SKOWHEGAN GORGE RUN OF RIVER PROJECT

SKOWHEGAN, MAINE

FEASIBILITY STUDY REPORT

June, 2004

Prepared by:

Kleinschmidt

Energy & Water Resource Consultants

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EXECUTIVE SUMMARY

This Skowhegan Gorge Run of River Project Feasibility Study assesses the feasibility of improving the Kennebec River and associated recreation facilities in the Skowhegan Gorge area in Skowhegan, Maine. The proposed improvements are being considered under the auspices of the Skowhegan Gorge Run of River Project, and fit into a larger plan for the economic development in the Skowhegan Area. The Project's mission is "to preserve and enhance the Kennebec River environment to benefit the physical and economic well being of the greater Skowhegan Area".

As part of the study, Kleinschmidt Associates considered the technical feasibility and preliminary potential costs of options for completing the following improvements in the Gorge:

- River Cleanup
- Habitat Restoration
- Increased Public Access
- Improved and New Public Hiking Trails
- Improved and New Recreation Facilities and,
- Construction of a Whitewater Park

The river cleanup and habitat restoration activities will improve the visual appeal of the gorge, and improve the visual and physical access to the Kennebec River in the gorge. These improvements will be done using volunteer labor, and as a part of construction of other elements of the project.

Trails and recreation facilities would further develop the existing recreation facilities in the Gorge area, and would link those facilities to other parks and trail systems within the town. In fact, these facilities are directly related to other ongoing Skowhegan outdoor recreation plans,

such as the Renaissance Project, and other regional economic development initiatives. The results of the study indicate that the river improvements and hiking and general recreation improvements can be constructed, and the potential construction costs are likely to be between $10,000 and $50,000, depending on the nature and extent of the construction work. The next phases of study should focus on the options that best meet the Town's long term objectives, and carrying them through permitting and design.

The potential whitewater park has generated an outstanding level of enthusiasm in the central Maine region, with participants eager to develop a first-of-kind opportunity in the northeastern United States, and drawing the support of townspeople, whitewater enthusiasts, business owners, regulators and even state legislators. The whitewater park would comprise a limited number of select "whitewater features" (man-made boulders or other in-water flow devices) to create whitewater reaches for boaters. The park appears to be technically feasible, but nothing on this scale has ever been constructed before (for instance, the gorge is routinely subject to flow extremes between 5,000 and 50,000 cubic feet per second of water), so we recommend a significant level of additional design evaluation prior to construction. The complex design to meet the extreme flow changes, and the difficulty of constructing facilities within the gorge (due to access limitations) make this a costly endeavor. Costs for the whitewater park could run from $600,000 to $1,500,000).

1.0 INTRODUCTION

Beginning at Moosehead Lake and the Moose River in north western Maine, the Kennebec River runs 230 miles to the Atlantic Ocean at Merrymeeting Bay. Just downstream of the confluence with the Sandy River, the Kennebec flows through downtown Skowhegan in Somerset County. Here, the river is impounded by the Weston Hydroelectric Project, owned by Florida Power and Light Energy, and flows west to east through Skowhegan with the "Skowhegan Gorge" section running approximately one half mile from Weston Dam through downtown Skowhegan to the "Big Eddy" just east of Coburn Park. A map of the Skowhegan Gorge (Gorge) is provided in Figure 1.

The Town of Skowhegan, in an effort to promote the local economy and job recovery, has made the Kennebec River the focus of economic development and downtown revitalization efforts. As part of these efforts, the town has developed the Run of River Project (Project) "to preserve and enhance the Kennebec River environment to benefit the physical and economic well being of the greater Skowhegan area.[1]" Central to the goals of the Run of River Committee (Committee) is the improvement and enhancement of the Gorge, surrounding recreation sites, and tangential downtown revitalization through the development and improvement of recreation, interpretive, education, and tourism facilities. Enhancements to the Gorge being considered by the Committee include:

- river cleanup,
- habitat restoration,
- increased public access,
- improvement of existing river trails and development of new trails,
- improved recreation facilities such as viewing areas and picnic facilities, and construction of a whitewater park.

[1] Skowhegan Gorge Run of River Project website - http://mysite.verizon.net/vze6oso9/RunofRiver.html

Figure 1. Map of the Skowhegan Gorge

The Skowhegan Gorge Run of River Feasibility Study was conducted for the Committee to examine the potential for these facilities. This study includes:

- an inventory and review of existing public access sites;
- potential new and additional access site assessment;
- liability issues associated with recreation development;
- potential sources of economic benefit stemming from the development of the Project;
- the identification of potential user conflicts;
- a general biological assessment, including existing significant habitat, known threatened and endangered species, and potential habitat improvements;
- a general assessment of features of cultural or historical significance in the Gorge and surrounding area;
- the identification of permitting issues and informational needs;
- a conceptual level engineering assessment of the constructability of proposed recreation features; and
- an assessment of the overall feasibility of pursuing implementation and development of the Skowhegan Gorge Run of River Project.

This report provides the results of the initial feasibility assessment for the development of recreation improvements and a whitewater park in the Skowhegan Gorge and is organized in the following manner: Section 2.0 describes existing conditions with respect to recreation use (including trends), recreational opportunities, and environmental conditions; Section 3.0 provides an overview of Project considerations including liability issues associated with access and the provision of recreation facilities, environmental impacts, permitting issues, and potential user conflicts; Section 4.0 provides an overview of Gorge area recreation enhancements; Section 5.0 provides project design considerations for the development of a whitewater park; Section 6.0 discusses possible funding leads; and Section 7.0 provides a critical path outline that describes the steps that the Committee could pursue.

2.0 EXISTING CONDITIONS

The town of Skowhegan is located in Somerset County in central Maine and is home to approximately 9,000 residents. Contributing to the economic base of Skowhegan are the New Balance Shoe factory and factory outlet store, Gifford's Ice Cream factory, GenPlex, Inc., Eaton Mountain Ski Area and Skowhegan Press. Skowhegan is also home to several unique gift shops, restaurants, hotels, and one of the last remaining drive-in movie theaters in the country. It is also host to the annual Skowhegan State Fair in August, one of the largest in the state. Skowhegan is strategically poised as the geographic gateway to the Kennebec River Valley and Moosehead Lake region, seeing over 70,000 visitors traveling north to pursue recreational activities on the waters of north central Maine.

The Skowhegan Gorge area currently provides recreational opportunities for anglers, hikers, bikers, paddlers, and sightseers. This section of the report details existing recreation user groups and recreation opportunities within the Gorge area.

2.1 Public Recreation Use

Overall, public recreation opportunities provide a large draw for non-resident visitors to the state of Maine. According to the Maine Office of Tourism's Travel and Tourism in Maine, 2001 Visitors Study, "ecotourism (21% vs. 11% US norm) the natural environment, and related outdoor recreation activities were key defining interests or components of Maine trips, at levels above US norms."[2] In 2001, "nonresidents made 58% of the trips (24.9 million)" with 79 percent of visitors originating from the Boston area.[3] Key attractions for non-resident visitors who participated in overnight trips to Maine included: visiting small towns and villages (66 percent), visiting lakes and rivers (37 percent), hiking (19 percent), and canoeing and whitewater paddling (6 percent).[4] Skowhegan is poised to provide all of these opportunities. This can be accomplished through existing attractions, improvements to and development of the downtown area and recreation facilities, including the development of a whitewater course in the Gorge.

[2] Longwoods International. 2001. Travel and Tourism in Maine, 2001 Visitors Study.
[3] Maine Department of Conservation. 2003. Maine State Comprehensive Outdoor Recreation Plan
[4] Maine Department of Conservation. 2003. Maine State Comprehensive Outdoor Recreation Plan.

For Maine residents, the most popular recreation activities reported in 1991 were: sightseeing (80.7 percent), walking (57.6 percent), picnicking (52.5 percent), flatwater canoeing (30.9 percent), and angling in rivers and streams (26.1 percent).[5] At present, the Skowhegan Gorge supports all of these activities through formal and informal boat launches and angler access, river side and adjacent community trails, and nearby parks. The Skowhegan Gorge Project seeks to expand the current available recreation amenities and to include a facility for whitewater boating.

2.1.1 Land Based Recreation Trends

Trail use in Maine is a very popular recreation activity gaining support from the state of Maine government as a way to promote healthier living. To that end, 139 Recreational Trail Program grants were administered by the Bureau of Parks and Lands between 1993 and 2001, totaling over $2 million, mostly for trail development and improvement. The Healthy Maine Walks Coalition was established in 2003 "to help local communities create or expand local trails in Maine towns" with the goal of every community having at least one designated walking route.[6] In addition to walking, other popular trail use activities participated in by Maine residents above the age of 16 include: biking (33 percent), nature walking (29 percent), cross country skiing (24 percent), and horseback riding (5 percent).[7] The Gorge area currently provides several formal and informal trails such as the Canoe Portage Trail, Coburn Park Carriage Roads, and the Philbrick Trail that support hiking, biking and other such activities. There are opportunities for additional trails, trail improvements and better connectivity within the Gorge area.

Angling is very popular in the state of Maine for residents and non-residents alike. According to the National Survey of Fishing, Hunting and Wildlife Associated Recreation for the state of Maine, angling participation

[5] Maine Department of Conservation. 2003. Maine State Comprehensive Outdoor Recreation Plan.
[6] Fleming, Deidre. 2003. "Paths to Better Living." Portland Press Herald.
[7] Maine Department of Conservation. 2003. Maine State Comprehensive Outdoor Recreation Plan.

among Maine residents is high compared to other areas; participation for Maine residents in 2001 was 21 percent compared to 13 percent for all New England states and 16 percent for the entire US.[8] There were 268,000 fishing licenses issued by the Maine Department of Inland Fisheries and Wildlife (MDIFW) in 2001, with residents accounting for approximately 70 percent of all licenses issued. Over 26 percent of Maine residents, 16 years and older participated in angling on rivers and streams in 1991.[9] There are several formal and informal angling access points to the Kennebec River along the Skowhegan Gorge. The Gorge also provides opportunities for shoreline angling adjacent to the Canoe Portage trail.

2.1.2 Water Based Recreation Trends

Results of the National Survey on Recreation and the Environment show that, in 1994, half a million people in the Northeastern United States participated in kayaking while 3.5 million participated in canoeing.[10] Nationally, the estimated number of canoeists and kayakers in 1994 was 17.5 million. Of those, "the estimated percentage of canoeists and kayakers who used their boats in whitewater in 1994-1995 was 21.1", for a total of approximately 3.7 million whitewater paddlers.[11] It is reported that kayaking has experienced a 173 percent increase in participation in among US citizens from 1994 to 2001, making it the fastest growing recreation activity in the country followed by snowboarding, and jet skiing.[12] In 1991, approximately 12 percent of Maine residents over the age of 16 participated in whitewater kayaking or canoeing.[13]

Whitewater paddling provides a tourism draw for the state of Maine. In addition to whitewater kayakers and canoeists, Maine saw over 90,000 commercial whitewater rafters in 2001. Of these, approximately 60,000 people

[8] US Fish and Wildlife Service. 2001. National Survey of Fishing, Hunting, and Wildlife Associated Recreation – Maine.
[9] Maine Department of Conservation. 2003. Maine State Comprehensive Outdoor Recreation Plan
[10] Cordell, et. al. 1997. Emerging Markets for Outdoor Recreation.
[11] Cordell, et. al. 1999. Outdoor Recreation Participation Trends.
[12] Maine Department of Conservation. 2003. Maine State Comprehensive Outdoor Recreation Plan.
[13] Maine Department of Conservation. 2003. Maine State Comprehensive Outdoor Recreation Plan.

rafted the Kennebec, approximately 10,000 people rafted the Dead, and over 20,000 people rafted the Penobscot Rivers. The vast majority of the Kennebec and Dead River boaters must pass through Skowhegan enroute to their whitewater boating destination. Whitewater rafting contributed a total of $32 million in direct and indirect economic impacts and jobs in 2001.[14]

By providing the first constructed whitewater facility of its kind in the state and the greater New England area and enhancing and improving existing recreation resources in and around the Gorge, Skowhegan is in a position to provide a unique recreational opportunity for out-of-state tourists who can experience a "wilderness" activity within a fairly developed area. Additionally this facility will expand existing recreation opportunities for members of the Skowhegan area community and residents of the state of Maine.

2.2 Existing Recreation Facilities

This section provides a brief inventory of the existing recreation facilities that area available in and around the Skowhegan Gorge area. These sites currently provide opportunities for hiking, biking, sightseeing, canoeing, angling, and picnicking.

2.2.1 Land Based Recreation Opportunities

Coburn Park - Coburn Park is a municipal park located along the northeastern shore of the Skowhegan Gorge. It is comprised of a paved carriage road for pedestrian and vehicle use, picnic tables, parking, open areas, and a gazebo. There is no formal river access via Coburn Park, however, there is an informal trail down a steep slope leading to the water. The Park provides opportunities for picnicking, walking, and other leisure activities and is easily accessible from Route 2 and the downtown area.

[14] Teisl, et. al. 2001. Report of the Economic Impact of Commercial Whitewater Rafting Activities in Maine.

Figure 2. Coburn Park

Skowhegan Gorge Footbridge - The Skowhegan Gorge Footbridge is located at the head of the Gorge, just downstream of Weston dam. The footbridge provides excellent viewing opportunities for activities taking place on the river below. The footbridge also provides pedestrian access to downtown Skowhegan and connects the downtown area with Debe Park and the canoe portage trail on the south end of the Gorge. The downtown entrance to the footbridge is lined with benches along the gorge area, providing opportunities for viewing, resting, and picnicking.

Figure 3. Skowhegan Gorge Footbridge

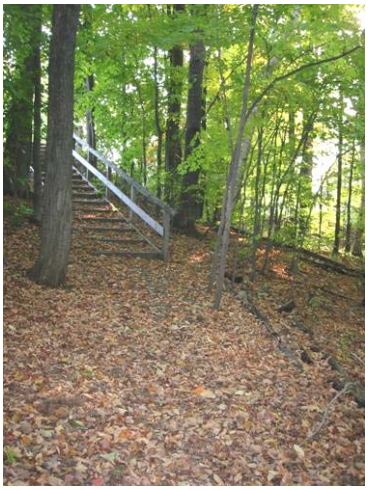
Debe Park - Debe Park consists of a river access trail and an open lot across the street. The open lot provides informal parking. The river access trail proceeds toward the water directly from the Debe Park steps. The trail follows a

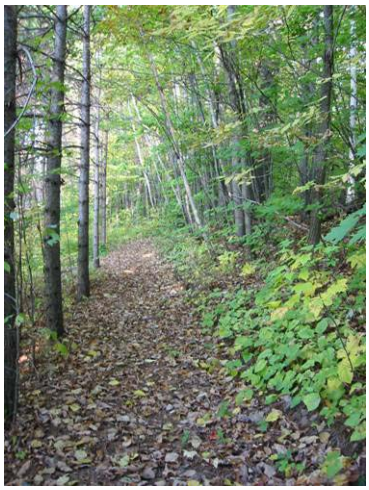
shallow to moderate slope and a second smaller set of steps provides access to the shoreline.

Figure 4. Debe Park

Canoe Portage Trail - The canoe portage trail extends for approximately 0.15 miles (800 feet) from the Debe Park steps to the river egress at the Skowhegan Water Pollution Control Plant. The portage trail follows the river and maintains the same elevation for the majority of the distance, making it a flat, easy hike. The portage trail is well marked and maintained.

Figure 5. Canoe Portage Trail





Carry-in Boat Launch at Joyce Street - The canoe portage trail ends at the river just northeast of the Skowhegan Water Pollution Control Plant. The Debe

Park canoe portage trail meets Joyce Street and continues along the north side of the plant to the river. Parking for the canoe portage access point is limited to roadside parking along the entrance to the plant.

Figure 6. Carry-in Boat Launch at Joyce Street

Philbrick Trail - The Philbrick Trail begins at the Skowhegan Water Pollution Control Plant. The trail follows along the south of the plant and continues through the woods southeast of the plant. The Philbrick Trail comprises a significant trail system of approximately 2 miles of linear and loop trails. There are bridges and benches located along the trail. Part of the trail system follows the Kennebec River and may provide informal access to the water.

Figure 7. Philbrick Trail

2.2.2 Water Based Recreation Opportunities

The Skowhegan Gorge is a section of the Kennebec River flowing approximately one half mile from the Weston Dam to the "Big Eddy". There are two developed access points at either end of the Gorge for boating access; one adjacent to the Debe Park steps at the top of the canoe portage trail and one at the terminus of the canoe portage trail at the water treatment facility. There is also existing informal access along the trail itself. Currently, this stretch of the Kennebec has a gentle gradient and class I-II easy moving water depending upon flow levels and is suitable for such river boating activities such as canoeing and recreational kayaking.

Figure 8. Skowhegan Gorge

2.3 Existing Environmental Conditions

2.3.1 Water Quality

The Skowhegan Gorge is the tailwater for the run-of-river Weston Dam with an existing flow range of between 3000-50,000 cfs, depending upon the season. Water quality in the Kennebec River has improved since the 1970s, with improvements in waste water treatment technologies. In 1994, the Maine Department of Environmental Projection (MDEP) classified the Kennebec River between Madison and Fairfield, including the Skowhegan Gorge, as Class B waters, "suitable for recreation in and on the water, fishing, drinking and

industrial water supplies, navigation, and unimpaired habitat for fish and other aquatic life."[15]

2.3.2 Fisheries and Wildlife

With respect to fisheries and wildlife resources, the Skowhegan Gorge section of the Kennebec River supports a coldwater sports fishery enhanced by annual brown trout stocking, according to the Maine Department of Inland Fisheries and Wildlife. The Gorge has also been identified as one of several tailwater reaches slated for special fishing regulations, effective in 2004, to maximize the quality of that fishery.

As part of relicensing efforts for the Weston Project, Central Maine Power (previous owners of the Weston Project) filed a fisheries, wildlife, and botanical resources report with FERC in December, 1990. According to the report on fish resources, the segment of the Kennebec River immediately downstream of the Weston Project "can be generally characterized as riffle habitat" with "small riverine pools and ledge outcrops" providing "some low-velocity refuge areas".[16] The fish expected to utilize this reach at the time of this report were brown trout (stocked in the Shawmut Project impoundment downstream of Weston), resident smallmouth bass (also from the Shawmut Project), landlocked salmon, and rainbow trout.[17]

A subsequent fish assemblage assessment was conducted for the Kennebec River in 2002 and 2003 for Maine Rivers. For this investigation, 27 sites were sampled via electrofishing in the Kennebec river mainstem between Bingham, ME and Merrymeeting Bay. Of these 27 sites, two were located in the vicinity of the Skowhegan Gorge: River Mile 36.50 (approximately 0.07 mile downstream of the "Big Eddy") and River Mile 32.10 (at the Shawmut Project impoundment approximately 5 miles downstream of the Gorge).

[15] Robinson, et. al. 1998. National Water Quality Monitoring Council National Monitoring Conference Proceedings.
[16] Central Maine Power. 1990. Consultation Draft-Weston Project Application for New License Exhibit E.

Fish species composition at the River Mile 36.50 site was observed to be over 50 percent smallmouth bass, approximately 15 percent fallfish, and approximately 14 percent each of American eel and white sucker. Less than 5 percent of the total fish species observed were brown trout, common shiners, redbreast sunfish, and yellow perch.

Fish species composition at River Mile 32.10 was still dominated by smallmouth bass at approximately 20 percent of total fish observed. Approximately 14 percent of fish observed were largemouth bass, while approximately 11 percent each were observed to be sunfish or yellow perch. Other species noted were alewives (12 percent), shiners (9 percent), American eel (3 percent) and white suckers (3 percent).

2.3.3 Habitat

MDIFW indicated that there are no known or mapped significant wildlife habitat areas within the Skowhegan Gorge area.

2.4 Existing Cultural Resources

The Maine Historic Preservation Commission (MHPC) indicated that there are no known or mapped significant historic, cultural, or archeological resources within the Skowhegan Gorge area and none are expected. However various archaeological surveys for regional construction projects have located potentially significant prehistoric sites downstream from the Gorge. Therefore, MHPC has recommended that any level landform within the project area should be assessed for archaeological sites prior to construction.

[17] Central Maine Power. 1990. Consultation Draft Weston Project. Application for New License Exhibit E.

3.0 PROPOSED PROJECT CONSIDERATIONS

The Run of River Committee, in conjunction with various town entities, is considering the development of new recreation facilities and improvements to existing facilities in and around the Skowhegan Gorge, including the development of a whitewater park. In addition to the engineering and design feasibility of these facilities (detailed in Sections 4.0 and 5.0) considerations should be made for the regulatory, environmental, and public use issues associated with increased access and recreation opportunities. This section provides an overview of liability, environmental, regulatory and permitting considerations and discusses the potential for user conflict.

3.1 Liability Issues

Risk management is a consideration in any project involving the development of facilities to be used by the general public or the promotion/sponsorship of outdoor recreation. It is important to note that this section makes no assessment of the liability inherent in the provision of general recreation facilities or a whitewater park. The purpose of this section is to identify some potential liability issues and provide a baseline identification of the laws and regulations of the state of Maine that protect municipalities from wanton litigation and identify the responsibilities of municipalities in minimizing risks to the public. This review was not conducted by an attorney and should not be considered a legal opinion.

Although there is inherent risk associated with any outdoor recreation activities, the Committee has many opportunities to address safety issues associated with the proposed whitewater park and any improvements made to the Skowhegan Gorge area. In addressing these issues, the town may be able to reduce the opportunities for injury, facilitate good risk management practices, alleviate some the risks associated with river recreation, and safeguard against potential liability. With respect to the proposed improvements for the Skowhegan Gorge Project, including the development of a whitewater park, risk management can be delineated into two liability issues: river access and whitewater boating.

3.1.1 Access

Access is currently provided to the Skowhegan Gorge at several formal and informal locations by entities including the Town and FPLE. In the state of Maine, use of private or public land for the purposes of outdoor recreation and/or water access is protected from liability under the Recreational Use Statute of the State of Maine (Title 14 §159-A). As this law is written, if an individual uses land for the purposes of outdoor recreation or harvesting activities, the landowner assumes no responsibility and is, therefore, not liable for any injuries or damages to that individual or their property. This law is designed to protect all landowners regardless of whether the individual has been granted permission by the landowner to use the land.[18]

The Recreational Use Statute does not protect landowners from liability associated with land use and access in cases of "willful or malicious failure to guard or warn against a dangerous condition, use, structure, or activity."[19] In all cases, although it is still possible for the injured party to file a personal suit against the landowner, the Recreational Use Statute is comprehensive to the extent that no successful suit has been brought against a landowner in cases to which this law has been applied.

Municipalities and other government entities also have the benefit of the Maine Tort Claims Act (Title 14, Chapter 741). Under this act, a city, town, county, etc. may not be held liable for any claim resulting from "the construction ownership, maintenance, or use of: unimproved land (or) land, buildings, structures, facilities, or equipment designed for use primarily by the public in connection with public outdoor recreation."[20] The land providing access to the proposed whitewater park; the features, such as stairs, providing access to the river; viewing platforms; and the whitewater park itself may be covered under the Maine Tort Claims Act.

[18] State of Maine, Bureau of Warden Service. 1981. Maine Landowner Liability Explained brochure.
[19] State of Maine. Maine Recreational Use Statute. Title 14, Part 1, Chapter 7, Section 159-A.
[20] State of Maine. Maine Tort Claims Act. Title 14, Chapter 741, Section 8104-A.

Regardless of the potential protections afforded by the Maine State Recreational Use Statute and Tort Claims Act, water access should be designed to minimize the potential for injury. Water access gradient should have a reduced slope for ease of access, ease of portage, and reduced risk of falling. There should also be ample opportunities for access and egress along the gorge for boater safety and comfort. The Debe Park Canoe Portage trail could be modified to provide additional access/egress points along the river.

3.1.2 Whitewater Boating

With respect to boating liability issues, the Maine Tort Claims Act may be applicable to features and alterations made to the Kennebec River for the purpose of constructing a whitewater park. Some possible safety and liability issues include:

- *Proper notification of the inherent dangers of whitewater boating and the features present in and around the whitewater park.* Proper notification practices have included adequate signage alerting to the dangers of whitewater and whitewater boating, liability release forms for scheduled whitewater events, and river feature maps providing information regarding the location of favorable or avoidable river features such as eddies and hydraulically complex areas.
- *Reduction of inherent risks associated with river features*. There are three main causes of injury/death associated with whitewater recreation: foot entrapment, strainers, and pins. Foot entrapment occurs when the river bottom is lined with rocks, crevices, etc. in which an individual's foot could become lodged causing breakage or entrapment from which rescue would be required. Strainers are objects in the river bed, usually submerged downed trees, which can pose a pinning risk. Pinning, where a boat becomes stuck in the current, can also occur with other river features such as rocks. Proper design of the whitewater park

features and river bed in the area of the park could help to alleviate some of these risks.

- *Reprieve or opportunities for self-rescue.* Such opportunities are important considerations for the reduction of liability associated with the proposed whitewater park. Including a sufficient number of eddies and stretches of lower class current can provide boaters with opportunities to rest, recuperate, and self-rescue if necessary.
- *Emergency Personnel and Infrastructure.* First responder teams, such as police and fire rescue, should be adequately trained to address the risks and special circumstances associated with whitewater rescues. Swiftwater rescue training would be recommended for all first responder teams to provide immediate rescue assistance and to alleviate the risks of injury to first responder team members.

3.2 Potential Environmental Impacts Assessment

Several general or "desk top" environmental assessments were conducted in preparation of this report. Central to these investigations was the identification of key biotic species and significant historic resources in the Skowhegan Gorge area. A review of the National Heritage inventory of threatened and endangered species for the Gorge area was conducted. In addition, an on-site assessment of significant habitat was also conducted and the shoreline and trail areas evaluated for erosion. With respect to historically and/or culturally significant resources, consultation with the Maine Historic Preservation Commission was undertaken.

Construction of a whitewater park within the Kennebec River is likely to have short-term and/or long-term impacts on the river bed, river topography, water quality and shoreline. Any modifications and construction projects should be undertaken so as to minimize the impacts to existing fisheries and wildlife resources and habitat, as well as, the overall environmental quality of the Skowhegan Gorge.

3.2.1 Water Quality

While the proposed features comprising a whitewater park in the Skowhegan Gorge are not expected to adversely impact water quality, complimentary improvements and preparations may need to be addressed. The removal of a submerged bridge from the riverbed is being proposed as part of the Project. Removal of structures, debris, and other waste from the riverbed, in preparation for modifications and as part of the larger Gorge improvement goals will improve the aesthetics of the gorge.

Additionally, construction activities in and around the Gorge have the potential to temporarily impact water quality in the immediate area and downstream. The modifications being considered should be constructed so as to minimize bank erosion, petrochemical and other such pollution, and vegetation disturbance that can be caused by the heavy machinery needed for these construction activities.

Water temperature will not be affected by the whitewater park features.

3.2.2 Fisheries and Wildlife

MDIFW indicated that monitoring may be needed to assess the impacts of the Project on fisheries and suggested some alternatives for collecting that data. MDIFW believes the Project should encompass an inventory of baseline fisheries and wildlife resources, from existing data or otherwise, and an assessment of the potential impacts to these resources to properly address, avoid and mitigate such impacts. As flow releases are dictated by FPLE, impacts to fisheries from changes to flow regimes should be addressed by FPLE.

3.2.3 Habitat

Anecdotal evidence suggests that at some point in the past, the Gorge was dredged or in some way altered, removing most of the natural substrate/bathymetric features. Thoughtful design and installation of whitewater features may actually improve fish habitat. For example, eddies create resting pools for fish species and are macroinvertebrate habitat. Additional eddies in the Skowhegan Gorge could provide flow refuges and feeding grounds. Aerated water created by features will also theoretically be beneficial to the fishery.

3.3 Cultural Assessment

As previously indicated, the MHPC has requested assessment of the project area prior to any construction to determine if archaeologically significant resources exist. This work would be done in conjunction with federal permitting as discussed below. General procedure for this assessment would involve survey by a state approved cultural resource specialist. The findings of this assessment would then be forwarded to the MHPC for review and comment. Federal law also requires that all recognized tribal groups within the state be notified of proposed construction activities concurrently with the submittal of federal permit applications. Both the MHPC and Tribal Historic Preservation Officers (THPO) are granted the opportunity to comment on the project and make recommendations to either avoid or mitigate for any identified adverse impact.

3.4 Regulatory Compliance and Permitting

This section provides an overview of the permitting requirements and issues associated with the development of a whitewater park in the Skowhegan Gorge and related improvements to recreation facilities. It is important to note that both state and federal regulatory agencies have stressed that, where possible, improvements to the Gorge area should be grouped together as one project. It is possible to phase construction over a period of years, however as the project is seen as an overall improvement project,

as much of the proposed work as possible should be submitted under one permit application.

3.4.1 State Permitting

According to the Maine Department of Environmental Protection (MDEP), any placement of fill in a waterway and or construction activities within 75 feet of a protected resource (lake, pond, river, stream, wetland etc.) requires review under the Maine Natural Resource Protection Act (NRPA). The type of NRPA permit application submitted is dependent on the overall project size, the type of resources being impacted and any other significant resource issues identified by MDEP. It is likely that improvements being considered within this feasibility study, including the construction of a whitewater park would present significant impacts to protected resources and would require a "full" or "individual" NRPA permit.

Construction applications will likely need to include resource information and environmental analysis. If proposed improvements adversely impact wetlands, a wetlands mitigation plan may need to be developed.

MDIFW fisheries issues would be included in the NRPA review, as well as issues raised by the Department of Marine Resources (DMR) and other agencies, as appropriate. The NRPA permit application should also include information demonstrating that the project would not alter the river's morphology or bank stability through the redirection of significant amounts of water or through changes to the velocity of the water. Impacts to the floodplain issues will also need to be addressed.

Creating one or more acres of disturbance or the creation of a new impervious area for parking, trails, etc. would require permitting under the Maine Construction General Permit and/or the Stormwater Management Law. Unless the Project creates over three acres of new structure, or is submitted after any

changes to the Stormwater Law, only quantity standards are likely to apply. If the Project will create over three acres of structure or 20 acres of developed area, a Site Location of Development permit will be required.

3.4.2 Federal Permitting

The Federal Emergency Management Agency (FEMA) will require review and assessment of the Project's impact to flood levels. As such, the Project will need a thorough hydrologic analysis because structures are being placed in a floodway. Federal guidelines require no change in base flow elevations (bfe), or the local flood map must be modified. The applicant needs to demonstrate that the Project does not adversely impact the floodplain or include provision for the mitigation of impacts.

The Army Corps of Engineers (ACOE), under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, has jurisdiction over any placement of fill in the Kennebec River. As part of their permit review and issuance, ACOE staff, in conjunction with the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS) and the Environmental Protection Agency (EPA) will review any proposed work within their jurisdiction. As part of their permit issuance, staff will write an environmental assessment of the Project. In Maine the MDEP and ACOE work under a "joint" permit application process, with the MDEP application serving as the ACOE application As such, the Project permit application must include potential secondary and cumulative impacts (bridges, utility lines, etc.), in addition to the features proposed for placement in the river. The application should include all temporary and permanent works, including the removal of the trestle bridge structure from the Gorge as it would be part of the overall Skowhegan Gorge Project. ACOE can request the removal of materials if navigability is affected.

Under Section 106 of the Historic Preservation Act, the ACOE is responsible for coordinating review of impacts to historic and/or prehistoric

resources. As discussed above the applicant must coordinate with the State Historic Preservation Officer and all Maine tribes. This coordination must be documented and provided to the ACOE as part of the overall permit application process.

3.5 Potential User Conflicts

Although user conflicts have not been specifically researched with respect to the proposed improvements, including the introduction of a whitewater park in the Gorge, anecdotal input from the Committee, obtained during public outreach efforts, indicate that no major conflicts have been identified. Furthermore, Committee members believe that temporal and seasonal differences inherent in the activities that would be pursued in the Gorge (*e.g.,* fishing and boating) should help to alleviate potential user conflicts. The overall improvements to the Gorge area and particular features of the whitewater park could be designed alleviate some potential conflicts related to competing uses of the Gorge.

Theoretically, in a whitewater environment, the competing recreational uses would be whitewater boating and angling. To address the needs of these different user groups, activities could be directed to particular time frames. For example, it is possible that anglers will use the Gorge during early morning and at dusk, when fishing is ideal. Paddlers, on the other hand, may be more likely to use the Gorge in the middle of the day. Additionally, whitewater features can be designed to complement angling use to the extent feasible (*e.g.* concentrating whitewater features on one side of the Gorge while providing angler access in locations not directly impacted by whitewater activities). With these considerations in mind during design, the whitewater park has the opportunity to actually enhance habitat and improve baseline fisheries populations, making the Gorge an attractive place for anglers.

In addition to competing uses, there is also the potential for user conflict associated with the "capacity" of the Project features. Whitewater park design is typically comprised of several features or "play spots" that accommodate one or two

paddlers at one time. Anecdotal evidence provided by area paddlers indicates that other than competitions, paddlers are not likely to wait significant lengths of time to use the features, if there are a large number of paddlers already in the Gorge. The park will be somewhat limited in the number of paddlers attracted on days other than competitions. As such, the whitewater park will likely be self-regulating with respect to capacity and the number of paddlers in the Gorge at one time.

3.6 Summary and Recommendations

3.6.1 Liability

The Maine Recreational Use Statute and the Maine State Tort Claims Act would appear to protect landowners and municipalities from liability with respect to the use of town owned lands and facilities for the purposes of outdoor recreation. Legislative liability protections notwithstanding, it essential that the Committee both engage in risk management practices and explore liability coverage for the proposed whitewater park. Consultation with legal counsel regarding the Town's responsibilities and limitations to liability is strongly recommended. The Committee should investigate the specific risks, potential for liability, and municipal responsibilities with appropriate law makers, legal counsel, and insurance underwriters before undertaking the development of this project.

3.6.2 Environmental Impacts

With respect to the potential environmental impacts of the Skowhegan Gorge Project, any plans to develop this area should, at a minimum, provide suitable flows for coldwater fish species at all times, minimize the impact of construction activities on shoreline vegetation, wildlife habitat, and water quality, and retain as much of the remaining natural character of the gorge as possible.

Prior to construction and in preparation for permitting requirements, a thorough environmental assessment will need to be completed for fisheries, wildlife, water quality, cultural resources and significant habitat. For example, surveying for mussels and other aquatic species habitat should be undertaken and an instream flow investigation should be conducted to determine potential impacts of work done in the waterway. The morphology and geology of the Skowhegan Gorge should be further investigated through a detailed survey of the area.

Construction activities should avoid wetlands impacts to the extent possible. Construction of any improvements, including trails, access ways and the whitewater park, should avoid impacting riparian vegetation to the extent possible. Natural boulders and other natural fill materials and structures should be employed to the extent possible. Shoreline erosion risks should be minimized.

3.6.3 Regulatory Compliance and Permitting

With respect to State and Federal permitting requirements, the Project will need a thorough environmental review. This would include delineation of any wetlands, and assessment of the functional values of these wetlands, thorough review of the project area for rare, threatened or endangered species, and an assessment of the overall project impact.

The Project should be proposed in its entirety for State and Federal permitting. If the Committee has entertained multiple design scenarios, all scenarios will need to be described in the ACOE permit application to enable the ACOE to make a determination of least effect. Additionally, the Committee must coordinate with the State Historic Preservation Officer and all Maine tribes on any and all permit applications.

3.6.4 Potential User Conflicts

Although there is potential to improve angler access to the Skowhegan Gorge area, it is possible that the whitewater park may detract from the area's value as a sport fishery if user conflict between anglers and other recreational users exist and cannot be resolved. Design modifications, including additional access and park features, should employ a multi-use approach in anticipation of minimizing the competition between uses. The Committee should engage in further outreach and negotiations with stakeholders and representative interests to identify and mitigate potential user conflicts prior to adopting a Project plan.

4.0 DEVELOPMENT, DESIGN AND CONSTRUCTION OF LAND-BASED RECREATION FACILITIES

This section of the Feasibility Study discusses the potential for modifications to existing recreation facilities and additional new recreation facilities along the Skowhegan Gorge. This section makes general assessments and suggestions for potential modifications, improvements, and enhancements that could be undertaken for existing and possible future recreation facilities. Final designs should be completed prior to implementing these facilities.

4.1 Existing Facility Improvements

Coburn Park – Coburn Park provides diverse existing recreation opportunities such as sightseeing, picnicking, and walking/hiking. Although the gradient along the river shoreline at the Park is prohibitively steep for formal river access, even with improvements, the Park could easily be incorporated into the recreation improvement plans for the Skowhegan Gorge area. Specifically, river walk trails and viewing platforms could be constructed, providing additional sightseeing and spectator opportunities for the Gorge and possible whitewater park events. In addition, the Park provides opportunities for recreation and leisure that compliment Gorge activities, such as picnic facilities and off-water respite for paddlers.

Figure 9 Coburn Park

Skowhegan Gorge Footbridge – As it currently exists, the Skowhegan Gorge Footbridge provides excellent viewing opportunities of the Gorge. The gradient on either shoreline adjacent to the bridge is prohibitively steep for river access. The footbridge

could be incorporated into the Skowhegan Gorge Project and Downtown Renaissance Project as part of a larger perimeter trail and spectator viewing platform for the whitewater park.

Figure 10. Skowhegan Gorge Footbridge

Debe Park and Trails – Debe Park is currently comprised of a large open space that could be improved and enhanced for a number of recreation opportunities. Parking, picnic facilities, a playground, restrooms, and greenspace are among the opportunities that could be provided at this location. Additionally, Debe Park and the river access trail could be improved and enhanced to serve as the staging area and access point for a potential whitewater park in the Skowhegan Gorge. Paddlers could choose to either put-in and take-out at Debe Park, thereby eliminating the need for downstream transportation, or access the whitewater park via Debe Park, paddle the length of Skowhegan Gorge, and take-out downstream. The canoe portage trail and access at the Debe Park steps could be linked with the Skowhegan Gorge Footbridge to create a Gorge perimeter trail. Signage (*e.g.* trail maps, safety, etc.) and interpretive facilities could also be provided.

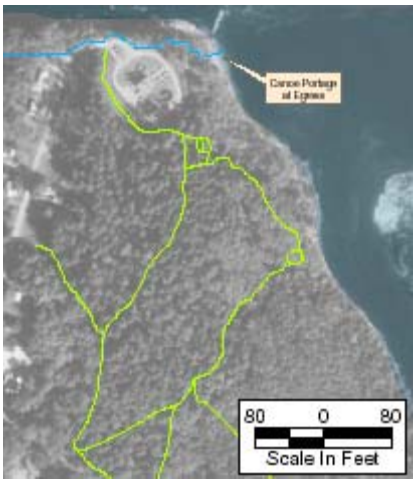
Figure 11. Debe Park and River Access Trail

Carry-in Boat Launch at Joyce Street - This site is currently designated for canoe portaging and has limited street side parking. It is anticipated that a whitewater park would bring an increase in traffic and volume of use to river access sites above, at, and downstream of the whitewater park. The final design may require expansion of this site if use is expected to increase. An alternate take-out and parking area may need to be considered.

Figure 12. Carry-in Boat Launch at Joyce Street

Philbrick Trail - Although the Philbrick Trail does not provide formal access to the river, it could be incorporated into the recreation improvement plans for the Skowhegan Gorge area. The trail system connects with the existing canoe portage trail providing a continuous system of trails beginning at Debe Park and continuing throughout the woods in Skowhegan. The trail system provides ample opportunities for hiking and cross-country skiing.

Figure 13. Philbrick Trail

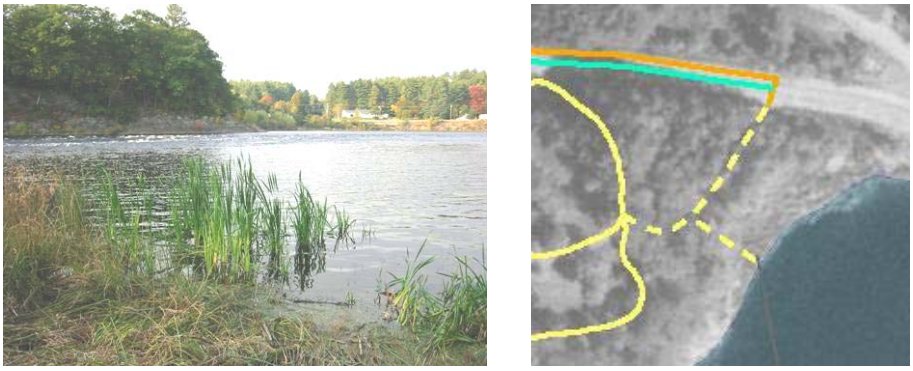


Existing River Access - The preliminary Skowhegan Gorge Project plan proposes to develop access to the river at two or three locations (Figures 14 and 15). The put in to the whitewater park and access to the Gorge would be located on the south shore immediately below the pedestrian bridge at the Debe Park river access trail. Parking for shuttle vehicles and visitor/event participants could be located at the existing empty lot at Debe Park, adjacent to the New Balance factory. Limited, informal parking is currently available there and the site could, with minor upgrades, accommodate more formal vehicle parking. Take outs could be located at the existing carry-in boat launch at Joyce Street, adjacent to the Skowhegan Water Pollution Control Plant, as well as at the informal Big Eddy access site.

4.2 New Recreation Facilities

Potential New River Access - The Big Eddy access site is an existing unpaved road providing access to the north shore of the river east of Coburn Park. The gradient along the shoreline at this site is shallow to moderate, providing opportunities for such improvements as paved access and a parking area. As this site is undeveloped, provides easy access to the river, and is larger in comparison with the capacity of the current canoe portage, this area could be developed to provide additional river access for paddlers and additional parking. An added benefit of the location of this egress is that paddlers must travel through downtown Skowhegan, if accessing the river via Debe Park and paddling downstream to this take-out. This could increase patronage at downtown restaurants and shops.

Figure 14. Potential New River Access



4.3 Summary and Recommendations

Potential modifications to existing recreation facilities and additional facilities have been provided as recommendations for the Committee to consider in the recreational enhancement and improvement of the Gorge area. More detailed investigations of the feasibility of modifications and new facilities, potential impacts of construction of new facilities and improvements to existing facilities, and the costs of such improvements need to be undertaken prior to implementation. Land ownership and availability has not been addressed in this study. It is strongly recommended that the Committee seek available properties along the Gorge to ensure access. As such, it is also recommended that the Committee research funding sources available for the purchase of any parcels identified as significant to the success of the overall Run of River Project.

5.0 WATER-BASED RECREATION FACILITY IMPROVEMENT AND DEVELOPMENT

A whitewater park is being considered for the 1,100 foot stretch of the Kennebec River downstream of the Skowhegan Gorge Footbridge to the Canoe Portage site at the Skowhegan Water Pollution Control Plant. Currently, this stretch of the river has a gentle gradient and class I-II easy moving water depending upon flow levels. The development of this section of the Kennebec River for a whitewater park would require river bed and shoreline modifications and feature alterations such as shoreline breakwaters for eddy formation, strategically placed streambed rocks and/or concrete buttresses to create waves, holes and currents, viewing platforms, and whitewater slalom course gates. The Committee will need to undertake structural, geological, hydraulic modeling and other engineering assessments prior to incorporating modifications to or the addition of whitewater recreation facilities.

5.1 Whitewater Park Design

In consideration of the potential for a whitewater park in the Skowhegan Gorge, a preliminary engineering assessment was conducted to determine the feasibility of modifying the waterway and its potential impacts to the tailwater at Weston Dam. The results of the analysis indicate that some level of development can be accomplished to enhance boating opportunities within the gorge.

Based on the flow data for the project, flows in the gorge typically range from a low flow of several thousand cubic feet per second to flows that annually exceed 50,000 cfs. During the summer recreation period, flows in the gorge typically range between 3000 and 10,000 cfs. The Weston station generating capacity is reported to be 7,500 cfs. Flows during the summer period are regulated via releases for generation at the Wyman dam upstream at Bingham. This is beneficial for recreational opportunities, as the range of flow levels in the gorge are known in advance and are fairly predictable.

At a flow of 6000 cfs, the average summer season flow at Weston Dam, there is approximately 8 feet of head which can be developed. Through the placement of features

in the river, this hydraulic head would be used to accelerate the flow in some locations resulting in whitewater. In other locations within the Gorge, flow would be redirected to provide quick water features and present various levels of challenge for recreational boaters.

The results of the preliminary engineering analysis noted the following positive items:

1. There is sufficient flow and head to maintain conditions for the entire summer period, if average summer flows from Weston Dam are maintained.
2. There are adequate staging and take out areas for most boating activities.
3. Regulated flows from Weston Dam allow for some level of consistency of river features.
4. The Gorge provides the opportunity for varying levels of reasonably predictable whitewater features, which could provide a range of boating experiences.

It is also important to note the following challenges which would need to be addressed in any proposed development.

1. The large size of and limited access to the Gorge will make project construction logistics challenging.
2. Continuous high velocity flow and seasonal extremes will require features of significant size to provide the adequate water displacement necessary for viable whitewater features that withstand long-term use.
3. Unknown subsurface/bathymetric conditions.

Specifically, the Gorge is very large, at approximately a half mile long and over 200 feet in width with a proposed design flow of 6,000 cfs. Other whitewater park designs that were reviewed typically have a design flow of closer to 600 cfs and channel widths of less than 50 feet. In comparison, the sheer size of the Skowhegan Gorge area

and typical river flows require features that are large enough to make a discernable difference in river flows. The necessary size of these features adds significant cost to construction within the Gorge. The size of the Gorge also lends particular complexity to construction logistics, as detailed in Section 4.2.

5.2 Whitewater Park Construction

In addition to the overall technical feasibility of developing the recreational capability of the Gorge, the constructability of the project must also be considered. This section of the study considered such items as access for construction crew and equipment, management of water during construction, and the installation of proposed features. In addition, durability of the design is also an important factor. From this aspect, the project must remain in place for many years.

The project area, as shown in Figures 15 and 16, extends approximately 0.5 miles from the footbridge downstream to the Big Eddy. In this reach, the river has a width of approximately 225 feet. Preliminary bathymetric assessment indicates that water depths vary from 1 foot to 8 feet through the Gorge. The river banks range from steep to very steep particularly on the northern shore of the gorge.

5.2.1 Construction Access and Logistics

Overall access to the site for construction equipment would be difficult due to the steep banks. There are only a couple of reasonable access points where it may be possible to bring in the necessary equipment to install the noted features. The most feasible construction method would be to access the south side of the gorge directly below the footbridge, where topography would allow the construction of an equipment staging area and temporary road along the river.

Access to the Gorge area and installation of whitewater features is made more difficult due to the Gorge's size and topography, both in terms of the size of the construction equipment necessary and in terms of the size of the features that

must be installed in the channel to affect the river flow. The large features required by the size of the Gorge will be very heavy and difficult to place. As such, installation may necessitate very large equipment, such as large cranes, to do the work because of the width of the Gorge and weight of the features. As an alternative, construction of a temporary road along the south shore of the Gorge may allow equipment to access the upper half of the project area. Either method of access and feature placement will be costly, relative to the cost of the materials.

Figure 15. Site Plan I

Figure 16. Site Plan II

5.2.2 Water Management

Management of river flows during construction is another challenge. Typically, cofferdams are constructed around work areas in the water. Flow rates and velocities in the Gorge, even during summer periods, will make this difficult. Placing cell type cofferdams in the river (one for each feature) is time consuming and expensive. The most likely strategy for managing flows and allowing enough slack water for construction would involve the installation of temporary earthen/rock cofferdams upstream of proposed features to slow flow and allow for installation of whitewater park features. This material provides the cleanest type of fill in light of any environmental concerns associated with construction within the Gorge and could be removed and reused for other features requiring fill or bank stabilization.

Water depths are also an important consideration for construction. Many of the proposed features are "underwater" features and the depth of water at their specific location will directly impact the construction difficulty. The inability to dewater the work areas will also add to the work effort and subsequent costs. It is possible that the town can negotiate some form of agreement with the utilities upstream of the project that could result in a limited flow modification during key construction sequences.

5.2.3 Whitewater Park Features

Alternative to pre-fabricated features that are placed in the Gorge by heavy machinery, features could be manufactured in place. One option would be to pump concrete into hollow forms utilizing a "high-line" anchored on either side of the Gorge. Divers could drill and place rebar, as necessary. Another option would be to install smaller pre-cast features that could be keyed together and rebarred in place.

Another consideration that must be addressed is the fact that the Gorge is a natural system. All features placed in the Gorge will experience the full range of flow conditions that can occur in the river (i.e. 3000-50,000 cfs). During high flows, the river features that were constructed must remain intact and in place and must be sufficient to resist movement for all flow conditions. Debris load in the river, particularly river ice also must also be considered when designing the features.

5.3 Opinion of Probable Construction Costs

The conceptual design of the Skowhegan Gorge Whitewater Park assesses probable construction costs assuming features are created from simulated boulders, 25 foot diameter concrete shells. Supposing that the boulders are three feet in height, approximately 55 yards of concrete would be required to fill these structures. Costs of installation could run as high as $600 to$1000/yd plus the cost of the pre-casting form. This results in each feature having a cost of between approximately $35,000 and $55,000 per feature. The conceptual design contains at least 10 of these units.

Bank features in this conceptual design consist of placed rock in concrete to stabilize the features. In the upper part of the Gorge, the installation of one conceptual bank feature is estimated to require approximately 1,800 cubic yards of rock and concrete. This would have a similar cost for installation as the concrete boulders.

The conceptual design for the minimal development option described in the Feasibility Study would cost an estimated $600,000-750,000. A conceptual full build-out scenario would be expected to be substantially higher in cost, ranging from $1,000,000-$1,500,000. Table 2 provides an overview of the probable construction costs.

Table 1. Opinion of Probable Costs

Description	Range of Potential Costs
River Clean-up and Habitat Restoration	Volunteer Labor & Existing Staff
Recreation Trails & Facilities	$10,000 - $50,000
Whitewater Park (to include physical modeling)	$600,000 - $1,500,000

5.4 Summary and Recommendations

This conceptual analysis and study is only the first step in the process of developing the Gorge for whitewater recreation. The construction of a whitewater park or limited features within the Gorge is, from an engineering perspective, feasible. The costs of construction however, are anticipated to be significant due to difficult terrain, river size and flow, as well as construction access issues.

In order to proceed, more detailed data and study is required. Where reasonable assumptions regarding the channel sections have been made, very detailed data based on field measurements would be required. It is also highly recommended that a physical model of the proposed system be done. Development of a model to analyze the physical set up of the gorge could run approximately $50,000 to $75,000. While it has been preliminarily determined that whitewater features within the Gorge could be constructed without affecting tailwater elevations at the Weston Dam and that, with proper design and construction, these features should be able to be placed within the Gorge, a physical model would test the stability of the proposed features and the "whitewater" characteristics that the Project is trying to achieve.

Additionally, an engineering firm specializing in whitewater park construction should be consulted during early stages of project development. The design and construction logistics for a whitewater park in the Skowhegan Gorge should be undertaken by an engineering firm with adequate experience and expertise to manage this complex and challenging project.

6.0 FUNDING

The Run-of-River Project encompasses not only the construction of a new whitewater park but enhancements and improvements to existing recreation sites that could potentially serve users of the park, existing recreation facility users, visitors to and residents of the downtown area, and visitors to and residents of the state of Maine. As such, there are numerous funding strategies that could be employed. While not all-inclusive, some potential funding sources include:

Land and Water Conservation Fund – This program provides up to 50 percent reimbursement to state and municipal public agencies "for the acquisition and/or development of publicly owned outdoor recreation facilities."[21] This fund is administered federally by the National Park Service and the Maine Bureau of Parks and Lands oversees administration of Program funds, providing "69 grants totaling over $4.6 million from 1993 through 2002," 52 percent of which were for local projects. For more information, contact:

Bud Newell, Program Manager
Grants and Community Recreation Division, Bureau of Parks and Lands
22 State House Station, Augusta, Maine 04333
Phone: 207-287-4962
E-mail address: Bud.Newell@maine.gov

Recreational Trails Program – A component of the Transportation Enhancement Program, this program is administered by the state of Maine Bureau of Parks and Lands under agreement with the Maine Department of Transportation. It is funded with federal Highway Trust Fund money and requires "that trail projects be identified in, or further a specific goal of a recreational trails plan or a SCORP."[22] Funds are administered as grants-in-aid to municipalities and qualified non-profit organizations. Projects funded by the Recreational Trails Program include maintenance and enhancement to existing trails, construction of new trails and complimentary facilities, property acquisition and educational programs. Expansions to and improvements of existing trails in and around the Skowhegan Gorge area may qualify for Recreation Trails Program Funds. For more information, contact:

[21] State of Maine Bureau of Parks and Lands website: http://www.state.me.us/doc/parks/grants/index.html

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Phone: 207-287-4962
E-mail address: Bud.Newell@maine.gov

Boating Facility Grant Program - This program is funded by state gasoline taxes and is used to assist public and private agencies "in the acquisition, development, enhancement, or rehabilitation of boat launching facilities available to the general public"[23] by providing matching monies or materials for services associated with the acquisition of land rights, land purchases, engineering and construction, permitting fees, and maintenance and inspection costs. Because the program derives its funding from a portion of the gasoline taxes generated by recreational motor boaters, "priority is given to funding launching facilities that can be used by both motor and non-motorized watercraft"[24] and the program will not fund non-boating water access facilities such as those for bank fishing, etc. For more information, contact:

The Boating Facilities Division, Bureau of Parks and Lands
22 State House Station, Augusta, Maine 04333
Phone: 207-287-4952

Land for Maine's Future Program – The goal of this program is to provide for the conservation of lands in Maine that have "exceptional natural or recreational value."[25] The program first began in 1987 and has subsequently purchased titles and easements to almost 200,000 acres in the state of Maine, including 75 miles of rail trails, wildlife habitat, and forest and farm lands. The fund is administered as a matching grant and proposals must be endorsed by one of the following state agencies: Department of Inland Fisheries and Wildlife, Department of Conservation, Department of Marine Resources, Department of Agriculture or the Maine State Planning Office. For more information, contact:

Tim Glidden, Director
Maine State Planning Office
184 State Street, 38 State House Station, Augusta, Maine 04330-0038
Phone: 207-287-1487
E-mail: tim.glidden@maine.gov

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[22] Maine Department of Conservation. 2003. Maine State Comprehensive Outdoor Recreation Plan.
[23] Maine Bureau of Parks and Lands website: http://www.state.me.us/doc/parks/grants/index.html
[24] Maine Bureau of Parks and Lands website: http://www.state.me.us/doc/parks/grants/index.html
[25] Maine State Planning Office website. http://www.state.me.us/spo/lmf/

Transportation Enhancement Fund - This program is a "federal/municipal match program (typically 80/20) offering a funding opportunity to help communities expand their transportation and livability choices."[26] The fund provides matching grants for a wide range of projects including:

- Pedestrian and bicycle facilities, such as planning, designing and constructing multiple use trails and programs designed to enhance opportunities for walking and bicycling. For more information, contact:

  John Balicki
  Office of Passenger Transportation, Maine Department of Transportation
  Phone: 207-624-3250.

- Projects enhancing and improving aesthetics and the scenic quality of an area or features of historic significance such as vistas and overlooks, interpretive signage, improvements such as park benches, lighting and landscaping, waterfront improvements, and historic preservation. For more information, contact:

  Bret Poi or Kent Cooper
  Environmental Office, Maine Department of Transportation
  Phone: 207-624-3100

Maine Cardiovascular Health Program – This program provides technical assistance to "communities looking to promote physical activity in their communities"[27] This program explores opportunities for education and outreach regarding cardiovascular disease and prevention and is a member of the Health Maine Walks Coalition. For more information, contact:

Anne Rogers, Public Health Educator
Maine Cardiovascular Health Program, Bureau of Health
Phone: 207-287-8417
Email: anne.l.rogers@maine.gov

National Park Service River and Trails Program - This program works with community groups and municipal governments to "conserve rivers, preserve open space, and develop trails

[26] Maine Department of Transportation website. http://www.maine.gov/mdot/community-programs/enhancement-program.php
[27] Health Maine Walks Coalition Members website. http://www.healthymainewalks.com/members.php

and greenways."[28] This program provides technical expertise and consultation such as resource assessments, concept plans, and identification of sources of funding for such projects as trails, wildlife corridors, greenways, downtown riverfront conservation, water trails, and stream restoration. For more information, contact:

Steve Golden, Program Leader
Rivers, Trails & Conservation Assistance, National Park Service
15 State Street, Boston, MA 02109
Phone: 617-223-5123
Fax: 617-223-5164
Email: steve_golden@nps.gov

[28] National Park Service website. http://www.nps.gov/rtca/

7.0 PROJECT IMPLEMENTATION

The Run of River Project proposed by the Committee seeks to develop recreational and educational opportunities, conserve and enhance environmental integrity and natural beauty, recognize and highlight features of historical significance, and promote and assure safe access and use of the Skowhegan Gorge. To that end, there are several components of the overall improvement plan to consider and address individually:

- river and shoreline clean-up and habitat restoration;
- increasing and improving land-based public recreational opportunities on both sides of the Kennebec River at the Skowhegan Gorge;
- the possible construction of whitewater park to allow canoe and kayak "rodeo" and/or slalom run features, as well as whitewater rescue training; and
- environmental, permitting, user conflict, economic and public user considerations associated with river improvements and enhanced public recreation opportunities in and around the Gorge.

This section provides a critical path timeline that covers each of the components of the Run of River Project and provides general outline of major steps the Committee needs to follow during the process of securing funding, design, permitting and construction.

Appendix B, provides an article that addresses the steps that another group went through to establish an Olympic class whitewater course, very similar to this effort. Other articles pertinent to the development and implementation of a whitewater course are also included for review.

Figure 17. Critical Path Timeline

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APPENDIX A

SOURCES OF ECONOMIC BENEFIT

The Skowhegan Gorge Project, in addition to providing potential increased recreation opportunities, may complement the Town's broader community, tourism and economic revitalization activities. The Project should be considered an important component of the broader town development goals and the Skowhegan Downtown Renaissance Project. Among the potential projects directly and indirectly related to the development of a whitewater park in the Skowhegan Gorge are:

- increased, improved, and enhanced recreation facilities such as carry-in boat launches, trails and viewing platforms, picnic facilities; interpretive and educational facilities;
- increased numbers of and improved existing associated tourism based businesses such as dining, lodging, and outfitter shops and other services such as grocery stores, gas stations, and banking;
- increased parking within and adjacent to the downtown area and Gorge Project; and
- the associated jobs, economic benefits, and community pride related to such revitalization efforts.

Case Studies

While not directly identifying or accounting for the potential economic benefits to the Town, this section provides anecdotal case studies of whitewater parks developed in the United States and attempts to provide a comparative analysis of use levels, topography and hydraulics, and economic impacts to the Skowhegan Gorge Project.

East Race Waterway – South Bend, Indiana. This whitewater park is managed by the South Bend Parks and Recreation Department and staffing includes individuals operating food and equipment concessions, bus and shuttle drivers, and from 9 to 13 lifeguards during recreation season only (June through August). The town charges a fee of $3 weekdays and $6 weekends for use of the park. The course runs approximately 2100 feet with a 12 foot head and an average gradient of 0.6 percent. The course was constructed within a rehabilitated industrial waterway with moveable features made of fiberglass or wood and was completed in June, 1984 at a total cost of $4.5 million.

According to the South Bend Recreation Department, the park is reported to draw approximately 20,000 paddlers during the summer season and "ignited a $50 million development boom in which restaurants, shops, apartments, and a chocolate factory replaces a dingy industrial district."[29]

Clear Creek Whitewater Park – Golden, Colorado. Overseen by the Golden Parks and Recreation Department, this park is a self-service, unstaffed venue open year round and available for public use free of charge. The course is approximately 800 feet in length with an average gradient of 45 feet per mile. Located on Clear Creek in downtown Golden, the course was offers three sections of varying difficulty constructed with boulders and other natural materials. Construction of the park was completed in June of 1998 at a total cost of $165,000. Six additional drop structures were constructed in 2002. According to City officials, Clear Creek is reported to draw approximately 15,000 paddlers annually with an annual economic impact of between $1.4 million and $2.2 million a year.[30] Furthermore, the park "attracted 45,000 users and pumped $23 million in Golden's economy" during its first three years in existence.[31]

Truckee River Whitewater Park – Reno, Nevada. The Truckee River Whitewater Park is located on the Truckee River in downtown Reno and is owned by the City of Reno and managed cooperatively with the State of Nevada. The whitewater park is free of charge and is not staffed. Concessionaires, however, are present in Wingfield Park, the municipal park in which the whitewater course is contained. The course is a class II – III run, approximately a half mile long, with 11 drop pools. The park was constructed at a total cost of approximately $1.5 million and was completed in November, 2003. According to the Truckee River Recreation Plan, an estimated 100,000 paddlers and spectators were expected to use the park annually.[32] The Nevada Commission on Tourism estimates that a 2-day kayaking event, "could draw more than 4.000 people and bring in nearly $1 million in outside revenue, without considering money spent gambling."[33]

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[29] Miller, Joe. 2001. "Whitewater Parks Offer Thrilling Turn in City Planning." The News and Observer.
[30] Berwyn, Bob. 2001. "Breckenridge Launches Whitewater Park." The Denver Post.
[31] Pankratz, et. al. 2003. "Recreational Water Rights Decision." River Crossings.
[32] Resource Concepts, Inc. et. al. 2002. Truckee River Recreation Plan.
[33] Eilers, Scott. 2003. "Rena Makes a Bet on Whitewater Park." Wet Dawg Website.

Arkansas River Whitewater Park – Salida, Colorado. This whitewater park is located on the Arkansas River in the town of Salida and was financed through a partnership between the City of Salida and the Arkansas River Trust. It is a user free park with no formal staffing. The class II – III whitewater course is approximately a quarter of a mile in length having a 45 feet/mile gradient with a water flow ranging from 200 to 1,200 cubic feet per second. It is the second phase of the Arkansas River Whitewater Park and Greenway Project and construction on the whitewater course was completed in October of 2001. The third phase of the project calls for the construction of additional whitewater features and work continued through the end of 2003. According to the Salida Chamber of Commerce, the whitewater park enhances the recreational opportunities for residents of and visitors to Salida citing that "the numbers of rafters and kayakers on the Arkansas River, which flows through downtown Salida, has grown from around 350,000 in 1990 to more than 650,000 last summer."[34]

Dickerson Whitewater Park – Dickerson, Maryland. The Dickerson Whitewater Park is located in the discharge canal of the Dickerson Generating Station, owned by Mirant, on the Potomac River. The features are comprised of artificial concrete boulders strategically placed along the 900 foot course which is heated to provide year round paddling. It was built in 1992 to serve as a practice course for athletes preparing for the Summer Olympics in Barcelona, Spain. The flow volume ranges from 200 to 600 cubic feet per second depending upon power plant operations. The course is operated by the Bethesda Center of Excellence which requires a user fee or annual membership for use of the facility. An annual membership may be purchased for $100 which allows unlimited access to the course. Alternatively, non-members are required to pay a daily $5 user fee to one of the local outfitters, such as Calleva or Potomac Outdoors. In addition, paddlers are required to complete and sign a liability release form for Mirant.

Ocoee Whitewater Center and Olympic Course – Ocoee, Tennessee. The Ocoee Whitewater Center and Olympic Whitewater Course was built for the 1996 Olympics at a total cost of approximately $26 million. The Olympic Course is located on the Upper

Ocoee River and is dam controlled whitewater with a normal summertime release of about 1,400 cubic feet per second. The course itself is a mile long and the entire five mile stretch of the Upper Ocoee has an average gradient of approximately 50 feet per mile. The course was constructed with natural sandstone boulders harvested from the surrounding area and designed as a "river within a river," using levees and banks to create a narrow inner whitewater course while allowing for high flood waters to flow around the course. During the summer Olympics in July, 1996, the Ocoee Olympic Whitewater Course "brought over 15,000 visitors and more than 1,000 volunteers and staff"[35] to the river. The Ocoee Whitewater Center continues to receive "more than 120,000 tourists and outdoor recreationists annually."[36]

Table 2 provides a comparison of the use levels for the aforementioned whitewater parks and population of the local community to the Town of Skowhegan.

Table 2. Comparison of Use Estimates for US Whitewater Parks.

Whitewater Park Name	Location	Use Estimates (annually)	2003 Population of County[b]	2003 Population of State[b]
East Race Waterway	South Bend, St. Joseph County, IN	20,000	266,348	6,195,643
Clear Creek Whitewater Park	Golden, Jefferson County, CO	15,000	528,563	4,550,688
Truckee River Whitewater Park	Reno, Washoe County, NV	100,000	370,853	2,241,154
Arkansas River Whitewater Park	Salida, Chaffee County, CO	See Below[a]	16,841	4,550,688
Ocoee Whitewater Center	Ocoee, Polk County, TN	See Below[a]	16,171	5,841,748
Skowhegan Gorge Whitewater Park	Skowhegan, Somerset County, ME	Unknown	51,154	1,305,728

[a] Use estimates of 650,000 visitors annually for the Arkansas River Whitewater Park and 120,000 visitors annually for the Ocoee Whitewater Center include visitors to the entire river area.
[b] Source: www.census.gov - Annual Estimates of the Population for Counties: April 1, 2000 to July 1, 2003.

[34] Blevins, Jason. 2000. "Whitewater Wonders: Colorado Towns Ride Wave of Kayaking's Popularity." The Denver Post.
[35] American Whitewater. 2003. Upper Ocoee River Info. American Whitewater website.
[36] Great Outdoor Recreation Pages. 2004. Cherokee National Forest Paddling Information. GORP website.

In addition to the direct use that the whitewater park would receive, development of the Skowhegan Gorge area is expected to increase use for other recreation groups. The whitewater park has the potential to directly impact the number of people visiting the Gorge to watch paddlers run the course, for both competition events and everyday runs. Spectators and the general community would also be expected to take advantage of existing and potential future riverside and adjacent trail systems. Picnic facilities would provide an additional recreation amenity to attract spectators, families, and the general public. Improvements to and the development of formal park facilities, such as Coburn and Debe, provides another level of attraction for visitors, residents, and recreationists.

Incorporating the whitewater course and recreation facilities improvements into the plan for revitalization of downtown Skowhegan provides the opportunity to market and promote complimentary services, amenities, and activities. The potential increase in visitors to the Skowhegan area, and greater lengths of stay for these visitors, could contribute to small business, industry, and the overall economy of the Town. It is important for the Committee to understand, anticipate and plan for the possible influx of visitors and tourists to the area.

Summary and Recommendations

Anecdotal evidence suggests that the introduction of a whitewater park provides an economic gain to the host community. It is important to note, however, that different whitewater parks employ various funding and revenue strategies such as user fees, membership fees, state funding, etc. that may impact the net economic benefits of the parks. While the construction of recreational and whitewater facilities has the potential to become a catalyst for local and regional economic growth, a comprehensive economic survey is recommended to assess existing use levels, trends, recreation activity distributions and expenditure patterns of residents and tourists to the area for the purposes of recreation and leisure specific to the Skowhegan region. A direct survey of users could provide a more accurate and project specific picture of the potential economic impacts of a whitewater park and appurtenant improvements in the Town of Skowhegan.

APPENDIX B

Creating America's Olympic River

By XX

Hydro Review

To be inserted.

Whitewater offers fresh idea for revitalization

Susan Gvozdas Staff Writer

Susquehanna Whitewater Park Alliance

Imagine careening down white-water rapids, water splashing, boat twirling amid the foam. Now, picture this on the Susquehanna River. That's Brad Nelsons dream reflowing part of the river into a canal with rocks and other obstacles to make the water swirl. He said he¹s been trying to sell the idea to business owners, tourism officials, city planners and area kayak clubs. Just think if you knew where a gold mine was and someone else had the shovels and the picks, said Nelson, who owns Starrk-Moon Kayak Co. in Delta, York County. You would have to tell somebody. He found some receptive ears among a group of boaters in Williamsport and in city hall in Havre de Grace, Md. People in both towns are investigating how to bring whitewater and hopefully floods of tourists to their areas. Nelson¹s dream is to persuade city officials in the Lancaster and York areas to build the white-water parks, although he hasn¹t met with them yet. Economic development officials in those cities said the idea sounded interesting, but they wanted more details.

The Lancaster Kayak Club decided the week of May 13 to donate $100 to his marketing campaign. We¹ll be on his support list, said club member Tom Preperato of Mountville in Lancaster County. Artificial white-water parks have been popular in Europe and are gaining popularity in the United States, said Bob Campbell, managing director of Whitewater Parks International in Glenwood Springs, Colo. He said there are about 20 sites in the United States, including six sites in Colorado. His company is helping with the feasibility studies for Olympic-size parks in Charlotte, N.C., Asper, Md., and Chattanooga, Tenn. Those parks will be modeled after the one in Penrith, Australia, where white-water slalom competitions were held for the 2000 Summer Olympics.

While natural white water exists in Colorado, it is dependent on snowmelt and rain, and the season lasts only for a few months, Campbell said. Small mountain towns have built the parks to revive their economies and rid themselves of stagnant water. Instead of having this trashy piece of water that collects garbage, they have a park, Campbell said. It's drawing a tourist factor that didn't exist. Nelson, 52, has been involved in paddle sports and operated his company for 14 years. He has seen how well West Virginia has capitalized on outdoor activities

and shakes his head when he hears about river towns trying to revitalize themselves. It just seems like they're all looking for the same thing, he said. This is something that's fresh. It's part of the new economy.

Preperato said the parks would definitely lure tourists to Central Pennsylvania. On May 17, he drove more than three hours to the northern branch of the Potomac River in Maryland to ride the rapids. He said he also drives up into the Lehigh Valley when there's a scheduled dam release. Jason Shipley, a boater in Williamsport, said he and a half-dozen other boaters are trying to determine whether they could build a white-water park in his town. They have been consulting with Nelson and are trying to raise $1,000 to conduct a design assessment. Shipley said boaters are attracted to white-water parks because they provide a consistent level of water and activity that isn't dependent on rain. The idea caught the attention of Anne Druck, president of the York County Convention and Visitors Bureau. We've searched for a long time in York County for what would make people want to come here,² she said. She hadn't heard of the idea until contacted for this article. Druck said a white-water park would complement other outdoor activities in the area.

White-water parks range from the simple to the complex and can cost anywhere from several hundred thousand dollars to $12 million the current price tag for the one proposed in Charlotte. Some plans call for simply inserting obstacles such as rocks and boulders in existing streambeds to get water flow to change. Others such, as the one proposed for Havre de Grace, Md., would require directing Susquehanna River water into a canal that is specially designed to make the rapids. The water would then empty back into the river.

Nelson said that proposal could cost $3 million, depending on its location. He estimates that it would generate an economic impact of $2 million for the community, based on studies done in other cities. He does not know what environmental impact it might have. Campbell said white-water courses could affect the environment if they're not done properly.

The city of Asper in Garrett County, Md., is promoting itself as an adventure recreation destination. Government agencies joined with local businesses in 1998 to form the Adventure Sports Center Inc., a nonprofit organization dedicated to promoting western Maryland¹s adventure-sports activities. The group has planned to build a central village complex with more

than 500 acres of trails and recreational venues, according to the center¹s Web site. Cities with extreme sports opportunities are considered a draw for young high-tech workers, according to a study by Richard Florida, a professor of regional development at Carnegie Mellon University¹s Heinz School of Public Policy and Management. He said the long hours, fast pace and tight deadlines in the tech world breed a worker who is attracted to outdoor activities such as rock climbing, mountain biking, rowing and snowboarding. Florida said cities that invest in these types of activities could lure a talented work force.

Nelson presented his water-park idea to the city of Havre de Grace as a way to compete with the malls of nearby Bel Air, Md. Havre de Grace is exploring the idea, said the city's economic development director Ted Bishop. Nelson said people drive for more than two hours just to get to the rapids in West Virginia. He said he could envision those people driving to white-water parks in Wrightsville in York County and Marietta in Lancaster County. He pictures canoeists and kayakers sailing down the water, while spectators set up picnic lunches around the park. Nelson said he doesn't care who brings the white-water idea to fruition. He just wants to see it happen. It's a helluva idea, Nelson said.

Whitewater parks offer thrilling turn in city planning

By Joe Miller, Staff Writer

The Herald Sun, Durham/Chapel Hill/Research Triangle

Forget convention centers, pro sports franchises, chichi cafes and galleries. What cities looking to bring life to their downtowns really want these days is a whitewater kayak park.

No river? No problem; they can order up one of those, too. "If it all seems far-fetched, remember that Mount Rushmore out in South Dakota was built as a tourist attraction," says Brad Nelson with the Pennsylvania-based Susquehanna Whitewater Park Alliance, a clearinghouse for information on the parks. "That's what these parks can be for a city."

Ten U.S. cities and towns already have whitewater kayak parks, and 13 more are looking into them, according to the SWPA. Of the dozen parks in the blueprint stage, four are in North Carolina: Fayetteville, Charlotte, Asheville and Bryson City.

In some instances, the parks are carved out of existing waterways to provide the type of adrenaline-pumping thrills whitewater kayaking and rafting enthusiasts crave. The proposed $15 million Mississippi Whitewater Park in downtown Minneapolis, for instance, would reroute a section of existing river and add artificial boulders and other faux-natural features to turn an otherwise placid stretch of the Mississippi into a liquid roller coaster.

In cases where Mother Nature hasn't been as accommodating, developers have had to add the water as well. The most well-known example of a park built from scratch -- complete with water supply, pumping system and concrete river channel -- is the Penrith Whitewater Stadium, which played host to the 2000 Summer Olympics in Sydney, Australia.

North Carolina's three proposed parks reflect both strategies.

In Asheville, a proposal by RiverLink, a nonprofit organization promoting the environmental and economic resurgence of the French Broad River, would turn a stretch of that river into a whitewater playground. A similar project is in the works for a 300-yard stretch of the

Tuckasegee River in downtown Bryson City. Meanwhile, plans announced last year in Charlotte call for a $15 million whitewater park in an industrial area of Uptown where no river exists.

And in September, Fayetteville became the latest entry into the whitewater park fray when the local chamber of commerce announced it was looking into converting a four-mile stretch of Cross Creek into a paddling venue. "I've been downtown during heavy thunderstorms and thought that Cross Creek looked great to jump into," says chamber Chairman Franklin Clark, a whitewater rafting enthusiast since his college days. Clark, a local developer, got the idea for the Cross Creek park after visiting the site of the 1996 Olympics whitewater competition, a similarly enhanced section of the Ocoee River in Tennessee.

The Cross Creek course would begin at Glenville Lake near Fayetteville State University northwest of downtown, then follow Cross Creek as it cuts through the north side of downtown before emptying into the Cape Fear River. One key component of the Fayetteville plan would be ensuring a flow of water out of Glenville Lake sufficient to make Cross Creek navigable on a regular -- or at least predictable -- basis.

Equally important would be replicating the kind of frothy excitement found on popular whitewater rivers in the mountains: the Ocoee, for instance, or the Nantahala in Western North Carolina, two popular Southeast destinations for kayakers.

Although the plan calls for making a four-mile stretch of Cross Creek navigable, only about a 1,400-foot stretch -- from U.S. 301 to the Cape Fear River -- would be true whitewater, Gordon Johnson says. Johnson is an architect who is leading a chamber committee studying the proposal. Fourteen-hundred feet, about a quarter of a mile, may not seem like much, but in the world of whitewater kayaking, it's plenty. Kayakers used to run long stretches of whitewater, but today the trend is to "park 'n' play."

Basically, kayakers find a feature -- a wave dropping over a boulder, for instance -- paddle in behind it and do a series of acrobatic "rodeo" moves, says David Knox in the Asheville office of American Whitewater, a trade group promoting whitewater activities.

While providing a whitewater experience that local kayakers would otherwise have to drive six or seven hours to find, Cross Creek's supporters believe the whitewater course also would spur developments crucial to revitalizing Fayetteville's downtown.

In addition to the whitewater course, Johnson says, a greenway would be developed along Cross Creek, as well as three parks: one near Glenville Lake, one downtown and one near the botanical gardens. Johnson says the greenway would provide a much-needed link between FSU and downtown and could spark the development of badly needed downtown housing. Couple that with the recently opened Airborne & Special Operations Museum, several art galleries and a planned downtown pavilion and amphitheater, and supporters think Fayetteville's downtown could soon see a renaissance.

"The economic development potential is great for downtown Fayetteville," Johnson says. "If we create a venue like this we'll draw visitors from throughout the region, from Virginia to South Carolina." South Bend, Ind., got that kind of boost after it opened its 1,900-foot East Race Waterway in 1984. The park, which draws 20,000 paddlers a summer, ignited a $50 million development boom in which restaurants, shops, apartments and a chocolate factory replaced a dingy industrial district. "It's changed the quality of life," says Paul McMinn, the city's assistant recreation director. "We have concerts down there, historic programs. We had a recent consumer survey that showed it's as much of an attraction as [the University of] Notre Dame."

Fayetteville's chamber just began work on a master plan to assess the possible impact as well as to figure out the possible costs. Supporters hope to pay for some of the whitewater park by piggybacking it with another project: cleaning up Cross Creek's stormwater pollution runoff.

Whitewater parks may have a future, according to figures from the Boulder, Colo.-based Outdoor Industry Association, which tracks participation in 15 outdoor activities. Although overall participation in outdoor pursuits such as backpacking, canoeing, rock climbing and bicycling has plateaued recently, kayaking is one of three activities exhibiting "dynamic growth." A recent OIA survey showed 6.4 million Americans kayaked in 2000, a 50 percent increase in just two years. Furthermore, the number of kayaking "enthusiasts" -- those who kayaked at least 10 times -- increased 150 percent over the same period.

It's also a diverse and affluent market. The sport had a near equal number of male and female participants in 2000; the number of African-American participants rose from a statistically insignificant number in 1998 to 3 percent of the market in 2000, and the typical kayaker has a mean annual income of $66,000.

Charlotte is trying to tap into that market in a move that presents a twist on how municipal priorities can change. During the 1990s, the city's love affair with its NBA Hornets and NFL Panthers was one of the most torrid in sports. Now, the Panthers are no longer guaranteed to sell out Ericsson Stadium on Sundays, and the Hornets are likely to leave town after this season because the city won't build them a new arena.

But Vic Howie, a senior vice president with Bank of America who is helping with the effort to build the park, says the proposed whitewater park has broadbased political and civic support. Mecklenburg County would spend $3 million to buy the land, with the rest of the construction costs coming from a variety of private sources.

"People are turning inward, toward their families," says Howie. "We have a clean, fun idea for a park that could touch almost every demographic." In addition, the whitewater parks make sense historically, at least to Nelson with the Susquehanna Whitewater Park Alliance.

"Rivers have had different economic uses since people first came to this country," he says, adding that mills have long been an essential part of the state's economy.

"What's the contemporary use for this water?" he asks rhetorically. "Kayaking."

Whitewater parks finding rapid success - Colorado cities harness thrills, spills of river kayaking

Stephanie Desmon – Staff Writer

The Baltimore Sun

A mile downstream, the Coors Brewery taps the water burbling up from springs adjoining Clear Creek, adds barley and hops, and turns it into beer.

But kayaking fanatics upstream are putting the fabled Rocky Mountain waters to another use. From miles around, they are arriving to play in Clear Creek Whitewater Park, a quarter-mile stretch of rapids, engineered with gaping holes to create foaming white caps and maximum thrills right in the middle of town. Whitewater parks are popping up in cities all over Colorado. Boulder has one. So does Steamboat Springs. Denver, too. One opened in Vail this spring.

Golden's course -- considered one of the best in the state -- is in its fourth summer.

"I think it's important that we provide recreation for everyone, not just softball fields or baseball fields," said Charles W. Fagan, the parks and recreation director in this city of 17,000 about 20 miles west of Denver. "We anticipated it to be popular. We had no idea how popular."

Suddenly Fagan has a full-scale tourist attraction on his hands. It might not rival the tour at Coors (where they offer free beer tasting), but it's serving a different need.

"In the old days, the emphasis used to be running rivers, being in beautiful country," said Peter Heller, a Denver-based free-lance writer who was testing out his new yellow kayak on a recent afternoon. "We played a lot, too, but it was kind of rare to pull up to a hole, park and play.

"Now the culture's changed to a sort of more athletic, park-and-play culture. They call it destination boating."

No longer is it about getting from Point A to Point B. One point is plenty.

"It's become huge," said Jason D. Robertson, who works for the Silver Spring-based nonprofit American Whitewater, which lobbies for river access, conservation and safety. "It's really establishing itself. People are doing some really wild stuff."

"Kayakers are seeing that cities and communities around the country are recognizing the tremendous economic and, I suppose, cultural benefits of having a bunch of crazy kayakers be able to play downtown," Heller said. A ride on the river is free, so the city doesn't know how many people use the course, which cost $165,000 to construct.

Because there's no admission, the city isn't legally liable for any potential mishaps, Fagan maintains. He said he believes the park is safe, but an hour spent watching some young hotdogs do their tricks tests that claim.

Rush hour starts around 5 p.m., just like at a gym catering to the post-work crowd. The parking lot can be packed on an early summer day.

"Every night, there's 50 to a couple of hundred people there," said Mike Paris, a local elementary school physical education teacher.

This is the surf, snowboard and skateboard crowd, for the most part. Often tattooed or in baggy pants. Mostly male. Looking for the extreme. A whole daredevil culture is developing.

Paris sponsors a biweekly competition -- the Front Range Rodeo Competition -- at Clear Creek where kayakers head into the deepest hole (No. 7) and see how many tricks they can do in 45 seconds. They do what are called cartwheels, flat spins, blunts and more. Some try to shoot straight up into the air, propelled by the current. Three judges rate the moves.

Late spring and early summer are when the river is at its best. It has everything to do with water coming down from the Rocky Mountains above. At this time of year, the water is down six or seven feet from its peak. When there are raging thunderstorms in the summer, kayakers don't shy away -- they flock to the course to see if the water has risen again.

"The season here is all determined by runoff and snow melt," Heller said. "In Colorado, that traditionally has been from, say, mid-May to late June. After that, things dry up real fast, and kayakers are sort of landlocked.

"The idea of these whitewater parks is to use rocks and artificial obstacles to constrict the river and form pools and drops that will be there even in low water so we have a place to play on August 1st."

Kayaks are smaller than they used to be. An "old school" boat runs about 13 feet. Some of the new ones are 7 feet or smaller. It'll cost about $1,000 to get outfitted, but it saves the cost of a summer gym membership. Kayakers wear helmets, wet suits and life jackets -- they know the risks (it's more dangerous than rock climbing, they say). That's part of why they do it.

"I don't know why we don't hit our heads more often," said Keith Pereles, who works in a bar in his hometown of Idaho Springs about 30 minutes away.

On a recent afternoon after he emerged from the water, Pereles watched as others tried to tame the raging water in front of him. It looks a lot like surfing, as boaters try to stay inside the rapids, doing spins and tricks until the water finally wins and seems to spit the boater out. How do you know when you're done, when it's the next guy's turn, he is asked. Suddenly, a kayaker in a purple boat is flipped over by the force of the water.

"That's how you decide you're done," said Pereles, who has been doing this for about three years.

"It's a great workout, for sure," he said. "It's actually a lot like skiing or snowboarding except you're standing still and the surface is running beneath you."

He has spent six hours in the water at a time, trying to tame it. Tom Olguin, a construction worker who lives a few towns over, said he uses the creek to practice for weekend trips. Paris, who comes to the creek five or six times a week, just wants to perfect those moves.

"It's for fun," Paris said. "Yeah, you can use them in situations [on rivers], but it's really for fun."