of Brainstorming Session**

### **The Meaning of the River and Personal Reflections**

The rivers' potential for a host of actions was perhaps the most often expressed sentiment. Along with this was the sense that the Tri-City communities have a proven track record and has shown the ability to accomplish agreed-upon objectives. The presence of a certain vibrancy and "new blood" in the community was mentioned in connection with the opportunity to make things happen.

Included among the objectives for the riverfront in the Tri-Cities were economic development, including tourism. The potential for recreation was advanced, plus the ability of the rivers to add to the quality of life in the community.

The importance of the rivers to the Tri-Cities area overall quality of life was mentioned more than once. The potential of the area for retirement living was cited as one of the rivers' potential benefits.

Another impression by more than one participant is the sense of openness in the area contributed by the rivers, together with the surrounding hills with their remarkable geology and desert environment. The dramatic size of the river system, particularly of the Columbia, is augmented by the vast skyscape. The rivers help contribute to the sense in Tri-Cities of being an uncongested place. At the same time, there was expressed the feeling that the rivers aren't well known in the community, due in part, it was felt, to a lack of accessibility, and that they were somewhat taken for granted.

Another take on the rivers were that they represented the opportunity to move forward, to get beyond the focus on Hanford and its, at least in part, negative aspects.

The natural beauty of the rivers was mentioned, including its distinctive, changing colors - particularly the "Columbia blue," the bridges and its setting for spectacular sunsets.



## **Economic Development Objectives**

Looked at from another perspective, that of job creation and property enhancement, the group expressed the sense that the timing was good for advancement on a number of fronts along the area's rivers, embracing expanded industrial, commercial and recreational enterprises, at the same time maintaining the river's contribution to the area's sense of openness.

A number of specific business opportunities were foreseen by the group, including an increased number of restaurants taking advantage of river views, a water taxi system connecting various points, the maintenance and expansion of existing port and industrial activity balanced with more public uses.

Among the latter were an entertainment/performing arts and cultural complex; an aquatic center, perhaps focused on the river's history and ecology; cruise boat potential; the planned trail system tying together the communities with active riverside uses (bladers, bikers, skate boarders, hikers); added marinas; more golf courses, including miniature; places for wind surfing, canoes, paddle boats, rafts and jet skis, and places for mobile vendors to set up shop. The potential for Tri-Cities to be a base for people making visits to nearby wineries was mentioned, perhaps with a riverfront orientation facility.

Residential and office developments are planned at Clover Island, among other facilities, in one of the area's most concentrated projects. In Richland a mixed-use development is occurring, while in Pasco the potential of the Moore Mansion for a new and exciting use was mentioned, particularly if the levee severing it from the river could be lowered, even further.

## **The Trail System and the Public Realm**

The group agreed on a June, 1998, target date to have open a continuous 20+-mile loop trail along the Columbia river in the heart of the Tri-Cities, recognizing that certain segments might have to be in temporary or incomplete status. A minimum width of 12 feet was agreed upon as the objective.

It was noted that beyond the core loop, which incorporates the Cable Bridge, Blue Bridge and the Interstate 182 bridge, are trails to the

northwest along the Columbia, to the southeast to an existing Benton County Park and also connecting to paths planned around Clover Island.

The trail opening should be a major occasion and a significant event of the planned "Year of the River" in 1998. One possibility: a Tri-Cities Triathlon involving running, biking and perhaps boating races. To maximize trail use, a brochure/map should be prepared. The need for a distinctive name and logo was mentioned.

In this connection, the group developed the idea for a Friends Of Our Trail (FOOT) organization that would help with promotion, maintenance and cleanups; a community-wide support group for the trail initiative.

An idea that won favor was to have different paving and other characteristics in the different communities and areas of the trail, within an overall uniform design approach. The trail wants to have comfort stations and water fountains along it, plus outlooks, sculptures, interpretive areas, playgrounds and benches, described as "surprise places" along the way. Trees and landscaping will want to be added as budgets allow.

The group agreed with the suggestions that TREC sponsor a walk in the near future along existing and potential trail segments. This could be an occasion for FOOT to be brought into being, and with publicity, will serve to call the community's attention to the trail project and the "Year of the River."



## **PART TWO: Findings and Recommendations of the Waterfront Center Directors**

### **Philosophy**

We feel it is important to keep in the mind the intrinsic attraction of water to all people, that this is, at heart, why a focus on the rivershore is an important initiative. Everyone enjoys something or several somethings about a riverside, provided it is accessible and safe. From active recreational pursuits to quiet contemplation, there is a basic lure of the river that appeals across community's classes, ages and backgrounds.

### **Findings Positive**

- The rivers of the Tri-Cities are a tremendous natural resource, with significant advantage of having much of the rivershore already in or soon to be public ownership. In other communities, rivershore areas very often have to be acquired, a difficult and very costly task.
- The three rivers possess a scenic beauty and, together with the area's benign climate, give Tri-Cities a significant selling point.
- The existence of the Tri-Cities Rivershore Enhancement Council is a plus as a coordinating mechanism, particularly in a multi-jurisdictional community. The participation of a full-time coordinator for at least two years is a decided advantage.
- Already, major elements of a trail system are in place along the core rivershore. Additionally there is active planning to establish by 1998 a full 20+-mile loop uniting the three shorelines of Kennewick, Pasco, and Richland.
- The "Year of the River" campaign planned for 1998 is an excellent opportunity to secure widespread community awareness, support and participation. It is a theme around which myriad events should be organized.
- There is great beauty and high symbolism associated with two of the Columbia River's bridges, namely the Blue and Cable Bridges. Additionally there are railroad bridges with their own industrial beauty.

- Several major public events that draw thousands to the shores, namely the Water Follies hydroplane races, plus the fourth of July festivities have been run successfully for many years and are strong traditions in the Tri-Cities. This suggests the potential for additional events, with different appeals.
- There is now more than ever before a good prospect that most rivershore property in the possession of the U.S. Army Corps of Engineers will be turned over to local jurisdictions outright.
- There is active Congressional interest in the rivershore initiative, which can be critical in many areas, including dealing with the Army Corps.
- The current mixed-use development underway in Richland and the potential developments at Clover Island, at Columbia Point south, and in Pasco are and will be major additions to the rivershore, the economy and attractiveness of the area.
- Tri-Cities is near major population centers, namely a three hour drive from Seattle, four hours from Portland, and two and a half hours from Spokane.
- The Moore Mansion in Pasco is a unique rivershore asset that calls out for a new use. It is still partially obscured from the river by the levee.
- There is a tradition of volunteerism in Tri-Cities, of civic undertakings and the ability to get things done.
- The presence of the state's wine industry in the area, together with its rich agricultural output, is a major potential visitor attraction, with Tri-Cities a natural focal point.
- There are accessible wild areas along the rivershore, which, with trails and other improvements, make an interesting recreational and educational asset.
- There is the prospect, eventually, of getting the levees in the area lowered and thus reuniting major portions of Tri-Cities, particularly Pasco, with the river.

- Extensive rivershore planning has been undertaken by the various jurisdictions involved (three port districts, three municipalities, two counties).
- There are popular public segments of the rivershore now, such as the Par 3 course in Columbia Park, Amon Park in Richland and trail elements in Franklin County.
- The Port of Pasco is an industrial presence on the river that, aside from jobs and economic implications, helps diversify the rivershore.
- Tri-Cities possesses a highway network that allows quick connections among the communities and to other places.
- There is a significant number of newcomers in the area, including some in influential positions, bringing vitality and a “can-do” spirit.
- There is a major Native American heritage and archeology associated with the rivers.

### **Findings Negative**

- There is a sense of remoteness on the part of the Army Corps of Engineers in its dealings with Tri-Cities. Lines of communication to Corps offices in Walla Walla and Portland need to be strengthened.
- There are interjurisdictional and interagency rivalries. TREC, Tri-Cities Visitor and Convention Bureau and Tri-City Industrial Development Council represent efforts to assist in regional plans.
- The area overall suffers from a poor marketing of its assets and appears in part to suffer a bit from an inferiority complex, probably exacerbated by jokes made at its expense because of Hanford.
- The levees unfortunately sever Pasco and downtown Kennewick from their river assets and effectively preclude any meaningful rivershore development, unless bridges from them are created as in the Clover Island plan or the levees are pierced as suggested in Pasco’s plan.

- There is generally poor public access to the river - in part a function of the levees. Ways (foot and road) to the rivershore are generally poorly marked.
- Columbia Park, an extraordinary asset, shows signs of neglect and low usage, both contributing to an expressed feeling of safety concerns. The highway is a major barrier between the upland and the park.
- There is a certain lack of boldness in the current river plans, the absence of a single dramatic focal point, something that would come immediately to mind when rivershore plans are mentioned. Also, there is an unevenness to current plans, some being detailed and advanced, other more conceptual.
- Within the community there is divided opinion about the extent or lack of current river usage. To some, the river in summertime was crowded with boats and activity. To others, it remained relatively quiet and under-used.
- The basic master plan document for the rivershore as a whole is ten years old and is in serious need of updating.
- Evident along the rivershore and elsewhere in the community is a lack of emphasis on high quality design, in such features as public park facilities, signage, benches, picnic tables, pavements, etc.
- There are unresolved issues of Native American land claims that will have to be settled before advances in certain areas will be possible. There are major related issues regarding salmon runs.
- There seems to be, given the size of the resource, a relative lack of docking facilities, boat landings and launching facilities as well as limited facilities at which boats can be rented or instruction undertaken.
- The rich and diverse history of the area is under-celebrated, a few Lewis and Clark plaques notwithstanding. This would seem particularly so with respect to Indian settlements, but also to other histories, including that of the history and science at the Hanford Reservation.





- There is an apparent absence of commercial boating, with cruise trips from Portland, Ore., passing through the area, and dinner boats not available as might be expected given the scenery and population. Likewise, there are limited restaurants/bars/cafes on the river.

## Recommendations - In Approximate Priority Order

### Levees.

- There needs to be a unified push begun immediately for early action (within six months) by the Army Corps of Engineers on levee lowering. We suggest that the three cities, three port districts, two counties, the Member of Congress and U.S. Senators from Washington unite in such a request.
- We suggest that TREC provide the leadership. And that accomplishment of the lowering be paid for principally by the Corps, by way of special legislation if necessary, and that action start at Pasco where the separation of city from river is the most detrimental to rivershore enhancements. Otherwise we sense the Corps may take years to deal with this imperative. Proposals to remove dams from the Snake River should take this objective into account.

### Trail.

- We urge formal adoption by TREC of the goal of opening a trail loop by June, 1998, (if it hasn't already been done) and that this be communicated to the public. In conjunction with such an announcement, launch a "name-the-trail" contest, after which a logo should be designed to place along the trail (signs, etc.). Issue inexpensive (photocopied) trail maps beginning now, with periodic updates, showing what's in place and the planned next phases. Point towards a major public event in June, 1998 (is there an historic date to tie to?) With some celebratory event such as a Tri-Cities Triathlon.
- We recommend the early formation of a citizen's advocacy group for the trail, suggested name: **Friends Of Our Trail (FOOT)**. This will provide a vehicle for citizens who want to get involved. Early tasks can include trail blazing and cleanup, help with events, tree and shrub plantings and so forth. Organized by TREC, it means a broadening of the rivershore effort into the community.
- We like the idea of TREC sponsoring a trek on the trail now - a **TREC TREK**. Again, an opportunity to put FOOT into being and to give people a chance to become directly involved. This would enable many

to see parts of the river they perhaps have never experienced before. FOOT could also be involved in rivershore cleanups and trash collection. Could be followed by a celebration in one of more of the parks.

**National Heritage River.**

- We think application should be made for National Heritage River designation (the Columbia River from Hanford Reach to the Snake River), not so much for any tangible benefits but for the publicity and national endorsement of your “waterfront revitalization” effort (the President’s phrase) or rivershore enhancement (the Tri-Cities phrase), and thus provide more leverage in dealing with the Army Corps on the levee lowering issue.

**Major Project.**

- TREC should act soon to set its sights on a major second-phase project, post the 1998 launch of the trail loop (and recognizing that continuing work on the trail will be needed). Something on the dramatic side that will grab people’s imagination. We personally like the idea of lighting either the Cable Bridge (our favorite) or Blue Bridge for the high impact and symbolism (bridges uniting communities). Other suggestions: a major fountain, a historic carousel installation or historic river boat docked in Tri-Cities.

**Columbia Park.**

- We recommend a thorough revisit of the Columbia Park plan. Beyond needed infrastructure improvements, a look should be taken at revised and improved facilities, all with an eye to attracting people on a regular basis, whose presence will create a safer feeling and encourage still others to use the park. Such thing as a large children’s play space, imaginatively designed; activating the softball fields (if this is a major sport in the area as the good weather suggests); attractive barbecue and picnic areas; tennis courts (again, trusting this is a well-enjoyed area sport, and if not, some other active recreational installation, even another Par 3 course); a Tri-Cities Community Center, for public events, a facility to augment the Kiwanis building. Plus installation of banners and provision of food and drink vendors in good weather, again with an eye to enlivening the park and making it attractive to the public. Improved signage and access plans are also needed.

**River Activities.**

- A number of river activities suggest themselves, some near term and others perhaps down the road. A water taxi makes physical sense if funding can be secured. Is a dinner/tour cruise boat feasible and can an entrepreneur be enticed into the area? Canoe rentals at the Yakima Delta seems a natural, again with a commercial operator. A community boating center, where children could learn water safety on various craft and where rentals would be offered, perhaps in conjunction with the community center above, is another way of getting more people on the river and into Columbia Park.

**“Year of the River.”**

- In 1998, we suggest a priority project be the development of an overall river recreation plan. What is the extent of usage now? This entails a river use census so that an accurate picture of what kinds of users, in what numbers, can be obtained. A questionnaire of present users will identify needed facilities. From this a plan for expansion and addition can be developed. Can probably be done in-house (that is, using existing staffs).
- For the “Year of the River” we recommend an event a month at least. Plus one major, signature event focused on the river and its history (apart from the existing Water Follies). This could be a focus for FOOT. We read, for instance, of a First Feast event in the spring of the 1840's celebrating the salmon run. Is that a possible occasion to re-create?
- Other “Year of the River” projects, again with some donated labor possible, could include building additional beaches, adding docks, building benches and placement of trail signs. The latter should be along the trail and at points of entry (for cars and pedestrians/bikers). A design idea for the trail sign: individual community or section identifications as part of a uniform sign.
- Along with the trail sign system, in the “Year of the River” begin the addition of well-designed interpretive signs at key locations. If only a few can be installed in 1998 (by corporate sponsors?), at least an interpretive program would be in motion. We would include natural, historic and cultural features.



**Clover Island.**

- We suggest a revision is necessary of the Clover Island development plan to make sure it has a large amount of welcoming public spaces. Our concern is that the present plan may feel overly private and might suggest an exclusive enclave, not friendly to the general public. The public path should run along the marina, for instance. There need to be viewing places, perhaps a tower, concessions and other park-like features. The condominium project should have small shops and other aspects of a village center vs. a totally residential and private space. With local public monies involved, a clear picture of what public facilities are to be provided needs to be conveyed. There is the opportunity here to create a lively mixture of uses and activities. For the wildlife habitat areas, some major education and interpretation would be a welcome addition for the public and an attraction.

**Visual Access.**

- We have one concern about the development taking place on the Richland rivershore, namely that it not completely block river views. We suggest identifying the best view corridors to the river from George Washington Way, incorporating them into the existing plan and seeing that planned future restaurants and office installations respect these corridors. Otherwise a sealing off of the river at this important, well-traveled location could occur.

**State Museum at Sacajawea.**

- Can the closed state museum's collection at Sacajawea Park be moved, say to Columbia Park, South Columbia Point or be included as part of Pasco's rivershore plans? It seems a shame to have a collection in place but not available to the public. Can the state turn it over to a local government or a non-profit group?

**Columbia Point South.**

- This area is a prime rivershore location and one imbued with Native American tradition. Two things occurred to us viewing the site: here is an ideal location for an interpretive center about the river, emphasizing the Native American history of the area. Given the prominence of the site, the design and siting of any structures would be extremely critical. Any facility would have to be coordinated with the cultural facilities planned elsewhere on Columbia Point. Absent a museum/interpretive

center, a major public art piece or pieces might pay homage to the river and the Native American history.

**Resorts.**

- TREC or another body may well want to undertake a small study of the feasibility of the resort facility identified in the existing plans for Columbia Park. Existing hotel occupancy levels make it seem unlikely. Our sense is that space in Columbia Park should not be reserved forever for a resort, if some other public facilities want to be located on the site(s).
- To attract more occupancy in the Tri-Cities overall, could the present cluster of facilities on Columbia Point in Richland be upgraded, geared to the resort market and packaged together as a “resort” destination, particularly given the attractive golf course under construction nearby? Sharing or adding such resort facilities as fitness equipment, spas, massage facilities or other sports and entertainment. Promoting special tours to the wineries and up the Hanford Reach as part of getaway package? We also suggest local scenic or historic photographs and artwork, plus use of local colors, in the main reception areas and bedrooms to distinguish the hotels from the run-of-the-mill. Perhaps some of the artwork/photography could be on loan or on sale.

**Bateman Island.**

- The island struck us as a wonderful natural resource area, readily accessible with great potential for nature study. Can rest rooms be installed and the FOOT organization assigned a kind of patrol function to help maintain trails, provide a type of security and protect the potties? Could regularly scheduled police patrols be added?

**Retirement Community.**

- The weather, river recreation possibilities, scenery, golf, wineries, openness, ease of getting around and relative low cost of living would seem to make a good retirement case. In the marketing of the Tri-Cities and its river resources, the idea that the area is an ideal retirement place seems logical.

**Port of Pasco Tours.**

- TREC should undertake tours of the Port of Pasco, so that the resident population and visitors can learn what goes on here, its economic

importance and how it works. We find that there's fascination today in industrial activity as more employment is in service fields.

**Recreational Fishing.**

- Given the apparent popularity of fishing, are there locations that suggest fishing piers and possible related retail shops? Only two were identified on the Enhancement Plan map. See Resources for the Wallop-Breaux Program that provides possible funding for same.

**Study tours.**

- TREC should undertake select study tours of rivershore facilities that contain interesting lessons. The Spokane Centennial Trail, Portland Waterfront Park, Willamette River Greenway and water taxi, Saskatoon trail interpretation center and program and Granville Island project in Vancouver, B.C., come to mind. Bring along media representatives to blunt suggestions of a junket. Call in advance for appointments for briefings.

**Volunteerism.**

- Can the local arts community become involved with TREC or FOOT projects? As in design of the interpretive sign program, for instance, or undertaking public art projects such as a wind sculpture. Likewise, can local college students be recruited as free labor to help on certain projects, a rivershore cleanup for instance? We trust the network of civic clubs is going to be involved in "Year of the River."

**Swimming Pool.**

- Is there a need for a swimming pool to replace the lagoon that people mentioned as a much-loved place? Would it work in today's climate? There certainly is space in Columbia Park and if it would work, it would be a major people magnet there.

**The Hanford Story.**

- While we understand the CREHST museum will cover Hanford, will their exhibit tell the entire story? If not, an interpretive center somewhere in the Tri-Cities area should fill in the pieces not covered at CREHST. This is such a fascinating story that people everywhere would be interested in. Whether it needs a river location is a question.





## **PART THREE: Resource Materials**

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### **Aquariums/Environmental Education**

*Aquariums Windows To Nature* by Leighton Taylor. Prentice Hall, New York. 1993. \$35.00. Available through the Waterfront Center.

*The Urban Ecologist*. A 24-page journal. Contact Urban Ecology, 405 14th St., Suite 900, Oakland, Calif. 94612. 510-251-6330.

### **Art/Design**

National Endowment for the Arts:  
1100 Pennsylvania Ave. N.W. Washington, D.C. 20506  
202/682/5400

The NEA conducts a grants program to assist communities and non-profit organizations with planning and design issues typically under the categories: "Planning and Stabilization" or "Creation and Preservation." NEA gives grants annually. Guidelines are available towards year's end and submissions are usually in the spring. Call for a copy of the program guidelines towards the end of 1997 for 1998 submissions to begin funding in 1999.

*Going Public: A Field Guide To Developments in Art in Public Places* by Jeffrey L. Cruikshank and Pam Korza. ISBN 0-945464-00-2. The Arts Extension Service in cooperation with the visual Arts Program of the National Endowment for the Arts.

*Placemakers. Creating Public Art that Tells You Where You Are*. Ronald Lee Fleming and Renata von Tscharnier. 1987. Harcourt Brace and Jovanovich, Inc.

*Saving Face: How Corporate Franchises Can Respect Community Identity*. Planning Advisory Service. 1994. American Planning Association. 1313 East 60th St. Chicago, Ill. 60637. \$24.00 plus \$5.00 for shipping.

*Earthworks and Beyond.* John Beardsley. Abbeyville: 1984. This book has been updated and reprinted.

*Public Art: Walking Tour* (Portland Oregon) Contact: Metropolitan Arts Commission, 1120 S.W. Fifth Ave., Room 1023, Portland, Ore. 97205. 503/823-5111.

*A Field Guide to Seattle's Public Art.* Diane Shamash and Steven Huss, editors. 1991, Seattle Arts Commission. 305 Harrison St., Seattle, Wash. Distributed by Sasquatch Books: 206/441-6202 or through your bookstore. \$15.95.

*SKETCHBOOK: "Cincinnati Gateway" Main entrance to Bicentennial Commons Park, Sawyer Point, Cincinnati.* Andrew Leicester in collaboration with Meyer, Schere & Rockcastle, Architects, Minneapolis. Contact: Andrew Leicester, 199 North 2nd St., Minneapolis, Minn. 55401-1420. 612/729-4878. \$20.00 plus \$3.00 for shipping and handling. A set of 12 color slides along with complete description of the Gateway also available: \$25.00 plus \$3.00 for shipping.

### **Aquatic/Amusement Parks**

World Water Park Assoc.  
P.O. Box 14826  
Lenexa, Kansas 66285-4826  
913/599-0300  
Attn: Al Turner, exec. dir.  
Annual meetings and workshops.

International Assoc. Of Amusement Parks and Attractions  
1448 Duke St.  
Alexandria, Va. 22314  
703/836-4800  
Annual Conference.

Literature on amusement parks:

"Amusing the Millions," (Coney Island) by John f. Kasson, 1978. New York: Hill & Wang.

"Fun Land U.S.A." by Tim Onosko, 1978, New York: Ballantine Books.

"Riverview - Gone but not forgotten 1904-1967" by Chuck Wlodarczyk.

1984 - 7th printing. Chicago: Riverview Publications, 5246 N. McVicker, 60630.

## **Boating/Marinas**

Fish and Wildlife Service Grant Program.

A 5-year grant program will provide boaters more places to get rid of waste by awarding money to states for construction of pump-out and dump stations. Guidelines and more details are available through the U.S. Fish and Wildlife Service.

Contact: Bob Pacific, U.S. Fish and Wildlife Service, 703/358-1845.

*Dingell-Johnson/Wallop-Breaux: the Federal Aid in Sport Fish Restoration Program Sport Fish Restoration Handbook.* Third Edition. The Sport Fishing Institute. Sport fish Restoration Overview Program. 70+ page pamphlet.

Contact: American Sport Fishing Association, 1033 North Fairfax St. Suite 200, Alexandria, Va. 703/519-9691. Cost: \$5.00.

This handbook provides an extensive list of offices and people to contact for assistance throughout the country. "Almost any type of sport fishery restoration, management, or enhancement project is permissible under the law." Examples cited include such things as boating access development and maintenance, lake construction and maintenance, and land acquisition. It should be noted that each state must spend at least 10% of its annual apportionment on development and maintenance of boating access facilities if constructed and achieve a state fishery management objective. These could include: ramps and lifts, docking and marina facilities, breakwaters, fish cleaning stations, rest rooms and parking areas.

*Marina Developments.* W.R. Blain, ed. 1993. Computational Mechanics Publications. Hardbound, 301 pages with photos, drawings and diagrams. Contact: Computational Mechanics Inc., 25 Bridge St., Billerica, Mass. 01821. 508/667-5841. FAX: 508/667-7582. Cost: \$118.00 plus \$5.00 postage and handling.

This compendium of articles by several international authors adds to the literature available. This resource reflects the international trend in marina development. Numerous photos and charts accompany the readable text. An overview of marina developments comprises the first chapter and

discusses the growth of the field in the last 20 years. Other chapters cover such topics as: the legal aspects; feasibility studies; environmental considerations; modeling tidal flows and flushing in marinas; design and construction; dredging; management and economics and marina architecture. The final chapter on marina architecture deals mostly with residential developments keyed to marinas or as mentioned elsewhere in the book "village marinas." While the author makes an eloquent case for contextual, sensitive, interesting waterfront design all done with attention to detail - things we all believe in - the ideal of public accessibility to and along waterfronts is not part of most of the projects or pictures displayed.

Passenger Vessel Association. 1600 Wilson Blvd., Suite 1000-A, Arlington, Va. 22209. 703/807-0100. Publishes a newsletter, *Foghorn*, and holds annual meetings. Dinner, cruise, and gambling boat operators and suppliers belong to this organization. May be helpful on water taxis as well.

National Marine Manufacturers Association. 200 E. Randolph Dr., Suite 5100, Chicago, Ill. 60601-6528. 312/946-6200. Publishes a newsletter, *Inter/port: News and Views for the Recreational Boating Industry*.

International Marina Institute. 35 Steamboat Ave., Wickford, R.I. 92852. 401/294-9558. Contact: Paul Dodson.  
Community Sailing Programs

*1995 Community Sailing National Directory*. Contact: National Marine Manufacturers Association, 401 N. Michigan Ave., Chicago, Ill. 60611. 312/836-4747. Free.

*Community Sailing Program Handbook*. U.S. Sailing Association, National Sailing Industry Association (NSIA) and Sailing World magazine. Contact: US Sailing, Box 209, Newport, R.I. 02840. 1-800-US SAIL 1. \$25.00 plus shipping costs.

### **Bridge Lighting/Lighting/Painting**

See appendix for copy of article from *Waterfront World* Volume 6, No. 1, January/February 1987 "Bridges Light Up Across Continent" by Sandra Kashdan.

*Architectural Record Lighting.* Supplement to *Architectural Record*.  
Source for articles on lighting and list of advertisers.

**Contacts:**

Dept. of economic development, Shreveport, La. 318/226-3668. City lit bridge, uses laser lighting in the downtown.

David Karem, Waterfront Development Corp., 129 East River Road, Louisville, Kentucky 40202. 502/625-3768. City has a major bridge lighting project. Ask for press kit on "Project Bridge Light - a bright idea whose time has come."

Jules Fisher & Paul Marantz, Inc. Architectural Lighting Design, 126 Fifth Ave., New York, N.Y. 10011. 212/691-3020. They were chosen as the designers for Louisville.

G.E. Company, Outdoor Lighting Dept., Cleveland, Ohio. 216/266-2018.

Bridge and Highway Bridge Painting: Stan Edmister, public works artist, 2204 Gordon Rd., Baltimore, Md. 21209. 410/542-5584. He has done extensive work in Baltimore and recently worked in Boston. He has a video available and does work on cement bridges.

Street/Pathway Lighting:

Hadco. 717/359-7131. Contact: Don Fentress. Attractive street lighting fixtures. Recently redid Atlantic City boardwalk treatment.

**Environmental Concerns**

The Sea Grant Depository in Rhode Island 401/792-6114 is a source of information, studies and reports from all over the U.S. by Sea Grant college and universities and their advisory services. They may be of assistance in environmental curricula for schools and shoreline protection. Also contact regional EPA and Corps.

Environmental Law Institute. 1616 P St. N.W., Suite 200, Washington, D.C. 20036. 202/328-5150. Publishes *National Wetlands Newsletter*.



## **Events/Programming/Celebration**

See appendix for a back copy of special festival issue of *Waterfront World*.

International Festivals Association (IFA). P.O. Box 2950 Port Angeles, Wash. 98362. 360/457-3141. FAX 360/452-4695. IFA publishes a newsletter, directory, *Who's Who in Festivals and Special Events* and offers seminars and holds an annual conference.

Norfolk Festevents Ltd., 120 W. Main St., Norfolk, Va. 23510. 804/627-7809. FAX 804/622-8369. Ask for brochures and a sample of their calendar of events.

International Center of Celebration. P.O. Box 9590, Santa Fe, N.M. 87504-9590. 505/984-2230. FAX 505/984-2230. Holds conferences and workshops. Source of information on celebration arts and artists. Contact: Marilyn Wood, celebration artist.

Sister Cities International. 120 Payne St., Alexandria, Va. 22314. 703/836-3535. FAX 703/836-4815.

## **Ferries/Water Taxis**

National Association of Passenger Vessel Operators  
1600 Wilson Blvd., Suite 1000-A, Arlington, Va. 22209. 703/807-0100.  
FAX 703/807-0103.

Small water ferry/taxis: Vancouver, False Creek system; Boston airport taxi; Toronto island taxi; Norfolk-Portsmouth, Va. ferry; San Francisco and Seattle have extensive systems; Wilmington, N.C. seasonal ferry to cross river museum attraction; Philadelphia-Camden ferry from Philadelphia side to Camden Aquarium.

Refer to *Waterfront World* Vol. 5, No. 2 "Water Transport Comes of Age." (see appendix).

## **Fishing/Fishing Facilities**

The Sport Fish Restoration Program (Wallop-Breaux Amendments) overseen by the U.S. Dept. Of Interior, Fish and Wildlife Program gives money to states for boating and fishing access projects. For information

about the program and funding contact your state fish chief or call headquarters at 703/358-2156.

American Sports Fishing Association. 1033 North Fairfax St., Suite 200, Alexandria, Va. 703/519-9691. See Boating section above for handbook information:

Sponsors National Fishing Week and provides promotional logos and materials. They also have educational and programmatic materials available.

*Fishing Piers: What Cities Can Do* by Ann Breen and Dick Rigby, The Waterfront Press. Available through the Waterfront Center.

### **Fountains**

Portland, Oregon is notable for its many interesting and interactive fountains. No single office is responsible. Insights might be gained from contacting Eloise MacMurray who is involved with the city artworks 503/823-5400. Pictured in the slide presentation was a fountain entitled "Salmon Springs." You may want to talk with people in city planning (urban design guidelines discussed public art); public works department which maintains the fountains and the risk management department regarding liability.

### **Logos/Signs**

See appendix for article "Waterfront Logos: Varied, Emblematic" from Waterfront World Volume 7, No. 1, Jan/Feb 1988.

Society of Environmental Graphic Designers, One Story St., Cambridge, Mass. 02138, 617/868-3381. FAX 617/868-3591.

The National Park Service has a lot of experience with signage. You may want to contact the regional office to inquire about technical assistance on signage or river issues.

*Interp-Edge*, (Newsletter) P.O. Box 398, No., Stonington, Conn. 06359.  
1-800-454-7890.





## **Main Street Programs**

National Main Street Center, National Trust For Historic Preservation, 1785 Massachusetts Ave., N.W., Washington, D.C. 20036.

## **Rivers/Riverfront Organizations**

River Network, P.O. Box 8787, Portland, Oregon. 503/241-3506.  
National grassroots organization. Excellent source of information on rivers. Publishes newsletters, has a computer database.

*River Conservation Directory.* U.S. Dept. of the Interior, National Park Service, Rivers and Trails Conservation Assistance and American Rivers, Inc. This annually updated directory is an excellent source of national, regional and state organizations dealing with river conservation and river issues. Available from U.S. Government Printing Office. Orders may be paid for by Visa or MasterCard by calling 202/783-3238 or contact American Rivers: 202/547-6900.

The following organizations are dedicated to riverfront revival and programming in one form or another. You should ask them to send you brochures and literature about their activities and programs.

**Riverfront Recapture**, One Hartford Square West, Suite 104, Hartford, Conn. 06106. 203/289-0131. Joseph R. Marfuggi, exec. director. Extensive planning, park and redevelopment initiatives as well as summer programming and river cleanup and education. Founded over 10 years ago.

**River Action, Inc.**, Box 964, Quad Cities, Iowa, 52805. 319/322-2969. Kathy Wine, exec. director. Citizen organization dedicated to bring attention to the river and advocating linear access. Sponsors annual "Ride the River" bike event in all five cities. Also responsible for lighting the bridge, developing design guidelines and instituting a water taxi. Originated from a Junior League "Year of the River" Awareness Project (Slogan: Joined by the River) which Ms. Wine chaired.

**Flats Oxbow Association**, Cleveland, Ohio. 1283 Riverhead St., Cleveland, Ohio 44113. 216/566-1046. Monitors plans, proposals and regulations affecting the cuyahoga and its upland areas in downtown Cleveland (in particular, The Flats and old industrial area gradually being

gentrified with lofts, and restaurants a plenty). Publishes newsletter.

**Bronx River Restoration.** 375 East Fordham Rd. The Bronx, N.Y. 10458. 212/933-4079. Nancy Wallace, exec. director. Grass roots citizen organization. Involved in extensive planning, environmental education/arts, and waterfront redevelopment. Heavy emphasis on linear park system. Founded over 20 years ago. Sprang from a river cleanup initiative.

**Scenic Hudson, Inc.** 9 Vassar St., Poughkeepsie, N.Y. 12601. 914/473-4440. Klara Sauer, executive director. One of the largest river conservation and citizen watchdog and advocacy organizations in the country. Heavy emphasis on environmental and scenic protection. Publishes newsletter.

**River Fields Inc.** 643 W. Main St. Suite 200, Louisville Kentucky. 40202. 502/583-3060. FAX 583-3285. Meme Sweets Runyon, exec. director. Citizen watchdog and advocacy organization. Involved in river corridor planning and development issues for Louisville, Kentucky and Jeffersonville, Indiana. Long record of achievements including sizable land purchases.

**National Center for Heritage Development.** 5520 Connecticut Ave., N.W. Washington, D.C. 20015. 202/244-5792. Among topics covered are river corridors. Active in River Heritage initiative. Newsletter and soon to have web site. Alvin Rosenbaum, president.

## **Trails/Greenways/ISTEA**

(Intermodal Surface Transportation Efficiency Act)

*Trails for the Twenty-First Century. Planning Design and Management Manual for Multi-Use Trails.* Edited by Karen-Lee Ryan. Rails to Trails Conservancy. The Island Press. \$24.95 plus \$4 for shipping. Rails to Trails conservancy, 1400 16th St. N.W., Suite 300, Washington, D.C. 20036. 202/797-5400.

*Greenways: A Guide to Planning, Design, and Development.* Charles A. Flink and Robert M. Searns, editing by Loring LaB. Schwarz. Island Press, Washington, D.C. and Covello, Calif.: 1993. \$45.00 hardcover;

\$29.25 paper.

*500 Great Rail-Trails.* A Directory of Multi-Use Paths Created from Abandoned Railroads. Rails-To-Trails Conservancy. Living Planet Press. \$9.95.

*Enhancing America's Communities - A Nationwide Survey of The Transportation Enhancement Provisions of ISTEA. Executive Summary.* The Rails-to-Trails Conservancy. 1400 Sixteenth St., N.W., Suite 300, Washington, D.C. 20036. 202/797-5400. FAX 202/797-5411.

Surface Transportation Policy Project. 1400 16th St., N.W., Suite 300, Washington, D.C. 20036. 202/939-3470. STPP is a network of organizations whose goal is to develop a national transportation policy that better serves the environmental, social and economic interests of the nation. Publishes newsletter. Both STPP and Rails-to-Trails are good sources of information and assistance with the ins and outs of ISTEA.

## **Urban Wilds/Forests**

*The Urban Ecologist.* The Journal of Urban Ecology. Quarterly newsletter. 405 14th St., Suite 701, Oakland, Calif. 94612. 510/251-6330.

*Nature Areas for City People.* Ecology Handbook 14. Jacklyn Johnston. 1990. London Ecology Unit. 125 Camden High Street, London NW1 7JR 071/267-7944. FAX 071/267-9334.

*A guide to habitat creation.* Chris Baines and Jane Smart. 1991. London Ecology Unit (see above).

*Building Green. A guide to using plants on roofs, walls and pavements.* Jacklyn Johnston and John Newton. London Ecology Unit (see above).

*The Granite Garden Urban Nature and Human Design.* Anne Whiston Spirn. New York: Basic Books, Inc., 1984.

The National Institute of Urban Wildlife, 10921 Trotting Ridge Way,

REPORT TO THE CITIZENS OF TRI-CITIES, WASHINGTON

Columbia, Md. 21044. 301/596-3311, publishes a newsletter, holds symposiums and publishes papers/booklets.

*Urban Wildlife Habitats*. Lowell W. Adams. University of Minnesota Press. 1994. \$16.95 paperback.

Urban Forestry. P.O. Box 2000, Washington, D.C. 20013-2000. 202/667-3300; FAX 202/667-2407. Publishes *Urban Forests* and numerous other publications.

USDA Forest Service. P.O. Box 96090, Washington, D.C. 20090-6090. 202/453-9492.

ARCT, Inc. P.O. Box 219, Kent, Ohio 44240. 1-800-622-2562.  
Employee-owned consulting firm who assists communities with urban tree and forestry issues.

# TECHNICAL REPORT

## Water Transport Comes of Age

By Brooke Stoddard  
Managing Editor

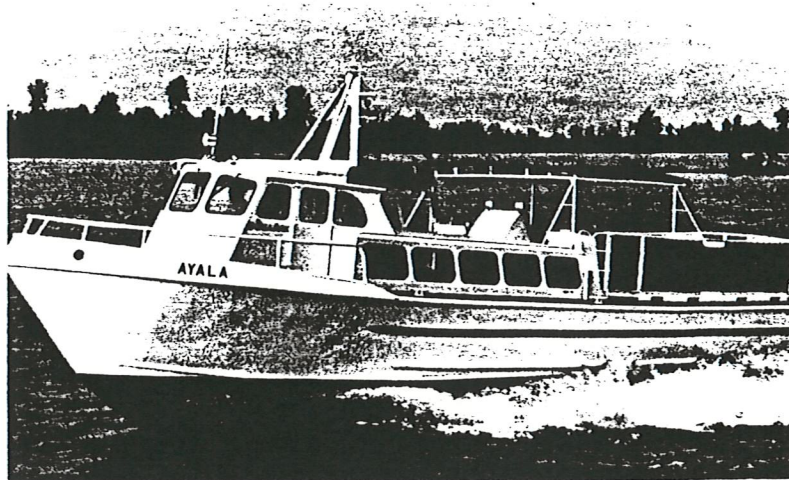
It used to be that American harbors were teeming with water transportation. In Boston, for example, in 1890, boats carried at least 10 million passengers to and from points around the harbor. Bridges, tunnels, and highways with 60-mile-an-hour speed limits helped put an end to that.

But with the direction of downtowns more toward the rivers and bays to which they owe their beginnings, and with major attractions that draw tourists, shoppers, and leisure-minded citizens all seasons of the year, waterfronts are again alive with people. That gives rise to the problem of getting those people to waterfronts easily and getting them out again. As a solution, more and more cities are looking to water transportation.

To be sure, some large ferries survived the last 80 years and continue to operate with their wide-bodied, full-service vessels. The Staten Island Ferry, and the Washington State ferries in Puget Sound, are good examples. But smaller ones are springing up, from six-seaters to craft for several hundred. This report looks at service that make harbor or river runs of fairly short distances and with relatively small vessels.

Compared to some grand cities of the world like Amsterdam, Hong Kong or Venice, water transportation in America is as yet neither so sophisticated nor so diverse. And Americans cannot yet claim water taxi service in the sense of hailing a boat for on-demand service. Still, water transportation is spreading, boats are leaving at regular and short intervals, and, people are using them regularly, adding a new vitality to harbors and rivers.

Looking for a common thread running through current water transportation is difficult. Each service has a



A 30-PASSENGER WATER TAXI in San Francisco Bay.

slightly different purpose, from economic development for a city, to pure profit for the ferry-service owners. But if a common thread there be, this may be it: in each location, the land transportation system has failed in some measure, become too congested, too inconvenient, too unreliable, too expensive. People see a clear shot across the water and take it. Entrepreneurs or cities and port authorities with entrepreneurial spirit are there to take up the slack.

### Extensive Systems

Where a major harbor has dense population on all shores, the possibility of extensive systems arises. Boston is a good example. Already a useful service runs from Rowe's Wharf downtown to Logan Airport across the harbor. Operated by a private company, it carried about 200,000 passengers last year in 40-passenger converted oil-rig crew boats from the Gulf of Mexico. In addition, a commuter service runs from Hingham, about 15 miles south of downtown to Rowe's Wharf. It boasts about 675,000 rides a year in 140-passenger boats.

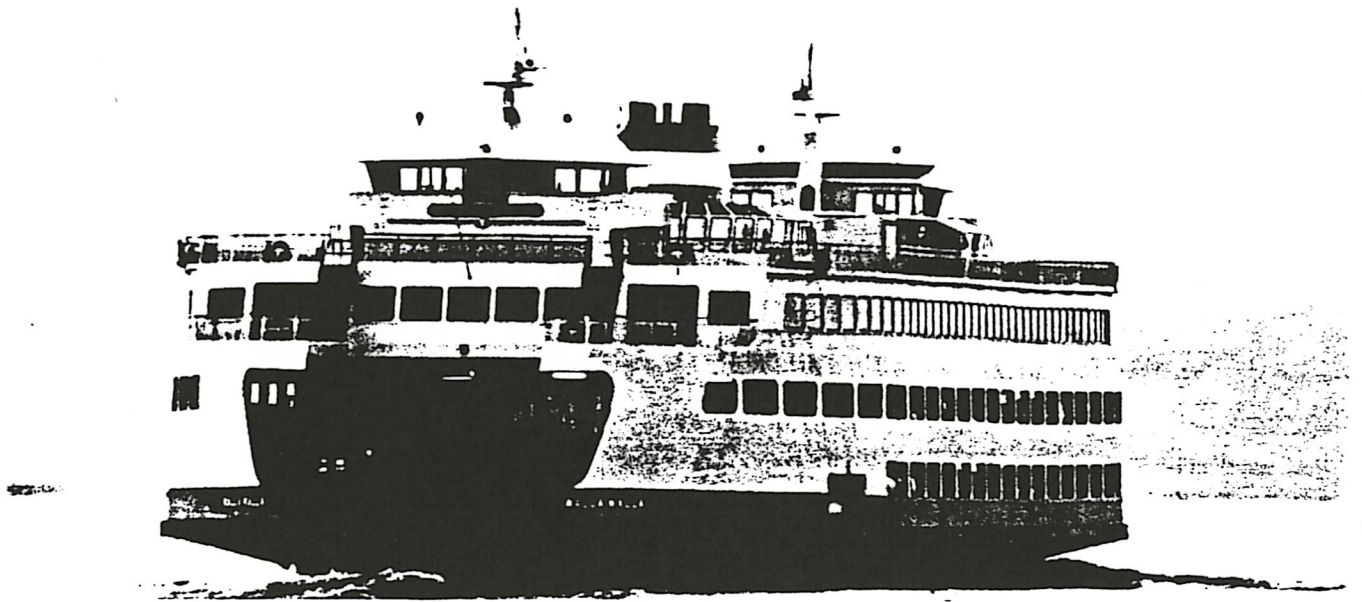
The Logan Airport run costs \$7.00 from downtown. It requires fewer transfers than the subway, and is more reliable than a car taxi during rush hour. Business people take it because they know they are going to get to the airport in reasonable time; the ride takes about eight minutes.

The success of these existing two runs stimulated studies by Charles Norris and TAMS Consultants for the

state and city transportation and port authorities on the future of ferry and water-taxi service in the harbor. (See "Resources") First, TAMS issued a report on the possibility of commuter service from outside the inner harbor. It followed that one with a second, called the Boston Inner Harbor Water Transportation Study; it was generally optimistic about expanded shuttle service.

The Inner Harbor report looked to the years 1995 and 2010. In 1995, the report believes that five routes are possible, four operating during rush hours and two during off-peak hours. They would connect downtown with Charlestown, South Boston and Logan Airport. With fares at about \$1.00, except for the airport shuttle, which would remain at \$7.00, the report speculated that daily ridership on the trans-harbor routes would be about 3,600, in summer about 4,000. By 2010, the routes could be expanded to six. By then the average daily ridership would be almost 7,000.

Says Norris, "The key to the whole scheme is getting the docking in place. In some places, we are already close, in others, much work has to be done." The report includes economic analyses, terminal requirements, market analyses, even the issue of handling access for the disabled, plus a section on real water taxi service, that is, on-demand service, which does not exist now, but is not out of the question in future years.



New York City harbor has seen considerable renewal of water transportation in recent years. Beyond the venerable Staten Island Ferry, the harbor has in the past decade seen the sprouting and prosperity of newer and smaller boating services for commuters. In fact, as reported by the *Trenton Star-Ledger*, there are some 40 vessels owned by ten companies shuttling the harbor with passengers. These include long commuter runs from such places as Highland, N. J. and the Rockaways south of Brooklyn.

But more people are making short runs across the Hudson. An instigator in the New York area has been Arthur Imperatore, president of Arcorp in New Jersey. In 1985 he began running a ferry from his development in Weehawken to midtown Manhattan just across the street from the Convention Center. The run duplicates the Lincoln Tunnel, but it has certain advantages. For one, it provides the fastest door-to-door peak-hour service available from the New Jersey waterfront to Manhattan. In addition, if a commuter were to pay the tunnel fee plus \$15 to \$20 a day for parking, the cost would be far higher than that of a \$8 roundtrip ticket and \$3 parking fee on the Jersey side.

Imperatore followed with a run from the same Weehawken terminal to lower Manhattan. In addition, he has made arrangements for special service: one, to serve the New York Convention Center; two, with Paine Webber to carry workers from New York to an office in Weehawken; and three, to carry New Jersey theatergoers across to the theater district.

Just this fall, Imperatore, along with Hartz Mountain Corp., began contract work for the Port Authority ferrying commuters from Hoboken to Battery Park City in lower Manhattan. Four-hundred-passenger boats leave every 10 minutes and make the mile trip across the Hudson in about eight minutes. With a monthly ticket, passengers pay about \$1.33 a one-way trip compared to \$1 for PATH trains. The boats operate 7:00 to 10:00 a.m. and 4:00 to 7:00 p.m., carrying about 2,400 passengers an hour.

Gerald Nielsten, a partner in Vollmer Associates, a company that has studied water transportation for the National Park Service and New York harbor, puts forward several principles about water transportation based on his experience with efforts in and around New York. One is that successful mass transit increases the value of the property it serves, and success breeds success.

Elaborating on the first, he has written that "while bus and rail service are normally unable to tap [the benefit of increased property values], in the long run ferry service must recognize and be able to use the economic value of its service." He points out that property Imperatore bought has risen 10 to 20 times in value, that an active marina has developed near the ferry terminal, and that nearby restaurants are flourishing.

Elaborating on the second principle, he says, "More service brings more service; less service brings fewer people." As evidence, he points to Imperatore's special contracts and the new ferry at Hoboken.

Corpus Christi has asked for and received a study of water transportation in the harbor, which, in this case, includes the bay. Joe Moseley, whose engineering firm of Shiner, Moseley and Associates helped put together the plan, says that there are five possible destinations around the bay: downtown, two military bases and two locations on the barrier islands that are the focus of recreational activities.

These would be served seven days a week by 149-passenger, high-speed boats, carrying about 350,000 passengers in the first few years. The largest number of passengers in the early years would probably be military personnel—the shuttle would cut the distance between the two military bases from 31 road miles to nine miles using the bay; it would cut travel time from 100 to 60 minutes.

In addition, the High Speed Water Transportation is projected to bring over \$200 million in economic impact to the area over 10 years and increase tax revenues by \$13 million.

Separately, Corpus Christi is contemplating a smaller service from the Texas State Aquarium, which will open this summer, across the entrance of the ship channel to a convention center and stretch of waterfront hotels along the bay. The runs would range from less than a mile to about two miles. Leah Olivarri of Olivarri & Associates says that the service will probably operate in all seasons and have regular departure times, but also make on-demand runs to

meet the schedules of conventioners.

In addition to this activity, Corpus Christi will be the site of a high-speed water transportation conference in late May. The U. S. Urban Mass Transit Authority and the Regional Transit Authority are sponsors.

### Smaller Systems

Not all water transportation systems have to follow the grand scale. Some are services of convenience not so much to the rising tide of harried commuters as to people wanting to shop, stroll, entertain or educate themselves.

In Vancouver, British Columbia, an entrepreneur eight years ago set up a well-developed taxi service to Granville Island just south of the downtown and across an extension of English Bay called False Creek. The island, actually slightly connected to the north shore of False Creek, was built as an industrial waterfront in 1913. Still dotted with industrial concerns, it also offers shops, hotels, restaurants and a farmer's market.

The island was a good target for a small ferrying service. Access from downtown by car was difficult, but the trip across False Creek could be quick, about eight minutes. George McGinnis, False Creek Ferries' founder, says that even so, the authorities did not take him seriously at first. But the little service has prospered. It boasts a fleet of four electric-powered boats and five diesel-powered ones, none carrying more than 12 passengers. He has six terminals on the island and the mainland and carries half a million passengers a year.

Although he shuttles more passengers in summer than in winter, about 75,000 to about 13,000 a month in the warm and cold months respectively, and although about half of his riders are tourists, he has a steady clientele of locals who like to go over to the island to shop. In addition, there is an art school on the island, and students take the little boats to go to classes. Fares are \$1.25, or less with a book of ten tickets or a monthly pass; ferries leave every ten minutes.

McGinnis is a champion of water transportation. "The city seems reluctant to use water and instead plugs up the highways," he says. "Water is really an untapped resource. Still, this is a tricky business. It took us two or three years to figure out how to do it, to handle maintenance, get the right operators and so forth. But once established, it's a neat little business."

In Norfolk and Portsmouth, Va., the regional transportation authority run a shuttle across the Elizabeth River that flows between the two

cities. The Elizabeth River Ferry has one terminal in Norfolk and two in Portsmouth. One or two ferries, each capable of carrying 150 passengers, leaves every 30 minutes. Until now the fare has been a modest 5.50 cents, but is destined to rise.

Jeff Becker, who works for Tidewater Regional Transit, which runs the ferry, says it has been operating since 1985, and adds that it is very popular. TRT receives state and city money to subsidize the service, which is used mainly by tourists and only a few commuters. Summer, naturally, is the time of heaviest use. A ride takes about five minutes, and the boats run from 7:00 a.m. to almost 11:00 p.m.

Cleveland has a variation on the idea. When bars, nightclubs and restaurants began attracting overflow crowds to The Flats along the Cuyahoga River, a shuttle service across the river soon followed. According to Dewey Forward, who runs the summertime Flats RiverFest celebration, two companies are in business shuttling persons from nightspot to nightspot in 50-passenger vessels. That spares revelers walking to a bridge or giving up their parking spaces in hopes of finding one on the opposite shore. The service begins about 4:00 p.m. and runs until 2:00 a.m.

In Milwaukee, the service is still in the planning stage. According to Kris Martinsek, the director of marketing and city development, the plan for the rejuvenated Milwaukee River includes five or six 20-passenger longboats regularly pulling up to taxi terminals and carrying people up and down the waterway.

An obstacle, however, is licensing. Because the Milwaukee River is a navigable channel still used by commercial vessels, strict laws control piloting. For operating one of more than six-passenger capacity, the licensing is akin to that for pilots of ore boats and requires hundreds of hours of experience.

Martinsek said that the water taxi service is being thought of as a kind of segment in larger transportation systems, including light rail and trolley loops. The taxis would leave about every 10 to 15 minutes and charge a moderate fee. As for taxi stops, some would be streets that dead-end at the river; others would be built by developers as part of their riverfront projects.

In Milwaukee, as in many other cities, reliable and convenient modern water transportation is in its germination stage. But from the evidence of the successes and studies of cities around the country, short-haul water transportation there and elsewhere is ready for more extensive use. □



# Waterfront Festivals — We're Talking Big Business!

By Ruth E. Thaler-Carter  
Contributing Editor

Waterfront festivals share a number of characteristics and problems. On the positive side, festivals are growing in popularity, are easy to promote, offer communities an exciting showcase for services and heritage, can bring in sizable sums for various causes and tend to expand over time.

Common problems relate to coping with success—handling ever-larger crowds, providing parking and sanitary facilities, cleaning up, funding and retaining waterfront heritage aspects.

From learning about even a few waterfront festivals, it is clear that waterfront-specific activities or themes are not essential—raising an important question of authenticity—but that certain planning elements are essential to success. These include: a sense of purpose; good relationships with public transit agencies, the corporate community and the nonprofit sector; lively events that are appropriate to the community; ongoing public relations efforts; and attention to basic services such as access, parking and sanitation. Sound planning along these lines solves a great deal of the headaches involved, leaving organizers more free to enjoy the results of their efforts.

A representative quartet of waterfront festivals are summarized in the following.

## Sausalito, California

Being taken under the wing of the local Chamber of Commerce was a major factor in the expansion and continuation of the **Sausalito Art Festival**, at 38 one of the oldest such events in the country, according to **Suzanne Dunwell**, festival organizer. Sausalito, Calif., is renowned as an arts-oriented waterfront town where many residents still live on the water in houseboats, including the deputy mayor (see *Waterfront World*, January-February 1990).

The festival event began in the 1950s as a small-scale crafts fair in a



CROWDS FLOCK TO the Sausalito Art Festival.

parking lot downtown, pioneered originally to showcase local artists, and took off in popularity almost immediately; the 1989 event brought in 50,000 people. As it grew, "it became more fun to put on than to manage," Dunwell said. "We had a successful festival, but no ongoing organization. City Hall took over for awhile; then, in the 70's, they were going to discontinue it because of the increased costs. Then, the Chamber of Commerce took over and has com-

bined the elements of good business with the community aspect of the festival."

The festival is always held over Labor Day Weekend. It moved in 1988 to the Marinship area because the event had outgrown its space. "We turned a city waterfront site into a park, using all volunteers and some of the profits from past festivals," Dunwell said. The new, 3.5-acre location means that the public can reach the festival by ferry, which reduces park-

ing problems significantly, and that organizers can provide space for 160 artists to display their work in a juried show with \$5,000 in prizes. The corporate community provides support for shuttle services from the ferry terminal to the festival site, an arrangement that "reduced downtown traffic unlike any other in festival history" in 1989, according to last year's events publication. "There was no traffic congestion during the festival."

The Sausalito festival costs about \$200,000 to put on, Dunwell said. To support the festival, the Chamber charges entry fees of \$5 for adults and \$2 for seniors and children under age five and charges each artist a \$350 booth fee, which is more efficient than trying to track sales and commissions, Dunwell said. The organizers provide booths and pegboards. The local Rotary Club handles the parking concession, charging \$3 a car. Another fundraising venture involves an opening-night gala preview with three 500-person dinners for members of the nonprofit artists' support organization, Friends of the Festival.

To promote the festival, the Chamber commissions and sells a souvenir T-shirt and poster done by a local artist for volunteers and the general public—"The garbage detail T-shirts are the most coveted," Dunwell noted.

Organizers use standard promotional techniques, although there often is an innovative twist. "We run paid ads in the local newspaper and buy billboard space," said festival public-relations person Ann Train.

On the other hand, the newsprint tabloid produced each year with full festival details is supported by paid ads from local businesses and artists. Because of the high cost, "(paid) television advertising is not yet a consideration," but local radio stations provide cooperative publicity in return for onsite broadcasting, and the television stations cover the event as local news and in the weather broadcasts during the festival, Train said.

Train sends press releases not only to local publications and broadcast outlets but also to travel magazines and artists' publications, she said. "Promotion is a total package," she said. "It has to be that way—you need to make two or three impressions before people notice you."

While the festival raises funds for its own future, it also provides a significant community service, according to Dunwell. The Rotary uses the proceeds from the parking concession for scholarships; the city receives 15 percent of the money raised by community groups that host food booths; the nonprofits use the festival as their major fundraising event; and the Chamber gives back \$10,000 of its profits to community projects of local nonprofit groups. "It's a symbiotic relationship — everyone benefits," Dunwell said.

Sausalito Art Festival —  
Labor Day Weekend  
c/o Sausalito Chamber of Commerce  
PO Box 566  
Sausalito, CA 94966  
415/332-0505

# the Sausalito Art Festival



# Labor Day Weekend

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## Milwaukee, Wisconsin

In Milwaukee, Wisc., what began as a small event in 1968 now brings more than 900,000 people to the waterfront every year, according to **Mary C. Bridges**, marketing and public relations consultant for World Festival, the nonprofit corporation that runs the city's Summerfest.

The festival started out being "scattered to different sites throughout Milwaukee County" before moving in 1970 to its current location on Lake Michigan, Bridges said. Only estimates are available on attendance before 1983, when turnstiles were installed at the site. "It's been growing," Bridges noted. "We had 657,000 people in 1983 and 903,000 last year."

The festival lasts for 11 days and is primarily a music event, with 10 simultaneous performance stages featuring local, regional and national artists plus one comedy stage. The festival grounds extend for 70 acres along the Lake Michigan shoreline. An 18-acre island is being built to protect the shoreline from storms, but also to provide more space and programming on the water, said Bridges.

The Milwaukee festival is run by a private nonprofit corporation and generates revenue from ticket sales, corporate sponsorship of events and food concessions, and a percentage of the income from food and beverage sales. "Companies can get involved in different degrees," said Bridges. "We have several that support the different stages, which is the most visible option because they can use neon signage and noticeable displays. Companies also can sponsor services, such as the Lost Child center, restrooms, information booths, and a children's play area. Smaller companies also can buy tickets in bulk at reduced rates and put the company name on the back to give to employees and clients."

Building a good relationship with sponsors has been important to the success of the festival, Bridges said. "We have a wonderful relationship with our sponsors — once they come on board, they rarely leave."

Key problems with such a huge, extended event start with parking, according to Bridges. "Parking is a problem, but we have helped educate the public on public transit, which they are not used to using in the Milwaukee area. We have shuttles that cost 25 cents a person and 'Freeway Flier' buses at \$1, which are more convenient and is still cheaper than driving in and parking nearby."

The organizers are resigned to "just adding more" portable toilets, since "there just are going to be lines,"



SUMMERFEST'S 70-ACRE festival grounds from the air.

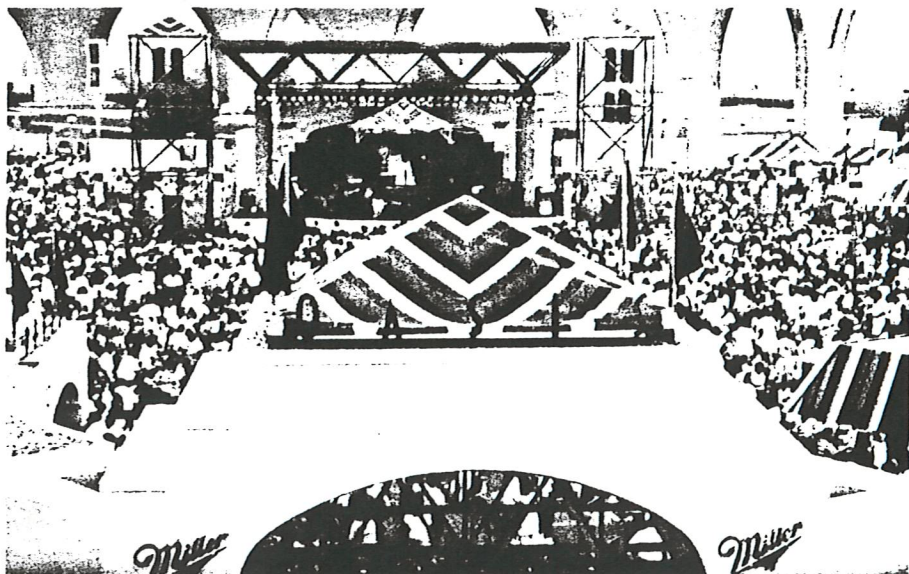
Bridges said. Looking to the future, "every permanent building includes more restrooms." Clean-up is handled by "our own crews—we hire teenagers and college students. It's a 24-hour process, day-to-day, during the event."

To promote the festival, Bridges uses an advertising and public-relations campaign. "We buy radio, TV and print ads early and then again shortly before the event," she said. "Radio seems like a good buy, because listeners are interested in music, which is our major feature." The week before the event, the staff holds a public-relations program that includes a media tour throughout the state and to Chicago, booking time on talk shows and appointments with editorial boards. "We go to Los Angeles and New York City yearly and are in touch with the media all year round," Bridges said. She also books key people on speaking engagements — for instance, the

food-and-beverage director, the entertainment broker to promote the showbiz aspect. Since the festival is well-established by now, little effort is needed to find the outlets for such activities — "They come to us," Bridges said. "We are deluged with requests with every year."

Bridges recently used an innovative promotional approach — one that few festivals can afford: "In 1989, we held a 'satellite press tour' for the first time, early in May from the festival grounds, to announce performers," she said. "Stations around the country linked up to it. Some used the material as news that day; others used it later as a feature." Video news releases are a similar, less costly option, she noted.

Milwaukee World Festival—  
June 28-July 8, 1990  
200 N. Harbor Drive  
Milwaukee, WI 53202  
414/273-2680



MUSIC IN MILWAUKEE—a big draw.

## Providence, Rhode Island

Throwing a waterfront festival is a recent venture for the city of Providence, R.I., which began its festival in 1985 "to provide family entertainment, to showcase the city's renaissance — and to serve as a vehicle to make people aware of the waterfront, its history and its contemporary activities," according to Jill Derrig, special event manager for E.A. White & Associates, which manages the festival.

Crowds run about 50,000 to 75,000 people for the event, which used to feature canoe expeditions, boat demonstrations, marine life exhibits, and Tall Ship tours, but nowadays focuses on harbor and water-taxi tours and "big-name entertainment." "We decided to expand the event and focus on family entertainment and activities specifically for children," said Derrig. "The festival trustees wanted that focus." In response, Derrig's company developed a "Kid's World" area in 1989 with special events such as face painting, storytelling, music and pony rides.

Waterfront-specific programming included museum and zoo exhibits about birdwatching and the effects of pollution on the waterfront. An "environmental tent" features exhibits and educational information.

Response to the changed nature of the event was positive: In 1989, there were more than 125,000 attendees. In 1990, more people should be attracted by the festival's first "International Oceans Film Festival" and "Convergence," a contemporary celebration of art, theater, dance and music, Derrig said.

The Providence waterfront festival, originally a two-day event and for 1990 expanding to week-long, is held at several locations along the waterfront, primarily an 18-acre park. It was run by "freelancers" for its first four years, Derrig said; in the fifth year, the trustees brought in a professional event-management company to handle it. "We kept the basic events and the events that worked," she recalled.

As with other events, parking is a problem, especially since there is no



lot connected directly to the site. "We decided to seal off the entire area and implemented a trolley service within the festival boundaries, with a free park-and-ride system from downtown to the site, in conjunction with the Rhode Island Public Transit Authority (RIPTA)," Derrig said. "We wanted to make it nice for people to go downtown, so we worked with the parking lots to establish free or discounted parking. The mayor's office and RIPTA worked closely with us." Future plans call for handling parking and access issues with a water taxi system, once docking becomes available through a marina that has been approved.

The festival is "completely free to the public," said Derrig. Money to put it on is raised through sponsorships and fundraising by the trustees. "We use basic event marketing techniques—promoting the visibility and the good-community-citizenship aspect of supporting the festival."

To promote the festival, "we usually have an exclusive sponsor from each of the media," Derrig said. "They can sponsor their own events, so it is natural for them to promote both the event and the festival as a whole." She also books the festival director on local talk shows; sends out public service announcements and press releases, and makes direct contact with appropriate publications, including tourism books. "We put information in corporate newsletters, free community newsletters and calendars," she said. She cannot accept paid advertising in festival literature because of the nonprofit status of the event. This year's efforts included booking bus tours from Long Island.

For Derrig, television has been the most effective promotional tool, followed closely by radio talk shows, "but you have to combine them and use every medium," she said. "Treat every year as a new event."

Providence Waterfront Festival —  
Sept. 8-9, 1990  
E.A. White & Associates  
Calart Tower, 400 Reservoir Avenue  
Providence, RI 02907  
401/781-8496



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ARTIST'S RENDERING of the Providence waterfront used for festival promotion.

## Fort Wayne, Indiana

Growth has been the bane and boon of another major waterfront festival, the Three Rivers Festival held since 1969 in **Fort Wayne, Ind.** Originally a 60-event program attracting 100,000 people, Three Rivers had about a quarter of a million attendees over nine days in 1989, according to **Richard O. Groves**, executive director. A well-organized function, the stated mission of the festival is to "create civic collaboration which involves the community, provides wholesome entertainment and inspires pride in our city and state," Groves said. Planning for the first festival began in 1966 to promote local business and industry and to emphasize Fort Wayne's historical heritage—the city was founded at a strategic location, where three rivers, The St. Joseph, Maumee and St. Mary's, converge.

Dealing with parking for the ever-growing event is frustrating, Groves said, but collaborating with both the local transit authority and the business community has provided several solutions. "In the past, we provided free bus transport from the major shopping areas, but last year, we had a new challenge," he said—the transit

authority backed away from the service. Now, "we are working with the for-profit community to sponsor buses in return for public relations exposure, being mentioned in radio ads for the festival as providing services from malls and businesses."

Groves found a good solution to the problem of toilets, he said: a new product, a 40-foot, portable restroom called the "Crowd Pleaser," which includes running water, air conditioning, flush toilets and piped-in music.

To handle safety issues, festival planners "organized a joint effort with the city and county for the first time," Groves said. "They both cooperated and enabled us to double the number of uniformed police officers at the event. We've been doing this for three years and we think it will even survive political changes. We also depend on the volunteer sheriff and police reservists a lot. We use about 500 of them during the festival."

Another safety issue arose recently, when a new state law went into effect that said nonprofit groups *could not* have food and beverage services inspected at events that lasted fewer than 30 days, which festival organizers feared would create potential hazards from food booths being

operated by people unfamiliar with basic precautions and techniques. "We have 50 to 80 food vendors that we felt should be inspected," Groves said. "The professionals know what should be done, but the nonprofits and volunteers might not. We worked to get the legislation changed and now we can request that the food booths be inspected. In fact, it is our standard policy that every food booth *must* be inspected."

The organizers also are stringent about safety guidelines during its major event, a river raft race, and work closely with the county Department of Natural Resources to require and enforce safety rules, said Groves. "We need their O.K. to hold events on the river and they work closely with the Coast Guard," so there is a double safety effort.

Promotional activities include a program and a newspaper insert, described below, and standard media relations activities. The organizers also produce and distribute a special festival newsletter year-round, to announce events, thank supporters and generate interest in the festival throughout the year.

Publicity and funding activities go hand-in-hand for the Three Rivers Festival. To support the festival, organizers produce a button, sold for \$1, that gives buyers the opportunity to win prizes. It goes on sale about six weeks before the event, Groves said. "We also produce mobiles, posters and point-of-purchase items for local stores and other outlets."

The major venture is a full-color program book, underwritten by contributions of about \$4,000 each from select businesses each year in return for a half-price discount on ads in the book. That piece is distributed free to the public through the Chamber of Commerce, public libraries, banks and other local businesses. It also forms the foundation for a newspaper insert published two to three days before the event in a joint venture with the local daily newspaper: "They sell ads in the insert, we control the editorial content," Groves said. Its built-in circulation of more than 200,000 is a major factor in festival attendance.

The festival also raises money by giving certain major corporations control of licensing rights for products and services. "For \$2,000, a company can invest in events," Groves said. "In 1988, we had 25 official festival products and services" — from diapers to film. "This pays for the sanitary facilities, clean-up crews and other services."

Three Rivers Festival —  
July 7-15, 1990  
2301 Fairfield Avenue  
Fairfield Manor/Suite 107  
Fort Wayne, IN 46807  
219/745-5556

**Three Rivers**  
  
**Festival.**



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## ALONG THE ANACOSTIA

## Waterfront Walkways

The pattern keeps repeating itself. In city after city, developments are cleared that fail to include walkways along the water's edge. Sometimes it's inadvertence, but usually it's a conscious decision.

The rationale goes like this: urban waterfronts traditionally are industrial, unsavory sites. To put office/condominium projects there means luring people back downtown. They have to be guaranteed personal safety and security. Thus you can't have a walkway along the river/bay/lake, it's an intrusion.

What troubles us is that there are many examples of just the opposite, that is, office/condominium/marina/you-name it, projects with public walkways. Which projects can in many instances be said to benefit from these installations, or at minimum aren't harmed. Baltimore, Charleston, S.C., and Toronto spring to mind among

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Next issue: Walkways Project 1988-1990

### Establish Identities

## Waterfront Logos: Varied, Emblematic

By Ann Breen and Martha Evelyn

Logo—1.: A single piece of type or single plate faced with a term (as a newspaper or trademark)  
2.: an identifying symbol (as for advertising).



## THE RIVERFRONT

St. Louis, Rouse Win

## Waterfront Logo Awards Chosen

Winners of the Waterfront Center's first logo contest were chosen by a three-person interdisciplinary jury from among 49 entries, evenly split between the public and private categories.

"The Riverfront" submitted by Thomas W. Purcell for the St. Louis Riverfront Development Committee was unanimously selected as the winner in the public sector category. The jury cited the clarity and strength of the logo, noting how well suited its typography is to the design.

It was designed by PGAV Design Inc. of St. Louis for the Riverfront Development Committee, a volunteer group made up of various riverfront developments and interests (including LaCledé's Landing, Mr. Purcell's home base), part of Downtown St.

→ page 4

Their "signature," their "symbol," one simple graphic design that visually tells the world who they are and what they are about is what logos mean to those interviewed for this article.

Our survey of organizations revealed a number of ways to go about generating a logo: by competition, by contract, by in-house staff or by donation, as well as the different factors that need to be considered, such as scale and versatility, need to protect the design, and the question of change. Overall, the process of creating a logo was declared to be challenging and time consuming but essential.

The most standard way to achieve a logo is to hire a graphic artist to create one. Because of the very personal nature of a logo the process is one of give and take, with the clients articulating what they want it to say and how they want to present themselves. Kathy Wine, president of River Action Inc. in the Quad cities of Iowa and Illinois, said she and her colleagues did just that in a process that involved many long discussions with the designer as to the purposes of the organization, who then came back with ideas. They settled on one with a river flowing through the design because it had movement, reflecting their goals to make changes and get things done. The emerald green and black design has been well received on the organi-

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# Logos

Continued from page 1

zation's letterhead and should translate well onto planned T-shirts and banners.

Julie Packard, executive director of the Monterey Bay Aquarium, worked with designer Richard Graef of Ace Design, Sausalito, from the beginning. They looked for something appropriately symbolic and different. After considering a number of images of marine life of Monterey Bay, the aquarium chose as its logo a frond of the giant kelp plant *Macrocystis pyrifera*. The unfurling frond was felt to symbolize the grace and beauty of life in the sea. Ms. Packard said at first they were afraid people wouldn't know what it was but in fact the contrary is true, people recognize it and like it.

Rather than hire a designer, an organization can gather a lot of different ideas to chose from by holding a contest. In Louisville the newly formed Waterfront Development Corporation held a competition in spring of 1987. The charge to competitors was to design a "logo, or graphic symbol, that could be used in stationery, for publications and other uses where graphic representation is needed" that would "depict the corporation's mission to develop Louisville's riverfront for the enjoyment of the community and for the benefit of the area's economy." A \$1,000 prize donated by River Fields, Inc., a local citizen's organization, was offered. Three of Louisville's top designers judged 187 entries from schoolchildren to professionals. The winning design by Carol Kamenish, an interior designer for Kentucky Fried Chicken, was refined and has recently been introduced on stationery.

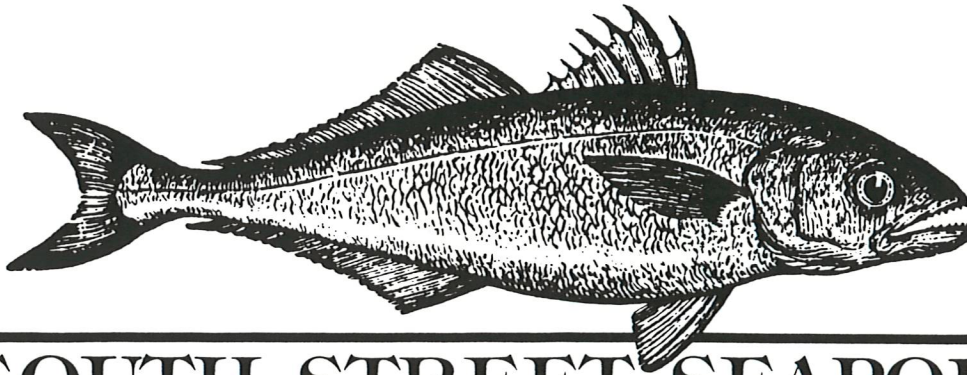
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# MONTEREY BAY AQUARIUM



**BOARD MEETS IN BROOKLYN.** The annual meeting of the Center's board and correspondents took place aboard Bargemusic Inc., a concert barge on the Brooklyn waterfront. Among those present, shown here left to right, lower Manhattan in the background: Mickey Murphy, Brooklyn, N.Y.; Willem Polak, Washington, D.C.; Joe Schachter, Norwalk, Conn.; Dick Rigby of the Center; Chuck Davis, San Francisco, Calif.; Bargemusic Inc. president Olga Bloom; Ann Breen of the Center; Doug Sethness, Austin, Tex.; Barry Hersh, Orangeburg, N.Y.; Barbara Kauffman, Jersey City, N.J.; and Stu Dawson, Watertown, Mass. Also present: Mike Krieger (behind camera), Hoboken, N.J.; Ann Buttenwieser, New York, N.Y.; Peter Chermayeff, Cambridge, Mass.; Marc Older, Boston, Mass.; Peter Stanford, Croton-on-Hudson, N.Y.; Pat Wells, Boston, Mass.; and Paul Willen, New York, N.Y.



# ★ SOUTH STREET SEAPORT ★

## Contest

Continued from page 1

Louis Inc. The committee has been meeting once a month for the last four years. Mr. Purcell explained that the group wanted to expand the public's perception of the riverfront beyond the famed arch area to embrace and integrate the whole riverfront—north and south, developed and yet-to-be developed. Thus banners and signs displaying the logo line the entire riverfront area as well as at a variety of entry points. The design is also used on stationery and promotional materials.

South Street Seaport's "fish" logo entered by Edwin A. Daniels for the Rouse Company was chosen as top winner in the private sector category. The jury found competition in this round to be even more difficult. The South Street logo—besides its excellent graphic appeal—was felt, in the words of one juror, "to be attractive to all ages." Designed by Nick Thompson of Benjamin Thompson and Associates, Inc. of Cambridge, Mass., the logo was inspired by the Fulton Fish Market which is adjacent to the South Street Seaport festival market in lower Manhattan. The stylized fish is etched into glass windows around the marketplace buildings. It also appears on banners, decorative items, printed materials and advertising. It should be noted the fish logo is one of two used by the Seaport. The other is a graphic depiction of Schermerhorn Row and historic ships.

The jury voted an "honorable mention" to a second logo in the private sector category—"Heron Way Marina & Club" located on Cape Ann in Gloucester, Mass. It was submitted by Anne Cusolito on behalf of Marina/Consult Corp. of Cataumet, Mass., project marketers. Jurors commented

that the design was sophisticated and typographically elegant. The logo was designed by Ms. Cusolito herself. She said that the client, whose project is located on a river running through Gloucester, wanted the logo to focus on its wildlife and natural areas. In response she devised one incorporating the heron, the river and the wetlands. The logo is featured on stationery, advertising and signs.

The Waterfront Center undertook the logo contest to publicize the importance of logo design and its use in waterfront identity.

The interdisciplinary jury that engaged in lively discussion and debate in reaching its decisions was composed of the following:

Alice Denny, an art enthusiast, former gallery owner and founder of the Washington Project for the Arts.

Bert Kubli, a graphic designer who has spent 14 years with the National Endowment for the Arts in both the Design and Visual Arts programs.

Sarna Marcus, graphic designer, president of Page Designs Unlimited Inc., active for 15 years in the design profession. She is the winner of 37 graphic design awards. Ms. Marcus designed the Waterfront Center's logo and recent promotional literature.



## The Waterfront Center Logo

As with many organizations, the Waterfront Center had a logo before almost anything else. In the summer of 1981 we hired graphic artist Sue Lynch of Alexandria, Va., to help translate our idea of using a bollard as a symbol for the organization into a design.

We chose the bollard because, in one form or another, it is indigenous to practically every waterfront, the link between the land and the water and is used by commercial and recreational vessels alike. We felt then—and still feel—that the bollard symbolizes the uniqueness of the waterfront and that its relationship to the water separates it from other areas in a community. The bollard reminds us that waterfronts are special places, the edge between the land and the ocean, bay, river or lake.

The stylized bollard with wave underneath was first used on the Center's stationery and was more officially launched in the first issue of *Waterfront World* in January, 1982 on the masthead.

In 1986 we hired graphic designer Sarna Marcus of Page Designs Unlimited, Inc., Bethesda, Md., to produce a series of promotional pieces—and a new look. The process included a change in the logo, incorporating the original bollard with our title and purposes stated. To reinforce our status as an entrepreneurial non-profit, the words "consultants and publishers" were added. In 1987, Ms. Marcus also redesigned the standing heads of *Waterfront World*, retaining the bollard in the mast.

A polished, stainless steel miniature bollard was affixed to a black marble base as the trophy for the top winners of Our Excellence on the Waterfront design awards—The Annual Bollie Award!

A.B./D.R.







Passaic River Coalition logo.

The Passaic River Coalition based in Basking Ridge, N.J., also held a contest, receiving 75 entries. The judging committee tied with two top entries, so the executive director, Ella Filipone was given the "wonderful" job of selecting the final winner.

The logo, designed by Craig Kroll, represents the focus of the Passaic River Restoration project: river clean-up. This is represented in three stages. As the project progresses, plants and other marine life not only survive, but thrive. The logo, used on everything the coalition does, is on the stationery, signs, T-shirts and buttons.

If resources are limited—as they often are with non-profit organizations—gifted members or staff can be tapped. Multi-talented Axel Horn, director of long term development from 1977-82 for Bronx River Restoration, (see *Waterfront World* Volume 1, Number 1, 1982 for profile) designed the logo for BXRR to be a symbol for bringing back the river and putting it to work for the community. The mill-wheel was chosen because the river was historically a source of power. At least 12 mills ground everything from grain to gunpowder to snuff. The logo is versatile and decorative enough to use in many ways. It appears on letterhead, T-shirts, exhibits and a large banner. It has received a very positive reaction, BXRR reports.

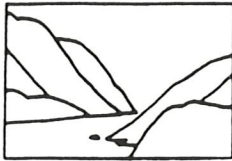
According to Denise Nappier, director of Riverfront Recapture, a community organization in Hartford, Conn., their logo resulted from in-kind help from one of their major sponsors, Travelers' Insurance Co. The company's staff worked with Riverfront Recapture to refine the design now used on stationery and publications. It was devised to promote the idea that



the riverfront is for all people, not just one group.

The City of St. Paul used its own in-house graphics staff to develop its riverfront logos, which serve varied purposes, according to Rick Wiederhorn, director of the city's Riverfront Development Office. The city's Riverfront Office and the Downtown Riverfront Commission use variations of the basic signature—the sweep of the Mississippi River. A completely separate logo, "Port of Call Saint Paul," was devised for a public promotion of the riverfront. It is used in connection with events and festivals, on mugs, buttons and T-shirts. The city is currently re-thinking its logos and whether they should settle on just one.



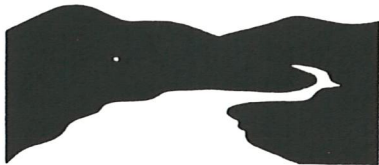


**SCENIC HUDSON** INC

9 VASSAR STREET • POUGHKEEPSIE, NY 12601 • (914) 473-4440

Change and the need for a new look are other recurring phenomena affecting logos in the organizations surveyed. According to Klara Sauer, executive director of Scenic Hudson, Inc., a Poughkeepsie citizen's organization, the logo plays a critical role in how an organization is perceived. Scenic Hudson originated over a fight to save Storm King Mountain from development and the original logo was an adaptation of a lithograph of the StormKing area done by *National Geographic*. Since that time they hired an artist to execute a more stylized, less site-specific version, which they feel depicts the more comprehensive mission they are about. The design has received many compliments, she reports.

American Rivers, Inc. a national organization based in Washington, felt the need for a new image. Prior to 1986 the American Rivers Conservation Council had for its logo an ark motif which they felt no longer really spoke for the organization. So, with a change in leadership in 1986 came the search for artists. Three were interviewed and submitted ideas. One, Kathleen Furey, translated their criteria successfully into a logo which also embodied a name change (dropping Conservation Council). Kate feels the logo does everything they want it to, noting it works well in either black or blue.



**American Rivers**

801 PENNSYLVANIA AVE., S.E. • SUITE 303 • WASHINGTON, D.C. 20003

It was a turning point for the Boston Harbor Associates, founded in the early 1970s, that prompted member Robert Calder, executive director of the Boston Shipping Association, to help out by creating a new logo. In 1982 the organization launched a turnaround with a new look. The logo, in marine blue and white, is illusory, depicting the sky and water with what at first appears to be a sailboat, a symbol of the recreational harbor. The sailboat can also be seen as the prow of a ship,

representing the commercial harbor, or as a scale symbolizing a TBHA motto for "balanced harbor development."

The lettering was selected to complement the design in that "tbha" or "boston" would fit for use as a pin or other promotional purposes. Further, use of all lower case best represents equality of membership.



for a clean, accessible and alive Boston Harbor

From the private sector, Lynda Friedmann of Jackson Brewery in New Orleans, told how the company has had three different logos in its corporate lifetime, all designed by Peter Mayer Advertising. The first pictured the building, the second was more ornate 1890ish lettering, and the present one builds on the nearby Jackson Square location featuring Andrew Jackson on a horse.



Location and a hero's monument are also featured in the Galveston Historical Foundation's logo. Peter Brink of the foundation reflected how the statue is very important to the community and by incorporating the island palms and waves into the design, the logo is comprehensive and covers everything they do.

Again, the best graphic description of location was a key with regard to the Bargemusic's logo. This miniature line drawing showing the barge with



**BARGEMUSIC**

the unmistakable Brooklyn Bridge in the background leaves no doubt about what the barge looks like and where it is. See *Urban Waterfronts '85: Water Makes a Difference* for Olga Bloom's presentation about the chamber music barge she created.

A tugboat was chosen by Enterprise Development Co. of Columbia, Md. as a symbol—both serious and amusing—reflective of their projects which entertain, and work hard for a community's economic well-being. The corporate tugboat logo was adapted for one of their first festival marketplaces, Waterside in Norfolk, Va., where according to Martin Millsbaugh, president, appreciative tugs pulled their horns in unison at the dedication ceremony to

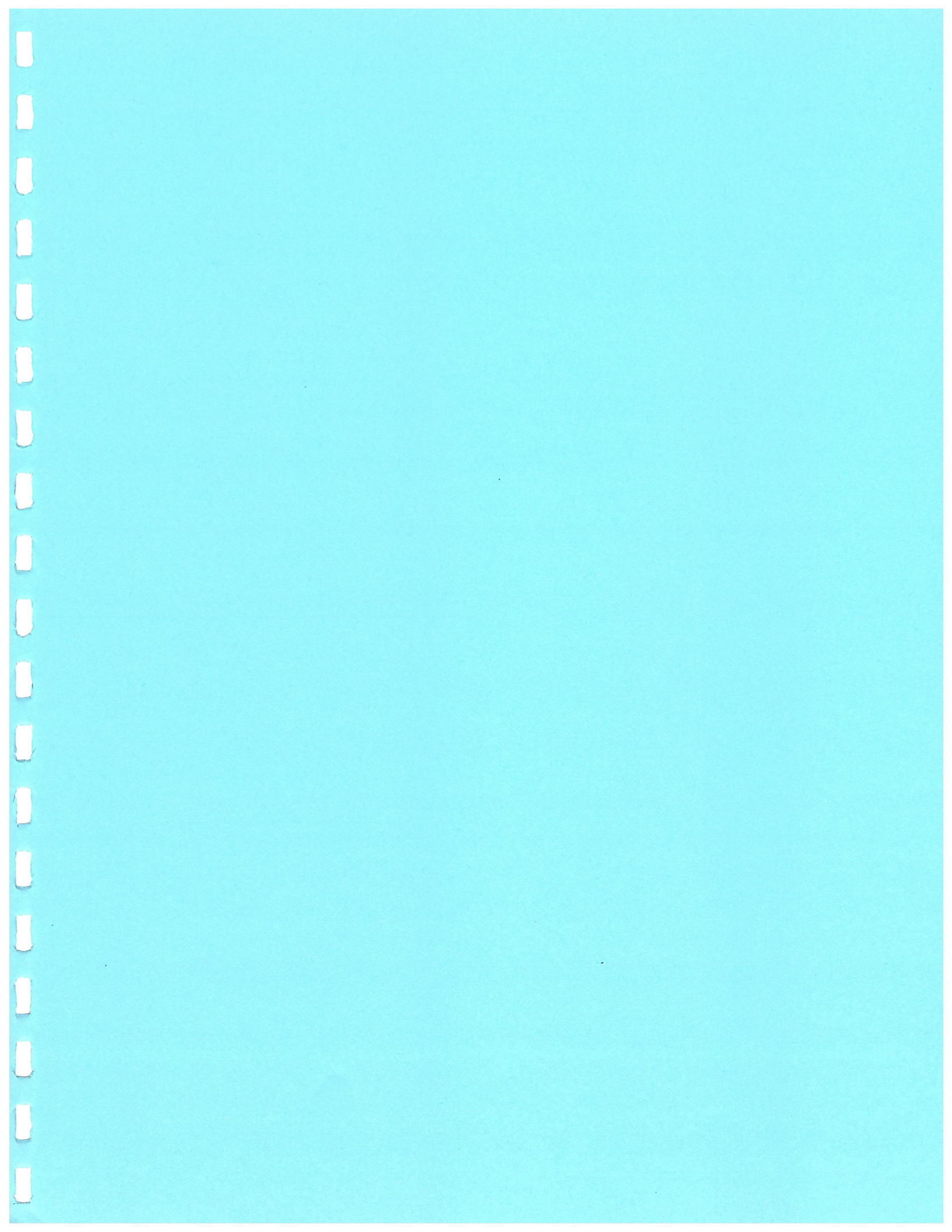
the surprise of everyone, creating a memorable moment for those assembled.

A logo design was felt to be one of the many "refreshing" outcomes of Duluth's downtown Waterfront Plan and Development Strategy according to Gerald Kimball, manager of the city's planning division. Initially designed to emphasize the waterfront for use on signs along the waterfront, the logo evolved as visual symbol of Duluth's determination to make a dramatic turnaround not only of their waterfront but the city as a whole. The logo became a component of a marketing campaign, "Duluth... Take a New Look," initiated by the Economic Development Steering Committee, a private/public sector effort. Increased tourism resulted and the city saw a chance for folks to take home items imprinted with the positive image represented by the logo.

In order to control inappropriate use of its logo the city entered into an exclusive marketing agreement with a private firm to develop a waterfront logo product line. This includes shirts, cups, coasters, visers, pins, to name a few. The city receives eight percent of the wholesale price on all items sold. Meanwhile, Bob Asleson, assistant city attorney, said the city has applied for a federally registered trademark to absolutely protect the use and integrity of the design.

Memorability, plus strong and positive identification are what most organizations seek to achieve with their logos. And as illustrated here, many are doing just that.





SECTION II -  
Excerpts From *Economic  
Impacts Of Protecting  
Rivers, Trails And  
Greenway Corridors*

---

The following document contains only portions of the entire report. The complete text is available from Rivers, Trails and Conservation Assistance, United States National Park Service. This document is not part of the Waterfront Center report, but is provided here for additional information to the community.

**U. S. DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE**

**RIVERS, TRAILS AND CONSERVATION ASSISTANCE PROGRAM**

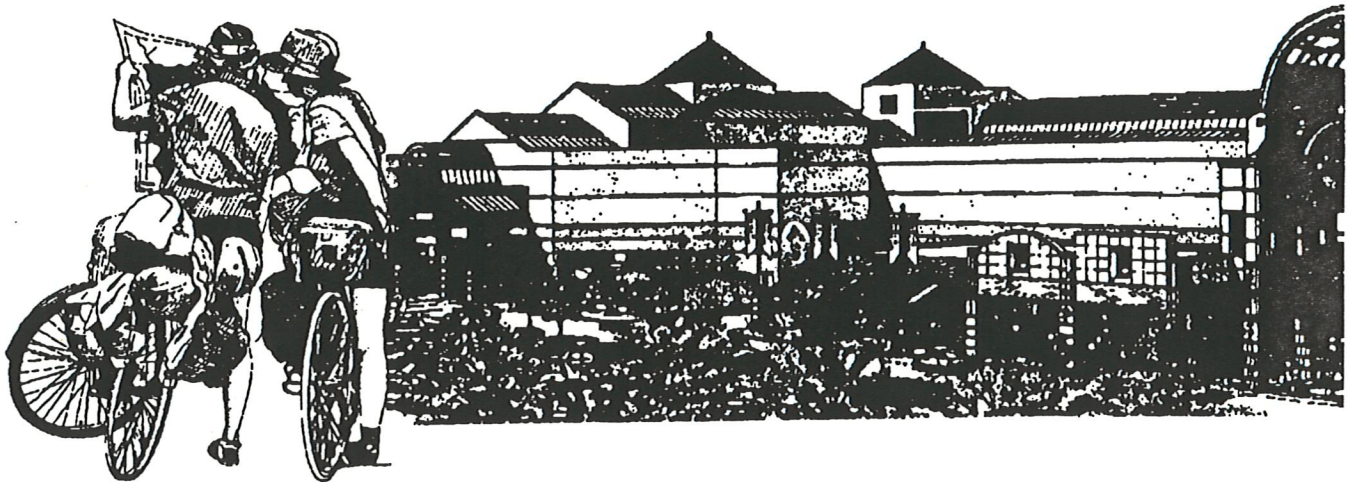
Rivers, Trails and Conservation Assistance is a program of the National Park Service which cooperates with states, local governments, and citizen groups to protect and restore river corridors and to establish trail systems. The goal of this outreach program is to share the expertise of the National Park Service with groups working to protect their river, trail and greenway resources.

## PREFACE

Rivers, trails, and greenway corridors (linear open spaces connecting recreational, cultural and natural areas) are traditionally recognized for their environmental protection, recreation values, and aesthetic appearance. These corridors also have the potential to create jobs, enhance property values, expand local businesses, attract new or relocating businesses, increase local tax revenues, decrease local government expenditures, and promote a local community. An example which illustrates the range of possible economic benefits is the Delaware and Raritan Multi-Use Trail, built along an abandoned railroad and canal in Central New Jersey.

■ "Property values adjacent to the park and trail have increased, according to James Amon, Executive Director of the D&R Canal Commission. Private businesses have been created in response to user demand. It is now common to see concessionaires and rental establishments catering to the many users of the trail and canal. An historic train station in Lambertville was recently restored into a restaurant and a hotel was built nearby which profits greatly from its trail neighbor. New proposals for trail-oriented development are currently in the works, including a combination canoe and bicycle rental outfitter" (*Railroads Recycled*, Rails to Trails Conservancy, Washington, D.C., 1990).

The Rivers, Trails and Conservation Assistance (RTCA) program of the National Park Service has produced this Resource Book to help local-level planners, park and recreation administrators, citizen activists, and non-profit groups understand and communicate the potential economic impacts of their proposed or existing corridor project.



# REAL PROPERTY VALUES



Greenway corridors provide a variety of amenities, such as attractive views, open space preservation, and convenient recreation opportunities. People value these amenities. This can be reflected in increased real property values and increased marketability for property located near open space. Developers also recognize these values and incorporate open space into planning, design, and marketing new and redeveloped properties.

Natural open space and trails are prime attractions for potential home buyers in 1995. According to research conducted by American Lives, Inc. for the real estate industry, 77.7 percent of all home buyers and shoppers in the study rated natural open space as either "essential" or "very important" in planned communities. Walking and bicycling paths ranked third. A community design which offers quiet and low traffic was the top ranked feature.

A research spokesperson commented that consumers are increasingly putting a higher premium on interaction with the environment through inclusion of natural, open space and nature paths. The findings of this most recent study differ greatly from the 1980's preferences, which included tennis courts, swimming pools, and golf courses. (San Francisco Chronicle, January 8, 1995)

### **Increased Property Values - Quantified**

The effect on property values of a location near a park or open space has been the subject of several studies. Statistical analyses have been a common method of attempting to measure this effect. These analyses attempt to isolate the effect of open space from other variables which can affect property values, such as age, square footage, and condition of homes. Isolating the effect of open space can be difficult and results have been varied. Nevertheless, many studies have revealed increases in property values in instances where the property is located near or adjacent to open spaces. Most studies have addressed traditional parks or greenbelts (large open space areas), though a few studies are available for greenways.

- A study of property values near greenbelts in Boulder, Colorado, noted that housing prices declined an average of \$4.20 for each foot of distance from a greenbelt up to 3,200 feet. In one neighborhood, this figure was \$10.20 for each foot of distance. The same study determined that, other variables being equal, the average

value of property adjacent to the greenbelt would be 32 percent higher than those 3,200 feet away (Correll, Lillydahl, and Singell, 1978).

■ The amenity influence of greenbelt land on property values also applies to privately held greenbelt land, according to a study of the Salem metropolitan area in Oregon. In this case, the greenbelt was comprised of rural farmland. Greenbelt zoning had been applied to this prime farmland beginning in 1974 in an effort to contain urban sprawl and preserve farmland. The study found that urban land adjacent to the greenbelt was worth approximately \$1,200 more per acre than urban land 1,000 feet away from the greenbelt boundary, all other things being equal. However, rural land values within the restrictive zoning actually decreased in value by \$1,700 per acre (Nelson, 1986).

■ A recent study of market appreciation for clustered housing with permanently-protected open space in Amherst and Concord, Massachusetts, found that clustered housing with open space appreciated at a higher rate than conventionally-designed subdivisions. Appreciation was measured as the percent increase in open-market sales price. The study compared one clustered development and one conventional subdivision in each community. The clustered homes studied in Amherst appreciated at an average annual rate of 22%, as compared to an increase of 19.5% for the more conventional subdivision. This translated into a difference in average selling price of \$17,100 in 1989 between the two developments. In both Amherst and Concord, the homes in the clustered developments yielded owners a higher rate of return, even though the conventional subdivisions had considerably larger lot sizes (Lacy, 1990).

■ An analysis of property surrounding four parks in Worcester, Massachusetts, showed a house located 20 feet from a park sold for \$2,675 (1982 dollars) more than a similar house located 2,000 feet away (More, Stevens, and Allen, 1982).

■ In the neighborhood of Cox Arboretum, in Dayton, Ohio, the proximity of the park and arboretum accounted for an estimated 5 percent of the average residential selling price. In the Whetstone Park area of Columbus, Ohio, the nearby park and river were estimated to account for 7.35 percent of selling prices (Kimmel, 1985).

■ In the vicinity of Philadelphia's 1,300 acre Pennypack Park, property values correlate significantly with proximity to the park. In 1974, the park accounted for 33 percent of the value of a plot of land (when the land was located 40 feet away from the park), nine percent when located 1,000 feet away, and 4.2 percent at a distance of 2,500 feet. (Hammer, Coughlin and Horn, 1974).

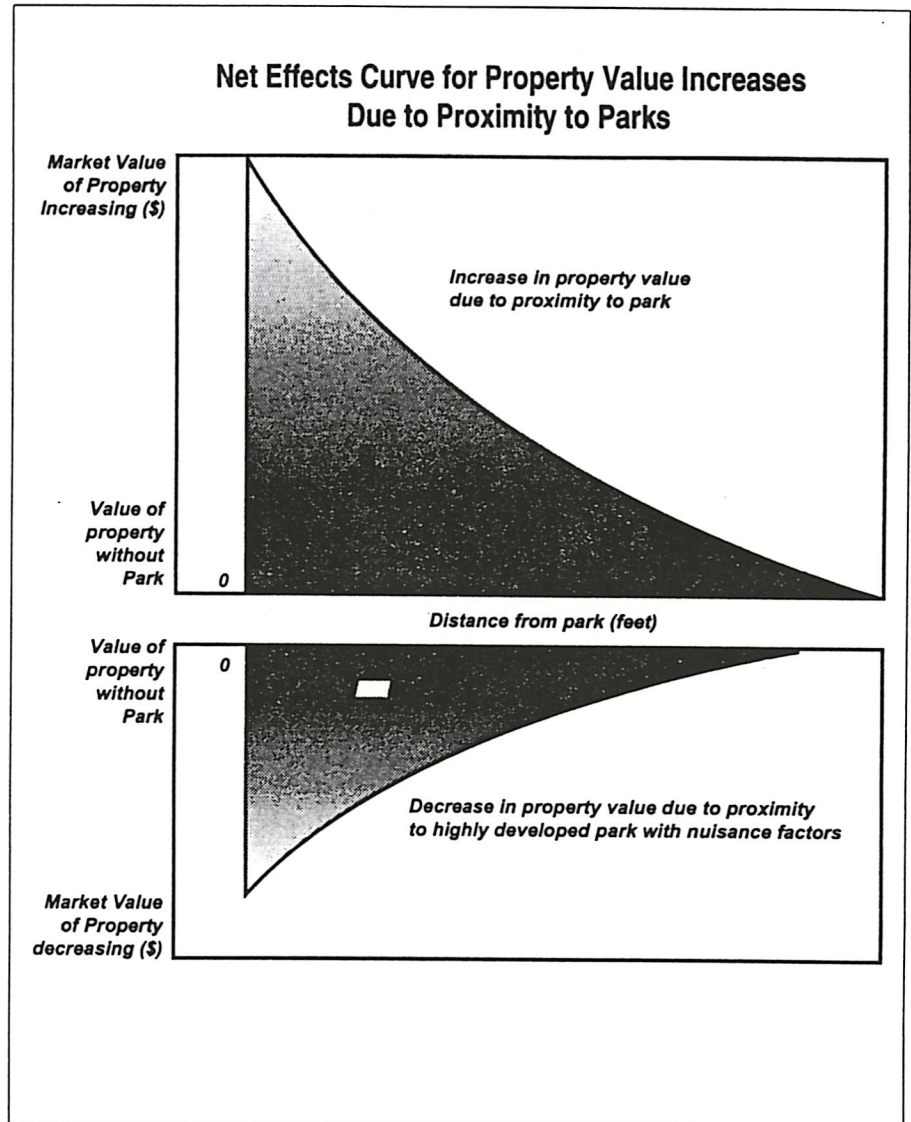
The effects of proximity to open space may not be as simply quantified as in the above studies. Many studies (Brown and Connelly; Colwell, 1986) have found the potential for an increase in property value depends upon the characteristics of the open space and the orientation of surrounding properties. Property value increases are likely to be highest near those greenways which:

- highlight open space rather than highly developed facilities
- have limited vehicular access, but some recreational access
- have effective maintenance and security

■ Similar residential properties near a park in Columbus, Ohio, were compared to determine if proximity to the park affected property values. Conclusions showed properties where the homes that faced the park sold for between seven to 23 percent more than homes one block from the park. Those homes that backed up onto the park sold at values similar to properties one block away (Weicher and Zerbst, 1973).

Some high use areas can actually have a negative influence on adjacent property, but still contribute to increased value of nearby properties. Lyon (1972) showed this relationship, as it pertained to traditional parks, graphically in Figure 1-1 on page 1-6.

Figure 1-1



The upper graph shows the increase in property values due to proximity to a park. Below that is the effect on property values due to a highly developed and used park.

One implication of these studies might be that increases in nearby property values depend upon the ability of developers, planners, and greenway proponents to successfully integrate neighborhood development and open space. Designing greenways to minimize potential homeowner - park user conflicts and maximize the access and views of the greenway can help to avoid a decrease in property values of immediately adjacent properties.

### Increased Property Values - Surveyed

Survey methodology has also been used to document perceived increases in property values. Surveys can be less time-consuming, less expensive, and generally require less specialized expertise than detailed statistical analyses. The following findings are based upon surveys of property owners and real estate professionals.

■ In a recent study, *The Impacts of Rail-Trails*, landowners along three rail-trails reported that their proximity to the trails had not adversely affected the desirability or values of their properties. Along the suburban Lafayette/Moraga Trail in California, the majority of the owners felt that the trail would make their properties sell more easily and at increased values. The other two trails studied included the Heritage Trail in eastern Iowa and the St. Marks Trail in Florida. (National Park Service and Pennsylvania State University, 1992)

■ A study completed by the Office of Planning in Seattle, Washington, for the 12 mile Burke-Gilman trail was based upon surveys of homeowners and real estate agents. The survey of real estate agents revealed that property near, but not immediately adjacent to the trail, sells for an average of 6 percent more. The survey of homeowners indicated that approximately 60 percent of those interviewed believed that being adjacent to the trail would either make their home sell for more or have no effect on the selling price (Seattle Office of Planning, 1987).

■ In a survey of adjacent landowners along the Luce Line rail-trail in Minnesota, the majority of owners (87 percent) believed the trail increased or had no effect on the value of their property. Fifty six percent of farmland residents thought the trail had no effect on their land values. However, 61 percent of the suburban residential owners noted an increase in their property value as a result of the trail. New owners felt the trail had a more positive effect on adjacent property values than did continuing owners. Appraisers and real estate agents claimed that trails were a positive selling point for suburban residential property, hobby farms, farmland proposed for

development, and some types of small town commercial property (Mazour, 1988).

■ A survey of Denver residential neighborhoods by the Rocky Mountain Research Institute shows the public's increasing interest in greenways and trails. From 1980 to 1990, those who said they would pay extra for greenbelts and parks in their neighborhood rose from 16 percent to 48 percent (Rocky Mountain Research Institute, 1991).

### **Increased Property Tax Revenues**

An increase in property values generally results in increased property tax revenues for local governments. Many arguments made for park and open space investment claim these acquisitions pay for themselves in a short period of time, due in part to increased property tax revenues from higher values of nearby property. A point to remember, however, is that many jurisdiction's assessments of property values often lag behind market value. Furthermore, in those states which have passed legislation limiting real estate tax increases, such as California's Proposition 13, property tax revenues also lag behind increases in market value.

■ A study of the impacts of greenbelts on neighborhood property values in Boulder, Colorado, revealed the aggregate property value for one neighborhood was approximately \$5.4 million greater than if there had been no greenbelt. This results in approximately \$500,000 additional potential property tax revenue annually. The purchase price of the greenbelt was approximately \$1.5 million. Thus, the potential increase in property tax alone could recover the initial cost in only three years. In the study, the authors did note that this potential increase is overstated in part because actual assessments may not fully capture greenbelt benefits (Correll, Lillydahl, and Singell, 1978).

### **Construction/Development Perspectives**

Proximity to greenways, rivers, and trails can increase sales price, increase the marketability of adjacent properties, and promote faster sales. Clustering the residential development to allow for establishment of a greenway might also

decrease overall development costs and result in greater profits for the developer.

■ McCormick Woods, a 1,400 acre development in Port Orchard, Washington is more than half open space, which includes approximately 200 acres of wetlands and headwaters of streams. Much effort was made to mitigate the impacts of construction through the use of buffers and enhancements made to lakes, ponds and streams within the site. A wildlife sanctuary was established and covenants were created to protect wildlife from domestic pets and prevent homeowners from using pesticides and fertilizers which could runoff into the wetlands. McCormick Woods won a special environmental award in a 1990 Puget Sound competition (Fletcher, 1991).

■ Along Milwaukee's increasingly popular riverfront private development has steadily increased. In the 1980s, a real estate developer built a series of condominiums, including boat slips, along the river. The units have steadily increased in demand and selling price over the years. The river's popularity in this area has grown and it is now one of the highlights of downtown Milwaukee (Woods, 1992).

■ A land developer from Front Royal, Virginia, donated a 50 foot wide seven-mile easement for the Big Blue Trail in northern Virginia after volunteers from the Potomac Appalachian Club approached him to provide a critical trail link along the perimeter of his second-home subdivision. The developer recognized the amenity value of the trail and advertised that the trail would cross approximately 50 parcels. All tracts were sold within four months (American Hiking Society, 1990).

■ Thirty-five acres was set aside as a protected corridor through a 71-lot subdivision for approximately one-half mile of the Ice Age Trail in Wisconsin. The Ice Age Trail Foundation had purchased the parcel when the land became available for sale and was being considered for development. Later the Foundation sold the parcel to a subdivision developer, after placing an easement on the trail corridor. The developer now touts the easy access to the Ice Age

Trail in promotional subdivision brochures (Pathways Across America, Winter 1991).

■ Hunters Brook (Yorktown Heights, New York), a cluster development of 142 townhouse-style condominium units ranging in price from \$170,000 to \$260,000, was designed to capitalize on the amount of open space in the development. The homes were clustered on 30 acres, preserving 97 acres of natural sloping woods, including a dense pine forest. Care had been taken to retain local wildlife, thus adding to the rural setting. One of the developers commented, "It may not be the woods that bring (buyers) to us initially, but it seems to make all the difference when they see what it's like" (Brooks, 1987).

■ In a 1970 study of a 760 square mile area in Maryland, noted planner Ian McHarg projected that uncontrolled development would yield \$33.5 million in land sales and development profits by 1980. Profits resulting from development plans designed to accommodate the same population level, while preserving desirable open spaces, would exceed \$40.5 million. The resulting additional \$7 million translated into an increase in value of \$2,300 per acre for the planned 3,000 acres of open space (Caputo, 1979).

Local ordinances may also provide incentives for developers to set aside open space and habitat areas. In Lee County, Florida an ordinance gives developers incentives to preserve critical habitat. In return for preserving habitat areas, developers are permitted to transfer development rights from the preserved area to other portions of the parcel. Habitat buffer areas can also fulfill applicable open space requirements and can be credited toward regional park impact fees.



## EXPENDITURES BY RESIDENTS

This section explains how expenditures by residents on greenway, river, and trail-related activities can help support the economy. Expenditures by residents refers to spending by day users as compared to visitors from outside the local area (see *Tourism* Chapter 5). The section covers overall expenditures on outdoor recreation, and how these contribute to national and state economies. Also discussed, is how resident recreation expenditures can contribute to a local economy. The last subsection lists specific expenditure levels for various river, trail, or greenway-related recreation activities.

This is the first of several sections in the Resource Book which discuss actual expenditures related to greenways, rivers and trails. The other sections - Commercial Uses, Agency Expenditures, and Tourism - focus on the impacts of spending by visitors and the agency(ies) which manage(s) the greenway. The concepts and applications within these sections overlap.

### **Outdoor Recreation, a Spending Priority**

Leisure is often considered to be discretionary, or free time, away from work and other responsibilities, where participants choose and control their activities. Leisure activities can vary from mountain climbing, walking for health, or watching a football game on television. Outdoor recreation is a major component of leisure, usually included in leisure spending figures unless reported otherwise. Outdoor recreation and leisure expenditures can account for a substantial part of people's discretionary spending. People spend more on leisure and recreation than the U.S. Government spends on national defense or housing construction.

- In 1990, 8.8 million people jogged at least twice a week throughout the year, an increase from 8.1 million in 1987. Nearly \$12 million was spent on athletic footwear in 1990. (U.S. News and World Report, April 1, 1991)

- In Pennsylvania, residents spent approximately \$11.8 billion or 12.6 percent of their total personal consumption dollars on leisure pursuits in 1981. Of this total, over 47 percent (an estimated \$5.6 billion) was spent for outdoor recreation activity alone. Leisure was the third largest item in personal budgets, exceeded only by housing and food costs (National Park Service, 1983).

■ In 1988, recreation and leisure was the third largest industry in California. More than \$30 billion per year is spent by Californians on recreation and leisure. This amounts to approximately 12 percent, or one of every eight dollars, of total personal consumption expenditures in the state (California Department of Parks and Recreation, 1988).

■ One study estimated that \$620 million is spent annually by California residents for urban recreation activities (playing sports, visiting parks, jogging, bicycle riding). This generates an estimated \$400 million in personal income and 22,800 jobs (Loomis, 1989).

How much outdoor recreation and leisure is attributable to the activities pursued along greenways, rivers and trails? Many outdoor recreation activities can be observed along a greenway. Patterns vary significantly due to factors such as proximity, accessibility, weather, recreation opportunities, income, and educational levels. Greenways are likely to provide increased opportunities for the more popular outdoor recreation activities. According to *Lifestyle Market Analysts*, a new report by National Demographics and Lifestyles Inc., a survey of households in 212 metropolitan areas revealed overall participation rates for several related activities:

- 40.4% Walk for health
- 32.8% Pursue physical fitness/exercise
- 14.9% Bicycle
- 13.75% Boat or sail
- 12.4% Run or jog

### **Spending by Local Residents**

You can define your local economy as the area for which you want to quantify the recreation activity and expenditures related to your greenway project. A greenway project can attract residents not only to the greenway, but also to nearby businesses, and encourage residents to purchase recreation-related equipment and services. These greenway-related expenditures help support the local economy through generation of employment and income.

Specifically, local residents who use the greenway may spend money to get to and from the site, on supplies and equipment to pursue their recreation experience, at on-site concessions and events, and nearby attractions. The magnitude of the impact of these expenditures depends upon the boundary and character of your local economy and the level of spending by local residents.

If a new resource is created which attracts visitors, or non-residents, then outside dollars may be brought into your local economy. River, trail and greenway resources which attract visitors can stimulate economic activity and create new jobs and income. These non-resident expenditures are discussed in the Tourism section of the Resource Book.

### **Trends and Expenditures by Activity**

The following discussion provides information on trends associated with uses of greenways and provides evidence where spending associated with greenway-related activities has been quantified. Activities include wildlife-related recreation, river boating, trail-related recreation, and traditional park pursuits.

#### Fish and wildlife-related recreation

- Fishing
- Hunting
- Birdwatching
- Wildlife photography

#### River boating

- Rafting
- Rowing
- Kayaking
- Canoeing
- Motorboating
- Sailing
- Sailboarding
- Houseboating
- Jet skiing

Trail-related recreation

- Walking
- Jogging
- Hiking
- Volksmarching
- Roller skating/in-line skating
- Bicycling/mountain bicycling
- Horseback riding
- Cross-country skiing

Traditional park pursuits

- Photography
- Camping
- Hosteling
- Attending special events
- Concerts
- Festivals
- Driving for pleasure

**Fish and Wildlife-Related Recreation.** Activities associated with fish and wildlife-related recreation include: fishing, hunting, birdwatching, and wildlife photography. According to the U.S. Fish and Wildlife Service, 108.7 million people in the United States took part in wildlife-related recreation in 1991. Expenditures by these participants were \$59 billion. Of these total expenditures, 70 percent was spent on fishing and hunting (U.S. Fish and Wildlife Service, 1993).

■ In 1991, hunting, fishing and wildlife viewing resulted in \$5.3 billion of annual spending in California. Of the 9.2 million people participating in wildlife-related recreation, 32 percent fished, 6 percent hunted and 71 percent pursued wildlife viewing (U.S. Fish and Wildlife Service, 1993).

Sport fishing is one of the most popular outdoor recreation activities in the U.S. A steady increase in fishing has occurred nationwide, from 17.6 percent of the U.S. population in 1955 to nearly 22 percent in 1991. In 1991, just over 35 million U.S. residents spent \$24 billion on salt and freshwater fishing. Average expenditures per person for fishing have been estimated at approximately \$700

per year (U.S. Fish and Wildlife Service, 1993). Start up expenditures for fly fishing equipment can range from \$500 to \$2000. Demand for fishing is expected to continue to increase.

■ In the Pacific Northwest (northern California, Oregon, Washington and Idaho), Pacific salmonids including trout, steelhead, salmon and char support commercial and recreational fishing industries that produce over \$1 billion in personal income per year and more than 60,000 jobs in the region. These figures include the economic impact of wild fish and hatchery fish, all of which ultimately depend on the integrity of the habitat that supports them (Oregon Rivers Council, 1992).

Viewing wildlife was another rapidly growing recreation activity in the 1980's and is the most common form of wildlife recreation in California, where nearly 75 percent of state residents participate.

■ As reported by the U.S. Fish and Wildlife Service, 30 percent of the total national wildlife-related recreation expenditures (\$18.1 billion in 1991) was related to wildlife viewing and photography (U.S. Fish and Wildlife Service, 1993).

■ The typical birdwatcher spends \$13 per day, with almost half spent on food and beverages, one-fourth on gas and oil, and most of the remainder on lodging. Spending by birdwatchers contributed a total of \$27 million in wages and business income to California's economy in 1987. A total of nearly 2,000 California jobs are supported by birdwatchers (Loomis and Unkel, 1989).

Interest in wildlife viewing should continue to increase over the next decade in areas where urbanization, education, and income levels continue to rise.

**River Boating.** Recreational river boating is one of the nation's most popular outdoor activities and includes rafting, rowing, kayaking, canoeing, motorboating, and more recently, jetskiing. In the last two decades a dramatic growth in whitewater boating has been evidenced (Shelby and Lime, 1986). Use of wild and scenic rivers in national forests more than doubled in the six years between 1976 and 1984 (Feuchter, 1984).



■ In Colorado, river running brings in more than \$50 million annually to the state's economy and fishing contributes over \$1 billion annually (Finken, 1988).

■ Americans purchased approximately 90,000 canoes in 1988, a fourteen percent increase over purchases in 1985 (Ingrassia, 1989). Canoeing by residents and visitors contributes \$20.1 million per year to the Arkansas economy. Overall economic impact of outdoor recreation in Arkansas is \$1.5 billion per year (Wilson, 1986).

It has been forecasted that there will be participation by a wider segment of society in river boat activities and that there will be increased representation by family groups. There is also likely to be longer participation throughout people's lifetimes, increased numbers of participants from older age groups, and increased sport expertise and equipment ownership. These trends are expected to increase the demand for quality river trips and for challenging whitewater experiences, technical innovation in creating new river equipment, better skill and safety instruction, and more sponsored events (Lime, 1984).



**Trail-related Recreation.** Much of the population enjoys trail-related recreation such as: walking for pleasure and health, jogging, hiking, volksmarching, bicycling, rollerskating, in-line skating, horseback riding, and cross-country skiing. Research has shown walking and hiking have played a significant role in the nationwide growth in outdoor recreation. There are over 26 million day hikers in the U.S., and over half the American public says they walk for pleasure (Spitzer, 1988). Also, running has increased significantly since the early 1960's. According to a national recreation survey conducted for 1982-1983, over 25 percent of the U.S. population ran for conditioning during that time period (Van Horne, et al., 1985).

■ Trail users of three rail-trails generated a total economic impact of over \$1.2 million for each trail, according to the recent study *The Impacts of Rail-Trails*. These trails were used mostly by people living nearby who visited frequently. "Users spent an average of \$9.21, \$11.02, and \$3.97 per person per day as a result of their trail visits to the Heritage, St. Marks, and Lafayette/Moraga Trails respectively." (Moore, et al 1992).

■ Maryland's North Central Rail Trail, a 20-mile corridor through Baltimore County has become quite popular in the last few years. Use of the trail increased from 10,000 visitors in 1984 to 450,000 in 1993. The trail supports approximately 264 jobs statewide. Goods purchased in 1993 for uses related to the North Central Rail Trail were valued at over \$3.38 million (Maryland Greenways Commission, 1994).

Bicycling attracts people of all ages and interest in this activity is retained from childhood into later years. With the aging of the U.S. population, bicycling will likely retain its popularity as a "lifetime" activity. In the United States, the rate of participation in bicycling tripled since the early 1960s. By the end of 1993, there were more than 100 million bicyclists in the United States. This represents an increase of over 33 percent in the last ten years (Bicycle Federation of America, 1994). Bicycles are used for commuting to work as well as pleasure and fitness. There were 2.7 million bicycle commuters in the U.S. in 1987, more than double the number in 1982.

All-terrain bicycle use, or mountain bicycling has recently emerged as a very popular form of bicycling. In the United States, mountain bicycle ownership increased dramatically from 200,000 in 1983 (Hecker, 1989) to more than 25 million in 1992, up 20 percent from 1991 (Bicycle Institute of America). The communities of Marin County, California, Moab, Utah, and Durango, Colorado all vie for the title of "mountain bicycling capital of the U.S.", according to a recent article in the *Independent Journal* (Western Trail and Bikeway News, 1994).

■ The Hart-Montague Bicycle Trail in Michigan follows along 20 miles of the eastern coast of Lake Michigan. In 1992, six months of bicycle use along the trail increased business for several owners by 25 to 30 percent. Trail passes brought in revenues of approximately \$40,000, up 33 percent from revenues in 1991 (Aardema, 1992).

■ A 1991 survey of trail users in Oil Creek State Park in Venango County, Pennsylvania revealed that each cyclist spent an average of \$25.86 per visit/day. (Pennsylvania Economy League, 1993)



In-line skating has also become extremely popular in the U.S. in just the past few years. The original intent of these skates in the U.S. was for summer hockey training. They were quickly adapted as a sport unto themselves and from 1991 to 1993 participation in the sport increased from approximately 6 million to 12.5 million in the U.S. (NSGA, 1994).

- In 1993, 4.6 million pair of skates were sold, generating \$310 million (Sports Style Magazine, 1993). The industry estimates a 30 percent increase in skates sold and dollars generated in 1994.

Another rapidly growing trail-related activity is cross-country skiing which experienced an 80 percent increase during the period between the 1982 to 1983 and 1987 to 1988 ski seasons. Over 50 percent of participants interviewed were between the ages of 25 and 44 and over 50 percent had skied less than five years (Ski Industries America, Inc., 1988).

Since the 1960's, participation in horseback riding has been fairly constant, with a greater number of participants being female. Horseback riding is a very high expenditure activity.

- The Heritage Trails Fund estimated the total amount contributed by equestrians to the economy of California and local communities to be \$1.8 billion dollars. This is based upon a horse population of over one million, and includes annual costs for feeding, license fees, trucks and trailers, horse shelters, and other horse equipment.

Table 2-1

<b>Estimated Start-up Costs by Activity</b>			
<b>(Per New Entrant)</b>			
<b>Activity</b>	<b>Purchase</b>	<b>Low-end Cost</b>	<b>Mid-Range Cost</b>
<b>Bicycling</b>	Bicycle	\$ 300	\$ 800
	Helmet	50	50
	Lock	30	30
	Bicycle Rack		25
	Bicycle Pack		50
	Water Bottle		10
	Shoes		45
	Clothing		50
	Car Rack		150
	<b>Total</b>	<b>380</b>	<b>1,210</b>
<b>Hiking</b>	Shoes/Boots	45	120
	Socks	10	15
	Daypack	20	40
	Water Bottle	5	5
	<b>Total</b>	<b>80</b>	<b>180</b>
<b>Birdwatching</b>	Binoculars	50	150
	Spotting Scope		200
	Field Guide	10	50
	Camera, lenses, etc		1000
	<b>Total</b>	<b>60</b>	<b>1,780</b>
<b>Cross-country Skiing</b>	Skis	85	250
	Boots	40	90
	Bindings	10	30
	Poles	15	30
	Wax	15	60
	Clothing		100
	Gaiters		25
	<b>Total</b>	<b>165</b>	<b>505</b>
<b>Horseback Riding</b>	Lessons	250	250
	Hard Hat	40	40
	Boots	100	100
	Crop	15	15
	Horse		1,000
	Tack		500
	Boarding (annual)		2,400
	<b>Total</b>	<b>405</b>	<b>4,305</b>
<b>Skating</b>	Inline Skates	100	210
	Wrist Guards	20	20
	Knee and Elbow Pads	40	60
	Helmet	50	50
	<b>Total</b>	<b>210</b>	<b>340</b>

<b>Estimated Start-up Costs by Activity</b>			
<b>(Per New Entrant)</b>			
<b>Activity</b>	<b>Purchase</b>	<b>Low-end Cost</b>	<b>Mid-Range Cost</b>
<b>Canoeing</b>	Canoe	250	500
	Life Jacket	40	50
	Paddles	100	100
	Car Rack		150
	Foul Weather Gear		1,000
	Drybags		
	Safety Equipment		
	<b>Total</b>	<b>390</b>	<b>1800</b>
<b>Kayaking</b>	Kayak	700	700
	Paddle	90	90
	Drysuit	200	200
	Sprayskirt	50	50
	Helmet	40	40
	Safety Equipment		75
	Car Rack		150
	<b>Total</b>	<b>1,080</b>	<b>1,305</b>
<b>Rafting</b>	Raft	1,500	3,000
	Frame	250	250
	Oars	200	200
	Safety Equipment	150	150
	Life Jackets (for 4)	200	200
	Car Rack		100
	Clothing (for 4)		200
	Lessons/Training	475	475
	<b>Total</b>	<b>2,775</b>	<b>4,575</b>
<b>Fishing Cold Water</b>	Rods, reels, line	90	200
	Flies, lures, tackle	60	150
	Accessories	70	200
	Waders	70	150
	<b>Total</b>	<b>290</b>	<b>700</b>
<b>Fishing Warm Water</b>	Rods, reels, line	65	150
	tackle	45	150
	Accessories	70	200
	<b>Total</b>	<b>180</b>	<b>500</b>

## COMMERCIAL USES

Greenways can provide business opportunities, locations, and resources for commercial activities. These activities may include on-site concessions, permittees, partnerships between the managing agency and other groups, special events, and commercial filming activities. Compatible business ventures can provide a wide range of visitor services and facility improvements.

Documenting and estimating the economic impacts of the commercial uses associated with rivers, trails, and greenways can be useful in promoting your corridor project. Demonstrating these impacts might also help to expand a project or provide information to assist greenway promotion in other communities.

### **Concessions, Permittees, and Partnerships**

Concessionaires, permittees, and partnerships are recruited and usually bid for the right to provide a range of on-site visitor services which a public agency chooses not to operate. Typical examples include food services, recreation equipment rentals and sales, lessons, lodging, and convenience items. These services directly serve and enhance the recreational experience of greenway users.

Concessions, permittees, and licensees are usually privately operated entities, mostly for-profit though sometimes non-profit, that operate on public land by authorization of the managing agency or group. A partnership is similar, but most often involves non-profit entities. These activities can have a significant effect on a local economy.

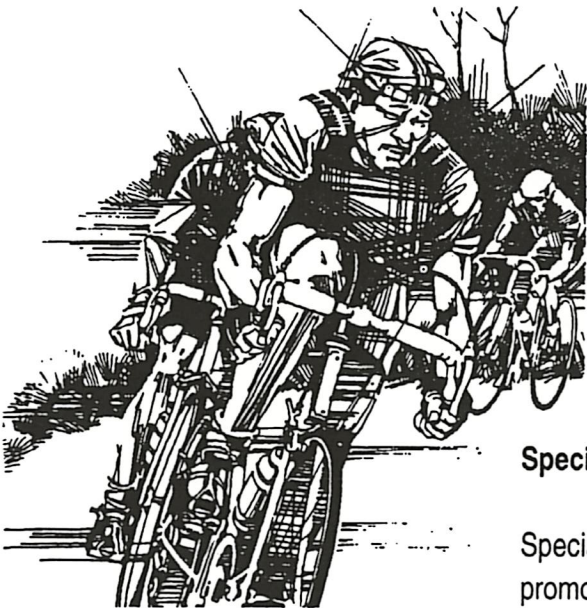
- Along the lower Colorado River (Arizona), thirteen concessionaires under permit to the Bureau of Land Management generate more than \$7.5 million annually in gross receipts, with a major spinoff effect in the local economy (Bureau of Land Management, 1987).

- Golden Gate National Recreation Area (GGNRA), a National Park Service unit in San Francisco, California, has contracts with ten primary concessionaires. Total 1988 gross revenues for these concessionaires were over \$16 million, over 25 percent of which was spent on payroll. GGNRA also has cooperative agreements with non-profit park partners who operate within park boundaries.

The seven primary partners generated over \$6 million in total revenue in 1988, almost half of which went for payroll, which provided local jobs (National Park Service, 1989).

Revenues may also be generated through agricultural leases within a greenway. For example, grazing leases on lands owned by the California State Department of Fish and Game in Northern California generated net revenues averaging more than \$10,000 per year from 1981 through 1989. Cattle grazing on a portion of these lands, located at Earl and Talawa Lakes, was used as a resource management tool to restore and improve habitat for the endangered Aleutian Canada Goose. The revenues generated from grazing were then utilized to improve recreation on the site.

Another type of partnership has been appearing across the country between private utility companies and trail managing entities. Telecommunications companies, for example, have made agreements to route fiber-optics within the trail corridor in return for compensation, which can often help in building and maintaining the trail. Other potentially compatible utilities that might generate income include: cable television wires, gas pipelines, electric transmission and distribution lines (Ryan, 1993).



■ The Northern Virginia Regional Park Authority has a twenty year license agreement with AT&T for thirty miles of fiber-optics routing along the Washington and Old Dominion Rail Trail. The annual fee from AT&T is used to cover capital improvements for the trail (McCray, 1994).

■ The trail managing entity of Wisconsin's Glacial Drumlin Trail issued a ten-foot wide perpetual easement to U.S. Telecom, which paved the 48-mile trail (\$375,000 value) in exchange for use of the corridor (Ryan, 1993).

### Special Events

Special events not only generate revenues to sponsors and the community, but promote the greenway itself to residents and visitors.

■ Eppie's Great Race consists of a 6 mile run, 12.5 mile bike ride, and 6.35 mile paddle down the American River in California. The Sacramento County Department of Parks, Recreation and Open Space sponsors this annual event, held along the American River Parkway. All proceeds are donated to Adaptive Leisure Services (ALS). The 1989 Great Race raised \$40,000 and race donations to date total over \$260,000. These proceeds have allowed ALS to expand programs to meet the leisure interests and needs of persons with disabilities (County of Sacramento, 1989).

■ The 12th annual "Great Race" in Pittsburgh attracted 12,807 runners to the city. Those runners living outside Pittsburgh, but within Allegheny County, spent an average of \$14.40 on race-related items, with 54 percent spent within city limits. Pennsylvania runners travelling to the race from beyond Allegheny County spent an average of \$28.29 within Allegheny County, 75 percent of which was spent within Pittsburgh. Not only did the event attract runners to the city of Pittsburgh, but it is estimated that over 40 percent of all travelling parties brought at least one non-runner to the event. In fact, one estimate showed that those runners living outside city limits brought over 4,000 spectators to the event.

■ Overall, the 1987 Great Race generated an estimated direct economic impact of \$220,000 within Allegheny County. Adding registration fees paid by race participants, this total exceeds \$330,000. This total does not include spectator expenditures except for those spectators brought by runners. Thus the overall total expenditures associated with the event would likely be much higher (Gitelson, et al., 1987).



Special events can also be used to raise money and promote the greenway or trail itself. Such events can serve as a catalyst to gain support, strengthen volunteer organizations, and raise public awareness of your project. You should report this economic activity as testimony of support for your greenway.

- "Take a Walk on the Wild Side Ice Age Trail Hike-A-Thon", in Wisconsin, drew over 1,200 hikers and raised \$30,000, against \$15,000 in expenses. The Ice Age Trail Council and Ice Age Park and Trail Foundation sponsored the event to raise money to support the development and maintenance of the trail, raise public awareness, and strengthen organizations by providing a rallying point. Marketing techniques included distribution of several thousand posters featuring a "hiking mammoth," advertisements and a feature article in Wisconsin Silent Sports, and a steady stream of articles in state and local newspapers (Pathways Across America, Fall 1988).
  
- The San Joaquin River Parkway and Conservation Trust in Fresno, California, organizes a variety of annual events to raise money for the Trust. One of the most successful events was "Evening on the River," which featured dinner and entertainment at \$100 per person. This event raised approximately \$10,000. Another popular event is a bike rally, featuring a variety of distance rides, which raises public awareness of the Parkway in addition to money. The Executive Director of the Trust, Donn Furman, stresses the key to successful events is to get as many sponsors as possible. Sponsors can donate t-shirts, food, printing, and other services. Sponsors help to defray event costs, thereby increasing the amount you raise for the greenway (Donn Furman, 1990).
  
- The Greenway and Nature Center of Pueblo, one of the most active trail-related organizations in Colorado, sponsors several events annually, as well as renting bicycles and rafts. One special event is the Bluegrass Festival and Crafts Fair. This event not only raises public awareness and money for the Greenway and Nature Center, it also provides opportunities for local artisans and food establishments (Tim Merriman, Executive Director, Greenway and Nature Center of Pueblo, 1990).



## Filming and Advertising

Unique and scenic areas are desirable as location backdrops for movies, television, and photo sessions for magazine and newspaper advertising. Fees paid to use these areas, in addition to the money spent locally by film production crews during filming sessions, are beneficial to the managing local agency and the local economy. Media exposure of a river, trail, or greenway can also help to promote the area and attract visitors.

- Movies and television shows, commercials and advertisements filmed on land under the jurisdiction of the Bureau of Land Management in Utah have added income to Moab, Kanab and other Utah communities (Bureau of Land Management, 1987). Over 100 movies and television shows have been filmed in and around Kanab. Moab even has a Movie Locations Auto Tour guide (Jarvik, 1994).

**AGENCY EXPENDITURES**

This section of the Resource Book presents how the expenditures of the agency responsible for managing a river, trail, or greenway can contribute to the local economy. Agency expenditures contribute to economic activity, providing payrolls and support to a myriad of businesses.



### Level of Expenditures

The managing agency supports the local and regional economy by providing jobs and purchasing supplies and services to develop, operate, and maintain the greenway and related improvements. Benefits to the local community are greater if supplies and services are purchased from local businesses. The following examples illustrate the level of expenditures which potentially impact the local community. Expenditures must be reviewed in detail to determine how much is spent locally.

- The 1993 operations budget for the North Central Rail Trail in Baltimore County, Maryland reached almost \$192,000. These state expenditures provided for salaries, maintenance, contractual services and utility bills (Maryland Greenways Commission, 1994).
  
- The American River Parkway accounted for over \$1 million in expenditures by the County of Sacramento Parks and Recreation Department in fiscal year 1989-1990. This 5,000 acre greenway includes 23 miles of paved trails and over 50 miles of riding and hiking trails. Approximately \$600,000 of the expenditures were made for services and supplies, and \$450,000 for salaries and benefits. Expenditures on services and supplies range from professional planning services to paper products (Wright-Woodruff, 1990).
  
- Boulder Creek Corridor in Boulder, Colorado, is maintained by both the City Public Works Department and the Parks and Recreation Department. The Park and Recreation Department's groundskeeping maintenance generates annual expenditures of \$6,000 for salaries and \$3,000 for services and supplies per mile. The Transportation Division of Public Works spends \$1,600 in salaries and \$850 per mile for trail maintenance (Barnett, 1990).

■ A 1978 study completed for the East Bay Regional Parks District in California, assumed that for every \$1 received by the District in tax funds, grants or gifts, \$3 was returned to the community through supplies, contracts, equipment, payroll, and transportation (Spickard, 1978). In 1989, the East Bay Regional Park District spent over \$27 million for employee salaries and benefits (Cobb, 1989).

Employment generated by a greenway project can be targeted by the managing agency to benefit particular needs of the community. For example, programs may be implemented to employ population segments suffering from high unemployment.



■ In response to community needs for youth employment and job training, the city of Battle Creek, Michigan, and the Urban League joined in a program to hire youths to construct the city's Linear Park. The program provided employment and training for approximately 200 youths over four summer seasons between 1984 and 1987. The Urban League of Battle Creek was responsible for hiring, while city staff performed planning and engineering (Kracht, 1990). This program not only provided employment, but helped the youth develop work skills and a "sense of pride in their contribution to the City of Battle Creek in general and the Linear Park in particular" (City of Battle Creek, 1985).

■ Youth and the environment are also brought together under the California Conservation Corps (CCC). Each year the CCC employs approximately 2,000 young adults, 18 to 23 years old, to work on conservation projects sponsored by local, state, federal government, and non-profit organizations. This mutually beneficial program not only provides young adults with employment and the development of work skills, it also gives conservation-related organizations access to an affordable labor force. Corps' accomplishments include: construction or rebuilding 2,500 miles of trails, nearly four million work hours in park improvement, and more than 900 miles of stream clearing for salmon and trout migrations (California Conservation Corps, 1990).

### Local Business Support

Agency expenditures are more important to some businesses than others. Some businesses or contractors may be dependent upon local recreation/open space agencies for a significant portion of their revenues.

- In one year, local recreation agencies in Illinois spent \$136 million in a diversity of economic sectors. The top ten sectors were utility services, insurance, vehicles, sporting goods, lumber and building materials, legal agencies and service, swimming pool supplies, chemical lubricant and gasoline supplies, food purchases, and play ground equipment (Sheffield, 1986).
  
- A T-shirt printing shop in the St. Louis area estimated that 15 to 20 percent of their 1987 revenues came directly or indirectly from the area's municipal agencies and that this market was increasing (Sheffield, 1988).
  
- The sporting goods manufacturing firm, Wilson, noted that park and recreation agencies directly or indirectly supported as much as 30 percent of the company's corporate/domestic sales (Sheffield, 1988).

# TOURISM

Greenways, rivers and trails which attract visitors from outside the local area can stimulate the local economy. This section begins with examples stressing the importance of natural and cultural areas for attracting visitors, followed by examples showing how rivers, trails, and greenways can contribute to the travel and tourism sectors. The last subsection demonstrates how corridor projects can increase tourism appeal and marketing potential of a local community.



### The Travel Industry

Travel and tourism is the leading employer in several states and has been predicted to be the leading industry in the United States and the world by the year 2000. Travel is also a leading industry and source of jobs within regions and local communities, and is increasing in relative economic importance. Expenditures for travel and tourism impact transportation, lodging, eating establishments, retail, and service businesses. These expenditures support jobs, personal income, and government tax revenues.

- Travel industry employment for 1989 increased by nearly 3 million jobs from 1988. This employment includes air transportation, intercity highway travel, eating and drinking establishments, hotels and motels, and amusement and recreation services. The travel industry has continually out-performed the overall economy in creating new jobs. (U.S. Travel Data Center, 1989, 1990).
- In 1992, travel-generated visitor expenditures in California reached approximately \$52.8 billion. These expenditures generated \$938 million in local taxes, \$2 billion in state taxes, 668,000 jobs and \$11.5 billion in payroll expenditures.

For purposes of this section, "travel and tourism-related expenditures" refer to those visits that originate from beyond the boundaries of your local economy. Typically, these are trips from at least 50 miles away and any trips which may involve an overnight stay. Expenditure patterns for visitors are usually higher than for local users. Spending by residents is discussed in Section 2 of this Resource Book.

A greenway, which provides local opportunities and enhances tourist draw, can be an important asset to your community. Recent trend analyses show that



weekend trips to nearby areas are on the increase, while the traditional two-week summer vacation is on the decline for today's travellers. This is due to the job complications of two-income families, limited time budgets, interest in more specialized recreation experiences, increased mixing of personal and business travel, and year round schools.

### **Natural/Cultural Areas Attract Travellers**

Outdoor recreation, natural, historical, and cultural resources are increasingly important attractions for travellers. Ecotourism is an environmentally responsible form of travel in which the focus is to experience the natural areas and culture of a region while promoting conservation and economically contributing to local communities (Adventure Travel Society, 1994). Ecotourism is one of the fastest growing areas of the travel industry. According to the *Travel Industry World Yearbook*, in 1992 ecotourism comprised 10 to 20 percent of all travel (Bangs, 1992).

- A poll commissioned by the President's Commission on Americans Outdoors found that natural beauty was the single most important criterion for tourists in selecting a site for outdoor recreation (*Scenic America*, 1987).

- In a recent report, the governors of five New England states officially recognized open space as a key element in the "quality of life" in their region. They credited "quality of life" as providing the foundation of a multi-billion dollar tourism industry and bringing rapid economic growth to the region (Governor's Committee on the Environment, 1988).

- Ramsey Canyon Reserve and the San Pedro National Conservation Area (RNCA) in southern Arizona attract a significant number of visitors from outside the local area. Approximately two-thirds of the visitors to these sites are from outside of Arizona and approximately 5% are from the United States. These visitors bring economic activity not only to southeastern Arizona, but to the state as a whole. The typical non-resident visitor to Ramsey Canyon spends \$55 per day in Sierra Vista, while a non-resident visitor to the San Pedro RNCA spends \$51 per day in Sierra Vista. The total eco-



conomic impact in the Sierra Vista area associated with nature-based visitors to Ramsey Canyon and the San Pedro RNCA is estimated at nearly \$3 million per year (Crandall, Leones, and Colby, 1992).

■ Several kayak outfitters have teamed up with environmental groups working to protect and enhance the quality of the San Francisco Bay in northern California. This cooperative effort has resulted in naturalist-lead kayak tours of the bay which raise funds for the effort to improve the ecological integrity of the bay (Sunset Magazine, 1994).

In 1988, 75 percent of all travel was for pleasure. Outdoor recreation and entertainment are growing in importance and accounted for 41 percent of pleasure travel, while 34 percent was attributed to visiting family and friends. Business travel accounted for 17 percent of all travel in 1988, with the remaining 8 percent attributed to personal and other reasons.

Travellers are also increasingly attracted to educational-oriented experiences provided by cultural and historic sites. Along with recreation and beautiful natural sites, tourists cite cultural heritage as one of three major reasons they travel to specific locations (U.S. Travel Data Center, 1991).

One of the fastest growing areas of tourism includes cultural and historic community festivals, events, and competitions. This will be a boon to community-based tourism. Greenways and trails can provide a link between historic and cultural sites. For example, the Azalea Trail in Mobile, Alabama, serves as a city beautification project and attracts tourists. Because preservation of these historic sites serves as a stimulus for tourism, there can also be significant impacts to the local economy.

■ A 1993 study by the Travel Industry of Association of America shows that 35 percent of 1500 respondents intended to visit an historic site while on vacation. A separate study notes that visitors stay a half-day longer and spend \$62 more at historic sites than at other locations (Wall Street Journal, 1993).

■ In less than a decade, the establishment of Lowell NHS in Massachusetts, spurred the economic renewal of a repressed

economy. The city of Lowell is prosperous and vibrant today. Investment by the public sector has totalled \$122.7 million (including \$18.7 million from the National Park Service to establish the National Historic Site.) For every \$1 of public investment there has been a total private investment/return of \$7. (Cassandra Walter, Superintendent Lowell National Historic Park, 1989)

### **Attributing Expenditures to Rivers, Trails and Greenways**

Greenways, rivers, and trails can have varied levels of tourist draw. They can be travel destinations in themselves, encourage area visitors to extend their stay in the area or enhance business and pleasure visits. The "level of tourist draw" determines the appropriate proportion of the visitor's time and travel expenditures that can be attributed to the greenway. If visitors extend their trip an extra night to visit a greenway, the additional night's lodging and meals can be attributed to the greenway.



■ San Antonio Riverwalk is considered the anchor of the tourism industry in San Antonio, Texas. Tourism is the second largest economic sector in the city, accounting for \$1.2 billion annually. An auto survey concluded that the Riverwalk is the second most important tourist attraction in the state of Texas (Richard Hurd, San Antonio Department of Parks and Recreation).

■ In 1988, users of the Elroy-Sparta Trail in Wisconsin averaged expenditures of \$25.14 per day for trip-related expenses. Total 1988 trail user expenditures were over \$1.2 million. Approximately 50 percent of the users were from out-of-state, and the typical user travelled 228 miles to get to the trail (Schwecke, et al., 1989).

■ In Montana, an estimated 75,000 visitors to the upper Missouri Wild and Scenic River, and Lewis and Clark National Historic Trail, contribute \$750,000 annually to the economy of the area around the 149 mile river corridor (Bureau of Land Management, 1987).

■ Once trail construction is complete along Sonoita Creek in Patagonia State Park, near Nogales, AZ, the trail is projected to bring \$150,000 into the area from increased visitation. The Arizona

State Parks Board purchased seven square miles of riparian habitat along Sonoita Creek from Rio Rico properties who planned to build homes on the site (University of Arizona Water Resources Center, 1994).

■ More than 600,000 Americans took a bicycle vacation in 1985. Touring cyclists, when travelling in a group, spent \$17 per day (camping), and \$50 per day (staying in motels). Cyclists travelling alone spent an average of \$22 per day (camping) and \$60 per day (motels) (Moran, Wilkinson, and Fremont, 1988).

■ River recreation in Oregon is one of the activities that attracts people from other areas. In the Columbia Gorge region (consisting of the Hood River and Wasco Counties), revenues from transient lodging taxes grew just over 25 percent during 1992/93, following a similar increase of approximately 21.4 percent in the previous fiscal year (Oregon Tourism Division, Economic Development Department, 1994).

■ Anchorage, Alaska hosted two U.S. National X-Country Skiing Championships in 1991. It was estimated that the competitors and their companions, totalling approximately 1,000 people, in these two events spent almost \$1,200,000 during the course of the competitions, both of which lasted just over one full week (Hill, 1991).

■ The Gauley River is a high quality whitewater rafting and kayaking resource in West Virginia. It is growing in popularity and increasing its economic impact on the surrounding region. Dam releases provide whitewater opportunities on a 24 mile stretch of the Gauley for 10 to 25 days in the fall. The rafters, during this short season, generate almost \$20 million in economic activity in the region. Every \$1 spent per visitor day generated \$2.27 of sales in the state. Each visitor day generated an average of 1.79 days of employment. Economic rationale was instrumental in precluding potential additional dam construction on the Gauley; it was recently designated a National Recreation Area (Logar, et al, 1984).

- On North Carolina's Nantahala River, raft trip participants increased approximately 700 percent between 1972 and 1981. Rafters generated \$1.8 million in expenditures in 1982. (Swain County Board of Commissioners, 1982).

Tour operators, outfitters, and guides are also important to local economies due to the expenditures their businesses generate, the fees they pay to operate, and their advertising and promotion of local resources. Some companies such as "A Day In Nature," based in San Francisco, which offers a day in nature complete with a gourmet picnic and door-to-door transportation, have capitalized on the demand for nature-oriented experiences.

- Backroads, a U.S. travel outfitter, offering a range of trips from bicycling to hiking, competes with 200 other U.S. travel outfitters. One of these other companies, All Adventure Travel, added 200 vacations to its catalog of 500 in 1993. Purchases of accessories for adventure travel can have impacts on companies like Coleman Co., which increased 1992 camping-goods sales by 21 percent to approximately \$66 million in 1993 (San Francisco Examiner, July, 1994).
- The total economic impact of commercial river rafting in Colorado was estimated to be approximately \$70 million in 1991. This estimate is based on 410,000 user days with an average expense of \$65.80 per day per user, using an economic multiplier of 2.56 (Colorado River Outfitters Association, 1992).
- An Oregon study of guides and packers indicates that in 1986, the outfitter/guide industry in Oregon (for, river, land, and marine activities) had a direct economic impact of \$42.5 million. This resulted in a total economic impact of \$300 million (Bureau of Land Management, 1987).
- For every \$1 paid to canoeing outfitters, customers spent \$5 for gas, groceries, restaurants, campgrounds, and other lodging. 70 canoe liveries in Florida generate \$38.5 million per year (Stout, 1986).

“Volkssporting,” “Volksmarching,” and other similar types of activities may also be ideal for attracting tourists to local communities. Volkssporting, meaning “sport of the people,” organizes non-competitive public events open to all ages. The events include walking, bicycling, swimming, and skiing. Many participants travel to events regionally.

- An issue of the *American Wanderer* advertised volkssport events on trails in the state of Washington. Sponsored by the Washington Bed and Breakfast Guild, trail maps and event information are available from the Guild and local inn owners. (American Volkssporting Association, 1989)

### Marketing Potential

Rivers, trails, and greenways provide unique resources which nearby travel and tourist-serving establishments, chambers of commerce, and local visitors bureaus can capitalize on and feature in their advertising. Because a greenway is a desired and profitable amenity for these businesses, they may also be willing to contribute to the funding and development of the greenway.

- As a condition for development, the Campbell Inn (Campbell, California) was required to provide an easement for the Los Gatos Trail. Upon realizing the marketing potential of the trail, developers constructed part of the trail, an additional spur, and now provide rental bicycles for hotel guests. They also promote the trail in their brochure: “For fitness and fun, The Campbell Inn offers a jogging/ biking trail connecting to a full series par course which . . . runs along a scenic trail, passing through forests and alongside a stream and two beautiful lakes.” Room rates at the Campbell Inn range from \$80 to \$275 per night.
- Implementation of the Yakima Greenway spurred many business changes in the city of Yakima, Washington. The Rio Mirado motel credits their almost year-round occupancy to their proximity to the Greenway. Marti’s restaurant built a patio adjacent to the Greenway and enjoys increased business from trail users and hotel guests. Svend’s Mountain Sports, a mountain climbing and cross-country ski shop, now stocks mountain bikes and roller blades due

to the opportunities created by the Greenway. Svend's would like to set up a rental concession on the Greenway during the summer season. Even nearby auto dealerships invite people to buy their next car at the "Greenway Auto Plaza" (Feasey, 1989).

Table 5-3

<b>Tourist Expenditures, by Activity</b>				
<b>Activity</b>	<b>Location</b>	<b>Expenditures</b>	<b>Year</b>	<b>Source</b>
Sailboarding	Columbia Gorge (Oregon)	\$47 - \$85	1987	Povey, et al'88
Long distance	Elroy-Sparta Trail (Wisconsin)	\$25	1988	Schwecke, et al 1989
Cross-country	Northwoods (Wisconsin)	\$17	1978-79	Cooper, et al, '79
Bicycle touring	United States	\$17 - \$50	1986	Moran, '86
River recreation	Upper Delaware	\$20	1989	Cordell & Bergstrom, '89
Canoeing	St. Croix River (Maine)	\$15		
Angling	St. Croix River (Maine)	\$42		
River Rafting	Gauley River (West Virginia)	\$60 - \$133	1989	Logar, et al, '84
	Colorado	\$65	1991	Colorado River Outfitters Assoc., '92
Nature Conservation	Sierra Vista (Arizona)	\$51	1991-92	Crandal, et. al., '92

Note: The above table includes a column for the year these expenditures were calculated. Because the actual value of money changes each year, always be certain to work with expenditures calculated for the same year, or corrected for inflation.

# CORPORATE RELOCATION AND RETENTION



Many communities want to attract new, expanding, or relocating businesses to their area in order to increase their employment and tax bases. Retaining existing businesses within a community is even more important for economic stability. This section discusses the importance of quality of life factors in attracting new and relocating businesses. Greenways, rivers and trails contribute to quality of life, and their use is a benefit to corporate employees for exercise and relaxation.

### **Quality of Life Attracts Businesses**

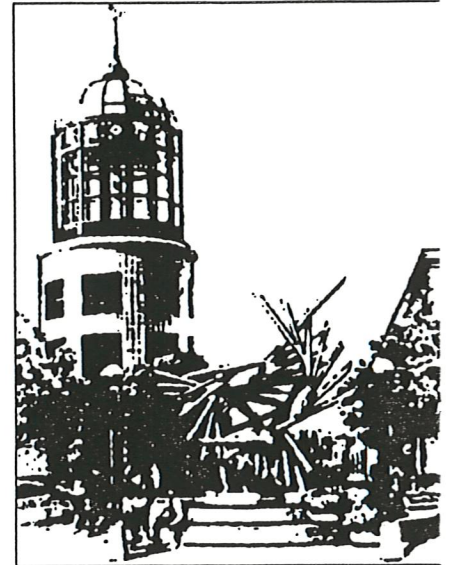
The importance of quality of life in an area is increasingly cited as a major factor in corporate and business location decisions.

- Quality of life for employees was the third most important factor in locating a business, according to an annual survey of chief executive officers conducted by Cushman and Wakefield in 1989. The two most important factors were access to domestic markets and availability of skilled labor. The top city for business was Atlanta, which also ranked first for highest quality of life. Seattle, which ranked as the second best city for business, also received very high marks for quality of life (San Francisco Chronicle, July 28, 1989).

- The Joint Economic Committee of the U.S. Congress reports that a city's quality of life is more important than purely business-related factors when it comes to attracting new businesses, particularly in the rapidly growing high-tech and service industries (Scenic America, 1987).

One aspect of quality of life is a location with convenient access to natural settings, recreational and cultural opportunities, and open space.

- The San Joaquin River Parkway is considered a signature amenity which could help Fresno, California's ability to attract and diversify the economic base. It could enhance the development of Fresno as a true regional capital of the Central Valley of California, enhance efforts to broaden the operational scope of many existing



facilities, and promote efforts to upgrade the educational infrastructure (Robert Klein, Chair, Fresno Chamber of Commerce).

■ In a recent report, the governors of five New England states officially recognized open space as a key element in the quality of life in their region. It is a characteristic responsible for bringing rapid economic growth to the region, as well as providing the foundation of a multi-billion dollar tourism industry (Governor's Committee on the Environment, 1988).

■ A survey of 71 economists rated factors for Arizona's attractiveness as a place to live, work, vacation, retire, and locate future plants and corporate headquarters. The strongest factors contributing to Arizona's positive image were climate, job opportunities, and open space including abundant outdoor recreation opportunities. Seventy firms relocated or expanded their businesses in Arizona, creating 27,800 jobs and \$970 million in indirect salaries and wages. Chief executive officers of these firms said they chose Arizona for its "outdoor lifestyle and recreation opportunities" (Valley National Bank, 1980).

### **Greenways Contribute to Quality of Life**

Greenways, rivers, and trails can play an important role in increasing a community's quality of life, and are attractive to businesses and corporations. Office site locations adjacent to rivers, trails and greenways are also likely to be more attractive to prospective tenants than sites lacking such amenities. Developers and property managers recognize these amenities.

■ Forum Properties (developer and property manager) in Beaverton, Oregon, successfully preserved much of the wetlands in two development projects in Tigard and Beaverton. The projects were designed around the existing creeks, making them a focal point. In developing this new corporate office park, the centerpiece was a constructed wetlands. The wetlands are appreciated by tenants for wildlife viewing and other aesthetic values. Many employees keep binoculars at their desks. (Jeffrey Sackett, Forum Properties, 1990).

■ The San Antonio Riverwalk is always used as an example of the high quality of life and livability of San Antonio, Texas. Site location teams for prospective relocating businesses generally visit the Riverwalk itself. The Riverwalk provides a retreat for employees during lunch and offers a valuable greenspace in the central business district. A location on the riverwalk is considered very desirable. An example is the HEB Company, a regional grocer, which relocated its corporate headquarters to a historic arsenal building, oriented toward the Riverwalk (Peche, 1990). Another example is River Roost, which owns three Riverwalk restaurants and expected a total of \$3.5 million in sales (Benningfield, 1991).

■ Pueblo, Colorado, once known mainly as an industrial city, made an early decision in its highly successful economic revitalization effort. The decision was made to improve its appearance and amenities in order to attract new businesses. The resulting investment in trails and parks along the Arkansas River and Fountain Creek is now credited by city fathers as one of the most important components in turning around economic decline (*Denver Post*, January 27, 1990).

■ The American River Bike Trail in Sacramento, California, is included as an important outdoor recreation amenity in the Chamber of Commerce's publication *All About Business in Sacramento*. It is described as a 30 mile oasis in the heart of the city. The President of the Metropolitan Chamber of Commerce, Roy Brewer, considers the trail to be evidence of the high quality of life in Sacramento, as well as one of Sacramento's treasures. "At many locations along the bicycle trail you can wade into the river, cast a line, and not see a single sign of civilization. The river trails provide abundant salmon fishing and natural areas for hiking, horseback riding, or biking - a chance to get away from it all without having to leave the city " (Sacramento Chamber of Commerce, 1990).

### **Greenways Promote Employee Fitness**

Businesses are realizing the benefits of healthy employees, both in increased efficiency and decreased health insurance claims. Greenways help promote fitness by providing convenient opportunities for exercise, such as walking, jogging, or exercise courses.

- The American Heart Association conducted a study of 8,301 men and women employed at 35 corporations across the country and found that those who were the most physically fit, measured by a rigorous "step test" and body fat measurement, had a 37 percent lower absenteeism rate than those who were unfit. Another study by the American Heart Association reported that Control Data Corporation in Minneapolis, Minnesota saw a 30 percent reduction in medical claim costs and a 35 percent reduction in the length of hospital stays for people participating in a health promotion program (Krieger, 1991).

- A study of a group of employees in San Jose, California, showed that those who exercised regularly had 14 percent lower medical claims, 30 percent fewer hospital days, and 41 percent fewer claims greater than \$5,000 (City of San Jose, 1988).

- A 1984 study of the office staff of Houston's Prudential Insurance Company found that higher levels of employee fitness lower major medical and disability costs. The study estimated a savings of \$1.93 for every dollar invested in the program (Wellness Councils of America, 1989).

Greenways and trails also help reduce firms' employees' commuting costs because they provide opportunities to commute by foot or bicycle.

- More than 4 million adult Americans used a bicycle (at least occasionally) to commute to work or school during 1993 (Bicycle Federation of America, 1994).

- An analysis of 1980 census data by the Northeastern Illinois Planning Commission (NIPC) showed 7,000 commuters in the

Chicago region use a bicycle to get back and forth to work every day, weather permitting. During the peak summer months, this figure climbed to 14,000 commuters. NIPC found most of the commuters using bicycles to travel to work live near one of the five linear trails found in the Chicago region. In census zones where these trails exist, an average of 15.6 percent of the commuter trips are by bicycle. When the region is taken as a whole, however, only one percent of the working population commutes by bicycle. These trails, therefore, seem to offer an alternative to using congested roadways to get to work (Eubanks, 1986).

# PUBLIC COST REDUCTION

Conservation of greenways, rivers, and trails may result in reduced costs to local governments and other public agencies. By conserving a greenway corridor rather than permitting intensive development, local agencies may reduce costs for public services such as sewers, roads, and school facilities. Establishing a greenway in an area prone to hazards, such as flooding, may decrease costs for potential damages. Greenways and associated vegetation can also help control water, air and noise pollution by natural means, resulting in potential decreased pollution control costs. Greenways and trails may promote physical fitness, leading to decreased public health care costs.

### **Public Service Requirements**

The choices between retaining undeveloped lands as open space or allowing residential development must be considered. How this choice effects public expenditures and the tax base is often the subject of debate. Expansion of the tax base is not always beneficial in the long term. Expansion almost always results in increased public service requirements. In many situations, the cost of providing these services to residential development is much higher than the revenues to local governments resulting from the expanded tax base. A list of development costs could include:

#### Transportation and Utility costs

- Roads
- Public and private utilities
- Sanitary sewage
- Water
- Natural Gas
- Electricity
- Storm sewage

#### Facility and Service Costs

- Open space, recreation, and libraries
- Schools
- Health care
- Police and fire protection
- Mail delivery
- Solid waste collection and disposal

■ Urban sprawl is costing a bundle according to a team of economists at Rutgers University in New Jersey. Potential capital costs attributable to sprawl development patterns in the state of New Jersey were cited at \$1.3 billion over 20 years for roads, water,

sewer and school facilities. Additional operating and maintenance costs of development reached \$400 million annually. Capitalized at current borrowing rates, these numbers translate to a \$7-8 billion cost for sprawl over the twenty years from 1992 to 2012 (Kasowski, 1992).

■ After researching the economic benefits of open space, the planning department in Dutchess County, New York found that farms and other types of open land can actually subsidize local government by generating more in property taxes than the demand for services. Residential lands required \$1.12 to \$1.36 for every tax dollar contributed, while agricultural lands required only \$0.21 to \$0.48 for every dollar contributed as reported by the Cornell Cooperative Extension of Dutchess County (Sayer, 1994).

■ According to an American Farmland Trust (1986) study of Loudoun County, VA, "over a wide range of development densities . . . the ongoing public costs of new residential development will exceed the (public) revenues from such development." Of those units analyzed, annual revenues per thousand dwellings were between \$2.7 million and \$2.9 million, while costs averaged between \$3.5 and \$5.0 million. The annual net deficit per thousand units ranged from \$0.6 million to \$2.3 million (1986 dollars). The greatest predicted shortfall was for the lowest-density units, termed by the Trust as "rural sprawl." The least shortfall was for medium density development. For all densities, school expenses were the largest proportion of total costs (American Farmland Trust, 1986).

■ In the City of Boulder, Colorado, the 1988 public cost for maintaining non-open space, such as developed acres, was estimated to be over \$2,500 per acre, and could be as high as \$3,200 per acre when utilities, flood control, transportation, and subsidiary governmental entities' costs are included. The cost for maintaining open space in the City was only \$75 per acre, or less than three percent the cost of non- open space (Crain, 1988).

■ In Culpeper County, Virginia, the average new residential unit can be expected to produce a deficit in the County budget of \$1,242



(1988 dollars) (Larson and Vance, 1988). According to these authors, this study addresses the widespread but erroneous perception that residential growth, in expanding the tax base, somehow contributes to local fiscal health. Although residential development results in increased revenues from the real estate tax and other sources, it simultaneously increases demand for public service expenditures and generates the need for expanded public facilities.

A companion study concluded that for every dollar of tax revenue collected from residential land uses in Culpeper County in 1987, \$1.25 was spent on county services. For every dollar collected from industrial/commercial or farm/forest/open space lands, only \$0.19 was spent on services (Vance and Larson, 1988).

### **Hazard Mitigation**

Use of geologically or environmentally sensitive areas for open space or recreation purposes can reduce potential property damage costs and loss of life. Hazards which can be mitigated through conservation of open space include flooding, slope instability, structural fire damage, and earthquake losses. Many of the available examples focus on flood control.

■ Potential multi-million dollar claims for landslide damages were avoided in Richmond, California, because property originally proposed for residential development was purchased for natural parkland instead. In 1980, a major development was proposed on hillside land which was prone to instability. The local community objected to the development, arguing in part that the area was prone to instability and not suitable for development. The project was denied and the land, purchased by the Trust for Public Land, was eventually transferred to the East Bay Regional Parks District for inclusion in the Wildcat Canyon Regional Park. After major storms in 1982 and 1983, landslides occurred on this property, which would have destroyed development had it been allowed. The state of California subsequently passed legislation granting landslide immunity to public agencies who maintain land in a natural

condition. This legislation may help encourage park districts to acquire property which may be prone to landslides (Kent, 1990).

■ The Minnesota Department of Natural Resources computed the average cost to replace an acre-foot of flood water storage to be \$300. In other words, if development eliminates one acre of wetland that naturally stores a twelve inch depth of water during a storm, it would cost the public \$300 to replace the water storage. The cost to replace 5,000 acres of wetlands lost annually in Minnesota would be \$1.5 million (Floodplain Management Association, 1994).

■ Leaders in Johnson County, Kansas, expected to spend \$120 million on stormwater control projects. Instead, voters passed a \$600,000 levy to develop a county-wide streamway park system. Development of a greenways network along streambeds will address some of the County's flooding problems, as well as provide a valuable recreation resource.

The Federal Flood Insurance Program subsidizes the cost of procuring flood insurance. Under the program, a structure repeatedly damaged by floods can receive damage payments each time. It is often argued that in the long run, it would be cheaper for the public to acquire repeatedly damaged structures than to continue to provide funds to repair or rebuild structures in flood-prone locations.

■ In 1958, Gilbert White estimated that for every six dollars in potential damages reduced each year by new flood protection measures, at least five dollars in additional damages resulted from development in floodplains. Steve Hanke calculated the same ratio of dollars spent in flood control to dollars of damage in 1972. Flooding accounted for larger annual property losses than any other single geophysical hazard (Riley).

■ Baltimore County, Maryland, acquired 100 homes in several 100-year floodplains and resold them to people willing to relocate the structures to higher ground. At a cost of \$27 million, the County will have cleared the 100-year flood plain in eight of its most critical

watersheds, with local money saving \$85 million in storm damage assistance costs over the next five years (Caputo, 1979).

### **Pollution Control**

Researchers have found that natural properties of plants and trees help mitigate water, air, and noise pollution. Greenways which help conserve such plants and trees provide a valuable contribution toward pollution control. These natural abilities are described below. Pollution can also be decreased by establishing trails and greenways which encourage people to walk or bicycle rather than drive automobiles.

Establishment of a greenway along a river or stream helps maintain water quality because riparian vegetation helps filter out pollutants. Riparian vegetation serves as an effective buffer between a stream and adjacent agricultural area. The retention capabilities of this vegetation prevents many agricultural chemicals from polluting the stream. A study of an agricultural watershed and riparian forest in Maryland (Peterjohn and Correll, 1984, as cited in Risser, 1987) found that if the riparian forest were removed, there would have been twice as much nitrate nitrogen lost to the stream.

Man-made wetlands are making their way into the spotlight because of their ability to improve the quality of polluted water from sources such as municipal wastewater, stormwater and agricultural runoff and acid mine drainage. Wetlands are formed in chambers which the water passes through as the pollutants are filtered by various biological processes. The water leaving the wetland will be cleaner and higher quality than it was before treatment (Oertel, 1990).

- The wetlands of Congaree Bottomland Hardwood Swamp in South Carolina provide valuable water quality functions such as sediment, toxicant and excess nutrient removal. The least cost substitute for the water quality services provided would be a water treatment plant costing \$5 million (Floodplain Management Association, 1994).

Riparian habitat within a greenway may also serve to keep water temperatures cool by shading the stream and thereby improve conditions for fisheries. Restoration of Boulder Creek in Colorado illustrates how a stream restoration



project can not only reduce costs for pollution control, but also provide opportunities for fisheries.

- Boulder, Colorado, reduced potential wastewater treatment costs significantly by deciding to restore Boulder Creek rather than construct a nitrification tower. Discharge effluent at the wastewater treatment plant met water quality standards, however, further downstream, ammonia concentrations exceeded the allowable level. Downstream the creek had been previously channelized and degraded. Through revegetation, terracing, construction of aeration structures, and other improvements, the stream was restored. The natural functions of the stream would then cool and reaerate the water to convert the ammonia. Restoration of Boulder Creek would also improve wildlife habitat, particularly fisheries. (John Barnett, Greenways Coordinator, City of Boulder, 1990).

Greenways can also help reduce other adverse impacts of urbanization. Drastic alterations of a ground surface, such as compaction or paving can reduce the infiltration capacity of a surface, which can cause a serious reduction in groundwater recharge and an increase in runoff.

Greenways help reduce the impacts of noise in two ways. First, greenways serve to maintain distance between the noise source and receiver. Secondly, greenways can include planting barriers, such as tree belts and grassy areas that have the natural ability to absorb, deflect, and refract sound. The effectiveness of plants in controlling noise varies, depending upon the characteristics of the sound, the type, height, density and location of the planting, and climatic factors (Robinette, 1972). Although solid sound attenuation walls may still be necessary to mitigate noise impacts, the distance buffer of greenways and the natural ability of plants should not be overlooked. Greenways as buffers may also have a visual and psychological advantage over masonry walls.

- A forestry study found that sound reductions attributed to wide belts of tall, dense trees often reached 10 decibels, and soft surfaces such as grass or plowed ground adjacent to a tree belt, reduced noise levels by 8 to 12 decibels (National Park Service, 1983).

Greenways also help control air pollution because plants are natural air cleaners. Plants cleanse the air through the process of photosynthesis, which removes carbon dioxide from the air and returns oxygen. Specifically, plants control air pollution through oxygenation and dilution. Oxygenation refers to the introduction of excess oxygen into the atmosphere. The ability of plants to introduce excess oxygen into oxygen-deficient air serves to readjust the balance. A wide greenbelt along a highway could readjust the air balance in the area. Plants also act as cleansers by absorbing pollutants directly into their leaves and assimilating them (Robinette, 1972). Vegetation can absorb ozone, sulfur dioxide, carbon monoxide, and airborne particles of heavy metals.

■ In 1991, trees in the City of Chicago, Illinois (11 percent tree cover) removed an estimated 17 tons of carbon monoxide, 93 tons of sulfur dioxide, 98 tons of nitrogen dioxide and 210 tons of ozone. The value of this pollution removal was estimated at \$1 million annually (Nowak, 1994).

■ Recent studies indicate that a single rural tree can intercept up to 50 pounds of particulates per year. In one study, it was determined that planting half a million trees in Tucson, Arizona would reduce airborne particulates by 6,500 tons per year. The annual value of this pollution control measure was estimated to exceed \$1.5 million annually (McPherson, 1991).

■ Reductions in pollutant concentrations downwind from parks has been recorded. In one study, reductions in particulate concentration of 19 percent were recorded in Ohio conifer stands. (Schmid, 1975, and Dochinger, 1975, as cited in National Park Service, 1983).

■ Trees in greenways also provide ambient temperature mediation and help reduce heating and cooling costs. Trees reduce winter heating costs by 40 percent in some cases; and summer shading might provide even greater benefits. A single, isolated tree, generously supplied with water can transpire energy equivalent to five average room air conditioners running 20 hours per day. The species of tree, available moisture, and available soil volume affect the quantity of water evapotranspired per tree (Newsweek, 1979 and Federed, 1971).

## Health Care Costs

Active use of a river, trail, or greenway by community residents can help improve their physical fitness and health. Studies have shown that exercise can reduce health care costs. These costs savings may be shared by public health services, employers, and individuals.

■ For every mile a person walks or runs, they will save society 24 cents per mile in medical and other costs. These figures are the results of a theoretical model developed by the Rand Corporation (*Men's Fitness Magazine*, 1992).

■ Recreation activities involving exercise reduce health care costs. People who exercise regularly have 14 percent lower claims against their medical insurance, spend 30 percent fewer days in the hospital, and have 41 percent fewer claims greater than \$5,000. These figures were taken from a Corporate Wellness Study for the city of San Jose, Department of Recreation, in 1988. In 1991 the average American family paid nearly 12 per cent of average family income for health care, according to a Families USA Foundation study. By the year 2000, the study predicts families will be paying over 16 per cent of their income for health care. (*U.S. News and World Report*, December 23, 1991).

■ Exercise derived from recreational activities lessens health related problems and subsequent health care costs. Every year, premature deaths cost American companies an estimated 132 million lost work days at a price tag of \$25 billion. Finding and training replacements costs industry more than \$700 million each year. In addition, American businesses lose an estimated \$3 billion every year because of employee health problems (*National Park Service*, 1983).

