

# River Environment Preservation Movement for the Sustainability of Ecotourism Programs

Fajar Fajar <sup>1\*</sup>, Dewi Liesnoor Setyowati <sup>2</sup>, Thriwaty Aرسال <sup>3</sup>, Ani Rosilawati <sup>4</sup>

<sup>1</sup> Universitas Negeri Semarang Postgraduate Program, Indonesia

<sup>2</sup> Department of Geography Universitas Negeri Semarang, Indonesia

<sup>3</sup> Department of Sociology and Anthropology Universitas Negeri Semarang, Indonesia

<sup>4</sup> Department of Physics Education Universitas Negeri Semarang, Indonesia

\*Corresponding Author: [ajangfaajr@students.unnes.ac.id](mailto:ajangfaajr@students.unnes.ac.id)

**Abstract** The concrete action of preserving the river environment by a number of youths in Mayangsari Village has yielded results. The potential of the river has been exploited and provides economic benefits. The river which was originally a garbage dump has now been cleaned and has become a new tourist attraction. Now many visitors are coming to walk along and enjoy the flow of the Kreo river. The success of the youth in changing the face of the river is interesting to study. This article aims to identify and analyze the youth movement in preserving the river environment. This study uses a descriptive qualitative research method in studying the youth movement in river conservation. This research took place in the riverside community of Kampung Mayangsari, Kalipancur Village, Semarang City. This location was chosen because the river that flows in the city of Semarang has received serious attention from a number of concerned youths. The chairman and members of the River Care Group, the River Tubing Mayangsari Tourism Awareness Group (Pokdarwis), and the surrounding community were informants who provided primary data. Primary data is obtained by using interviews, and observations, while secondary data is taken from journal articles and documents. Analysis and interpretation of data using interactive analysis from Miles and Huberman. Youth are agents of change who take roles and responsibilities in efforts to improve social, economic, and environmental life. A number of young people who are members of the River Care Group and Pokdarwis in Kampung Mayangsari are carrying out conservation efforts in the Kreo River environment. Rivers that were previously used for the benefit of individuals who degrade river have been changed through various concrete actions in the form of cleaning rivers, making regulations and education on river protection, creating tourism infrastructure, and finally making rivers for river tubing tourism destinations that provide economic benefits for the community.

**Keywords:** movement; sustainability; conservation; river environment; tourism

## INTRODUCTION

Community activities that contribute to the preservation of social, cultural, and environmental values are rife in various regions. A number of youths and parents who are moved to carry out conservation have become actors of change whose roles are urgently needed. The movements carried out by the change actors have provided inspiration for change actors in other places. Conservation efforts both related to socio-cultural values and preservation of the natural environment, in the end, have sprung up in society, especially because of the massive support of information on social media. This preservation effort is carried out in order to answer existing problems related to the urgency of maintaining something that belongs to the community so that it is not lost, as well as the urgency of economic interests for the welfare of the community.

The case that occurred in the people of Kubu Raya Regency, where many young people forgot the traditional Malay culture inherited from their ancestors, was the reason for carrying out cultural

preservation in Sungai Kakap Subdistrict, Kubu Raya Regency through the revival of traditional activities/traditional ceremonies such as when going to perform gadgets to marriage, mutual cooperation when going to the fields, preservation of dance arts in certain events and so on (Rohani, et al. 2018). Lack of understanding, lack of activities, and a sense of community love for the importance of preserving culture are suspected to be a factor in the urgency of preserving Malay cultural customs. In line with this, the lack of optimal efforts to preserve cultural values in the Dayak community of Seneban Village, Sejiram District, Kapuas Hulu Regency is a lack of understanding and a sense of community love for the importance of cultural preservation (Firmansyah, 2017). The conservation steps that were then taken by the community in Seneban Village, Kapuas Hulu Regency, included empowering the community, especially the indigenous people in Seneban Village, Kapuas Hulu Regency to jointly preserve traditional activities/ceremonies such as: farming, *gawai* Dayak, traditional marriages, death

processes, rituals, *nyelapat tahun*, cultural titles, washing charcoal, and building houses (Firmansyah, 2017). Through these conservation activities, there are sociocultural values that can be preserved, including the value of togetherness, the value of solidarity, the value of willingness to sacrifice for the common good, the value of respect for ancestral heritage, and spiritual values (Firmansyah, 2017).

The form of efforts to preserve the natural environment carried out by the community, among others, is shown in activities such as the one person one tree movement, the reforestation movement for deforested land, the mangrove planting movement, and several environmental day commemorations, such as commemorating Earth Day, commemorating national waste care day, commemorating conservation day, national nature day, and other environmental care days (Primary, et al. 2022). Activities like this are mostly carried out by the nature lover community, such as the Bujang Squad nature lover community. This community is engaged in saving the environment in Terak Village, Simpang Katis District in the Bangka Belitung Islands Province (Pratama, et al. 2022).

Another natural environment that has received attention for conservation efforts is the river. River problems are so complex that they involve many parties and are interrelated problems from upstream to downstream. Problems with the river include the results of the Puspitasari survey (2021) showing that the current state of the Bedadung River is polluted based on the condition of the river water from the presence of garbage, water clarity, water odor, and the presence of small industries around the river contributing to a decrease in the quality of the river environment. The results of a research report by the Directorate General of Pollution Control and Environmental Damage, Ministry of Environment and Forestry (KLHK) show that in 2015 almost 68 percent of 33 provinces in Indonesia, rivers were heavily polluted caused by household waste (Suryani and Ningsih (2018). Riani's research (2019) decreased river quality due to pollution of BOD waste from tributaries in the Pekanbaru City area during the rainy season, amounting to 68.48% of the total pollution load that enters the Siak River during the rainy season, while in the dry season, it is 69.51%. of the total pollution load during the dry season.

These problems have been anticipated through the issuance of legal instruments

including Law Number 11 of 1974 concerning Irrigation, Law Number 4 of 1982 concerning Basic Provisions for Environmental Management, Government Regulation Number 22 of 1982 concerning Water Arrangements, Government Regulations Number 20 of 1990 concerning Control of Water Pollution, and Government Regulation of the Republic of Indonesia Number 35 of 1991 concerning Rivers. The government issued a Government Regulation on Rivers in 2011 as a reference for efforts to conserve, develop and control rivers (Suharko and Kusumadewi, 2019). In addition, government programs related to rivers include the Clean River Program (Prokasih) initiated by the Ministry of Environment. In recent years, the Provincial Government of DKI Jakarta has carried out a program to normalize rivers in Jakarta, the Provincial Government of West Java has carried out the "Citarum Harum" to normalize the Citarum river which is the dirtiest river in the world (Suharko and Kusumadewi, 2019).

These legal instruments and government programs need to be coupled with the participation of the people who consciously make efforts to preserve the river environment. Initiatives to improve river conditions and restore the river's original function are also carried out by organized members of the public, such as community members, student organizations and other forms of social organizations, or in general called civil society organizations (CSOs) that are specifically engaged in the environmental (Suharko and Kusumadewi, 2019). One example of community participation regarding the preservation of the river environment was carried out by young people from the city of Bandung. These young people call themselves the Pandawara Group, which means "Panda" which means five, and "Wara" which means good, so Pandawarara is "five young men who bring good news" (Narasi Daily, 2023). The action carried out by five friends consisting of Rafli Pasha (22), Agung Permana (22), Gilang Rahma (22), Muchamad Iksan (21), and Rifki Sa'dullah (22) is an active activity to clean up trash in the river has been occupied since last August 2022 (Narasi Daily, 2023). The action to clean up trash in the river was carried out to overcome the problem of flooding due to the accumulation of garbage that clogged the flow of water in the river in the area where he lives. This clean-up action is a form of river environmental preservation with the background of the urgency of solving environmental problems in the form of flooding

due to blockage of river flow in the rainy season.

Another only with efforts to preserve the river environment which is carried out with the communities on the banks of the Code River using a local wisdom approach. Efforts to build public awareness to preserve the river environment through the Merti Code tradition, namely by building a mythology related to the sacredness of the Code River (Hakim, 2021). Since long ago, the people of Code were not allowed to carelessly treat the river, because flash floods were considered not a disaster, but an attempt by Code to clean himself and throw away bad luck into the south sea (Hakim, 2021). Through Merti Code activities, community mobilization in the river cleaning movement can be carried out easily. The sacralization of the Code River is very effective in protecting ecological elements from the threat of destruction. By maintaining the Merti Code tradition, the sacred ecosystem is also preserved (Hakim, 2021).

Efforts to preserve the natural environment based on ecotourism activities are also being carried out in various places. Ecotourism is nature-based tourism that involves education, and interpretation of the environment and is managed in a sustainable manner, which in turn provides for the sustainability of the area because these tourism activities must increase the carrying capacity of the environment (Tuasikal, 2020). In addition, ecotourism has begun to be developed as a program which is also a conservation strategy and is expected to become an economic alternative for local communities (Suryanti and Indrayasa, 2021). Ecotourism activities have proven to be a force in ecological restoration (Blangy and Mehta, 2006). Community-Based Ecotourism (CBET) has become a popular tool for conservation, where investment in CBET can be justified in cases where such small changes and benefits can generate significant social and conservation benefits (Kiss, 2004). Community-Based Ecotourism (CBET) provides benefits to community members, especially those related to the environment, by giving them the opportunity to influence and participate in tourism development (Hafezi, 2023).

Ecotourism must be seen as more than just recreational activities in natural areas, but rather as a means to synergize conservation and regional development through tourism (Sardiana and Purnawan, 2015). This ecotourism practice should show the characteristics as stated by the Directorate General of Nature Protection and

Conservation (2000) cited by Suryanti and Indrayasa (2021), namely: 1) *Nature based*, biodiversity and its ecosystems are the main focus and are the main selling point. 2) *Ecologically sustainable*, all good environmental functions including the biological environment, physical environment, and social environment go hand in hand well. 3) *Environmentally educative*, expected to be able to influence the behavior of the public and tourists to care about environmental preservation in the long term. 4) Beneficial for local communities, involving local communities in various ecotourism activities. 5) Tourist satisfaction, being able to increase awareness and respect for nature conservation and local culture.

Unique natural attractions and cultural heritage can be considered as the main opportunity to bring significant socio-economic benefits and become a tool for the preservation of the natural environment as well as the preservation of local culture (AnrianaTisca, et al. 2016). It is the same with ecotourism practices in Sri Lanka where forest-based ecotourism is managed through good governance to achieve conservation goals while on the other hand it can obtain economic benefits for stakeholders and development of community livelihoods (Zoysa, 2021). Forest-based ecotourism in Sri Lanka is an important means of conserving natural resources in terms of preventing deforestation and forest degradation, as well as preserving biodiversity in Sri Lanka (Zoysa, 2021). In line with Zoysa's findings, Bhuiyan and Darda's research (2023) on ecotourism in the state of Terengganu shows that ecotourism activities make a positive contribution to community development through increasing environmental awareness, contributing to conservation, and creating jobs for local communities. Lestari's research results, et al. (2016) regarding youth participation in the development of community-based tourism (CBT), one of which contributes to nature and environmental conservation (eco and green concepts). Sardiana and Purnawan (2015) show that ecotourism activities in Tenganan Dauh Tukad Traditional Village based on cultural values and community obedience to their customary rules (*awig-awig*) turn out to be an effective control and play a fundamental role in encouraging community participation to carry out nature conservation, and social, cultural and economic.

Conservation practices for tourism sustainability have also begun to be worked on,

one of which is in the Mayangsari Village, Kalipancur Village, Semarang City. River conservation activities were carried out prior to the presence of river flow-based tourism activities. This conservation activity is carried out by a number of youths who have transformed more positively. Youth in this region are youths who are vulnerable to the image of thugs and criminal acts. The face of the youth in this village began to change along with the social transformation that was taking place there. One of the positive changes in youth is the birth of youth groups that are oriented towards the environmental concern, such as the Komunitas Peduli Sungai (KPS)/ the River Care Community. This group has contributed a lot to better environmental change, in this case, it is shown by river conservation activities. The youth in the KPS succeeded in changing the face of the river which was originally a place for both liquid and solid waste disposal, a place for defecating and looking for stones and sand to sell, now the river is being protected and its existence optimized to provide economic benefits to the community. This economic benefit is obtained from turning the river into a water tourism destination in the form of river tubing. The youth movement in the restoration of the Kreo River is a form of environmental awareness that contributes not only to the physical environmental aspects of Samata but also to social change and improving the community's economy. The conservation movement carried out by a number of young people is interesting to study the extent of its contribution to the physical, social, and economic environment. This article aims to analyze stream-based ecotourism programs and the river environmental conservation movement carried out by the KPS in Mayangsari Village, Kalipancur Village, and Semarang City.

## METHODS

This study uses a naturalistic approach with descriptive qualitative methods (Moleong, 2004). This method is used to describe the river conservation movement carried out by the KPS in Mayangsari Village, Kalipancur Village, Ngaliyan District, and Semarang City. Field data was collected through data collection techniques in the form of: interviews addressed to selected informants using the snowball technique. Informants, in this case, were the chairman and members of the KPS, the chairman and members of the Kelompok Sadar Wisata Mayangsari River

Tubing (Podarwis Mayangsari River Tubing)/ the Mayangsari River Tubing Tourism Awareness Group, as well as community leaders, especially the Rukun Warga (RW)/ the citizens Association and Rukun Tetangga (RT)/ Neighborhood Associations, as well as the community who are aware of the process of social transformation. In order to complete the data, observation techniques were used in a non-participant way to find out directly the changes that occurred in the people of Kampung Masyangsari (Spreadly, 1980; Sugiyono, 2008). Data were analyzed using Miles and Huberman's interactive analytical model (Miles and Huberman, 1992). Where the data collected was then transcribed verbatim, then data reduction was carried out, then the data were categorized based on the problem to then be presented and conclusions are drawn.

## RESULTS AND DISCUSSION

### River Tubing Ecotourism Program

The Kreo River is one of the rivers in Semarang City whose water flow meets the Garang River and then flows into the flood control channel, namely the West Flood Canal until it flows to the estuary in the Java Sea. The Kreo River Basin from upstream to downstream crosses several districts/cities, namely the City of Semarang covering Ngaliyan District, Gunungpati District, and Mijen District; Semarang Regency includes West Ungaran District; and Kendal Regency includes the Districts of Boja and Limbangan (Putri, 2017). The Kreo watershed is part of the Garang watershed with a land area of 6,856.27 hectares (Setyaningsih, 2018). The Garang watershed consists of four sub-watersheds, namely the Upper Garang sub-watershed, the Kreo sub-watershed, the Kripik sub-watershed, and the Garang Hilir and West Flood Canal sub-watersheds (Setyaningsih, 2018). The West Flood Canal as a flood control channel was built and managed by the Central Government, namely Pekerjaan Umum dan Penataan Ruang (PUPR)/ Public Works and Public Housing through the Balai Besar Wilayah Sungai (BBWS)/ the River Basin Center, furniture *street* in the West Flood Canal area managed by the Semarang City Government through the Sanitation and Landscaping Service, while The Tourism Office helps organize attractions and activities with technical recommendations from BBWS Pemali Juana (Kinanthi, 2022).

BBWS divides the West Flood Canal flow

into five zones, namely: Zone I (Marina) is an area designated for recreation and historical sites; Zone II (West Flood Canal) is an area designated for health and sports; Zone III (West Flood Canal) is an area designated for entertainment - river views; Zone IV (Kreo watershed and Gribik watershed) is an area designated for recreation - river conservation; Zone V (Jatibarang Reservoir) is an area designated for historical sites and local communities (Kinanthi, 2022). Based on the division of zones, the Kreo River is included in the zone designated as a recreation and conservation area. This designation has been realized by the people around the Kreo watershed who have utilized the potential of the river as a natural tourism area for river tubing. This river tubing ecotourism is managed by Pokdarwis River Tubing Mayangsari located in Mayangsari village RT XI RW II Kalipancur Village, Ngaliyan District, Semarang City.

At first, the idea of using the river by youth had started in 2015. Starting in 2018 the Mayangsari river tubing ecotourism began to appear, especially after the existence of the thematic village program, so that this ecotourism activity received both material and non-material support from various parties (Fajar and Rini, 2019). The idea of the youth to take advantage of the potential of the Kreo River to become a tourist attraction then gave birth to the Pokdarwis River Tubing Mayangsari. The Pokdarwis was initiated by first coordinating with the BBWS and the Kalipancur Village government to provide legality for the existence of this group. This stretch of ecotourism is starting to show with the addition of facilities and infrastructure that are continuously being built starting from tubing equipment facilities and tubing safety equipment, river tubing service facilities, infrastructure facilities such as bathrooms, *bengong* halls, parks, signs, business premises (*warung*) secretariat and so forth. In 2020 the government's policy regarding the Enforcement of Restrictions on Community Activities (Pemberlakuan Pembatasan Kegiatan Masyarakat/ PPKM) and the Large-Scale Social Restrictions (Pembatasan Sosial Berskala Besar/ PSBB) policy during the Covid-19 pandemic brought all sectors of community activity to a standstill including the

Mayangsari river tubing ecotourism activity. The visit of the Mayor of Semarang and the Head of the Tourism Office in 2021 will make river tubing tourism increasingly known. At that time there were no more cases of Covid-19 so the people were enthusiastic about enjoying river tubing ecotourism.

Mayangsari river tubing ecotourism is a manifestation of the results of conservation efforts for the Kreo River environment carried out by youth who are members of the KPS. Previously the Kreo River, which crossed the RW II area, had the same conditions as rivers in general in big cities. Setyaningsih's study (2018) regarding land damage in the Kreo watershed area of Semarang City and its surroundings, it shows that there has been a change in land use around the Kreo watershed from 1995-2018 where there was an increase in the area of settlements and mixed gardens and a reduction in green open land caused by human factors. (settlement development) causes land damage and affects the condition of the Kreo watershed. The visible impacts include high sedimentation, especially during the rainy season where water carries soil material which then settles of them downstream of the Kreo River which is in the Tugu Suharto area. Long before the conservation efforts were carried out, the people around the Kreo River showed unfavorable attitudes and demonstrated the practice of disposing of household waste around the river even though the Kreo River is one of the main sources of drinking water companies (Perusahaan Daerah Air Minum/ PDAM) (Wibowo, 1999).

This problem was still encountered until before 2018. Communities around the river still throw household waste into the river. The waste comes from household bathroom drains which flow into the river. Until 2017, there were still many people in Kampung Mayangsari who did not have latrines (Fajar and Rini, 2019). Some people still defecate in the river. In addition, the absence of waste management in the village makes people use practical methods by disposing of garbage around the river banks. The practice of stone and sand mining in rivers is also still found. Field data shows the problems of the Kreo River as follows:

**Table 1.** Problems in the Kreo River

No.	The problem	Cause of the Problem
1	Garbage scattered on the banks of the river	Garbage dumped both from within and outside the Mayangsari community is carried away
2	People throw garbage in the river	The absence of communal household waste management
3	Defecate	Absence of latrines and the habit of defecating in the river
4	household liquid waste	There is no septic tank for household liquid waste
5	River material mining	The problem of meeting the necessities of life
6	The growth of plants that facilitate erosion	Plants that grow both wild and intentionally planted
7	Establishment of settlements on the banks of the river	Land along the river is traded

Source: Processed from research results in 2020

The problems above make the Kreo River vulnerable to a decrease in river quality. Public awareness about river environmental management is also still low, resulting in neglect. Until finally the emergence of awareness from a number of young people who are members of the Putra Mayangsari Disaster Preparedness Group (Kelompok Siaga Bencana Putra Mayangsari/ KSB Puma).

#### **River Conservation Movement by River Care Group**

Conservation is an effort made to preserve or protect nature with the aim of: maintaining the ecosystem; ensure genetic diversity; preservation of the use of species and ecosystems (Kinanthi, 2022). Kreo River conservation efforts are shown through a movement carried out by a number of social groups. The social movements carried out by a number of youths in Mayangsari village started with the formation of KSB Puma in 2014. This group is in charge of disaster-related matters. KSB Puma's involvement in a number of disaster issues has further strengthened the enthusiasm of the youth to hold associations and carry out positive activities. KSB Puma is officially under the auspices of the Regional Disaster Management Agency (Badan Penanggulangan Bencana Daerah/ BPBD) starting in 2016. KSB Puma has experience in providing assistance to victims of drowning in rivers, landslide victims and other humanitarian actions. Water rescue activities related to rivers gave birth to a new group called the River Care Group (Kelompok Peduli Sungai/ KPS). Membership in this group is taken from two people representing each RT in RW 2.

This group was born from the idea of youth who have awareness and concern for conserving

the river that flows through the Mayangsari village area. This river conservation activity is related to the problems that exist in the river. River problems are complex problems that can be found in various places. Problems include the reduced area of the river so that the high river water discharge cannot be accommodated, the activity of throwing waste and other polluting items into the river pollutes the river and has a major impact on living things (Wicaksono, et al., 2019; Diniarti, 2021). Further research by Suryani and Ningsih (2018), shows that in 2015 almost 68 percent of 33 provinces in Indonesia are heavily polluted caused by household waste. Hardati, et al. (2016) reminded us that there has been an increase in environmental problems caused by high population growth rates, quality and quantity of waste, and cross-border pollution. Waste and garbage are the remaining waste from both industry and non-industry which can be in the form of household activities, offices, restaurants, markets, tourist attractions, shops, hospitals, and others that can cause pollution (Harmayani and Konsukartha, 2007).

This river problem prompted KPS members to carry out a river conservation movement. The river conservation movement is nothing new. Previous studies related to river conservation include those carried out by community groups through partnership activities, Code river conservation and Garang river conservation through various activities (Zunariah, 2018; Brontowiyono, et al. 2010; Setyowati, et al. 2018). This conservation movement aims to reduce the emergence of bigger problems, and as an effort to preserve the river environment. The KPS activities that support river environmental conservation efforts are as follows.

**Table 2.** The River Conservation Movement by KPS

No.	Program	Activity	Findings
1	Follow the river to observe river problems	Done by down the river using tires	Found river problems
2	Mutual cooperation cleans the river from garbage	Conducted once a month by youth groups	Garbage collected scattered along the river
3	Issuance of rules regarding the prohibition of defecating, throwing garbage in rivers and mining of river materials	Deliberations at the RW level to establish rules and sanctions for violators, especially those who throw garbage in the river	Residents do not dare to throw garbage in the river.
4	Communal waste management	Deliberation at the RW level to agree on integrated waste management in each RT	Residents have at least 2 types of trash bins. Reducing the behavior of littering
5	Supervision of the river area	Carried out by a person who has been appointed with the task of observing the river from waste and whether there are residents who defecate	Residents who defecate in the river receive a warning and residents who throw garbage into the river can be detected.
6	Planting trees with strong roots to reduce erosion	It is carried out in conjunction with mutual cooperation activities	Uprooting plants that grow in the middle of the water flow, planting trees to strengthen the soil around the river banks

Source: Processed from research results in 2020

Watershed conservation aims to control the relationship between the natural resources and the environment of the watershed and human activities. Kinanthi (2022) states that watershed conservation methods are classified into three types, namely: *one*, agronomic conservation, namely by utilizing vegetation to help reduce soil erosion; *two*, mechanical conservation, namely by concentrating on preparing the soil so that vegetation grows thriving, and how to manipulate micro topography to control the flow of water and wind; *three*, chemical conservation, namely conservation aimed at improving soil structure through the application of chemicals so that the soil is more erosion resistant. The conservation movement carried out by KPS above is in line with agronomic and mechanical conservation methods, especially in programs related to planting trees with strong roots to reduce erosion.

As divided into zone IV, the Kreo River watershed is a recreation and conservation area, therefore this zone provides a carrying capacity for development. This is as explained by Kinanthi (2022) regarding the role of conservation areas in

development including: saving development efforts and development results; development of educational science; tourism development and foreign exchange increase; supporting the development of agriculture; balance of the natural environment; benefits for humans. Based on the roles above, this conservation has provided space for tourism development, created a balance in the natural environment, and provided benefits to society in the form of economic, social and cultural.

The results obtained from KSP activities and other community elements have changed people's behavior. Changes in people's behavior in interacting with the river environment gave rise to awareness to maintain the cleanliness of the environment, especially the river environment. Conservation of the river environment then gave birth to an idea for a water tourism object that utilizes the clean Kreo River. The idea of water tourism prompted the formation of a new group, namely the the Mayangsari River Tubing Tourism Awareness Group (Pokdarwis Mayangsari).

## CONCLUSION

The youth are actors who need to take part in every important change in society. The presence of self-awareness in youth will be manifested through the power of youth in changing conditions and situations from bad to better. River environment conservation and nature conservation activities can be further managed to obtain more benefits. It seems that the Kreo river, which has been conserved by a number of youths, seems to have added value to the river's potential. Conservation efforts have changed the face of the Kreo River to be suitable for supporting the Mayangsari river tubing ecotourism. The sustainability of the conservation movement must also be maintained so that river tubing ecotourism can continue in the future.

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