

**UPPER CHATTOOGA RIVER
PHASE I DATA COLLECTION
EXPERT PANEL FIELD ASSESSMENT REPORT**



**Prepared for:
USDA National Forest Service
Sumter, Chattahoochee, and Nantahala National Forests**

**Prepared by:
Louis Berger Group**

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Notice

This report examines boating, scouting, portaging, and angling activities on the Upper Chattooga based upon a single assessment conducted in January 2007. It does not identify or endorse specific boating, scouting, portaging, or angling activities or locations. All boaters and anglers need to make their own decisions about how to scout, run, portage, wade, or fish the upper Chattooga River during any on-river activities.

1.0 INTRODUCTION AND PURPOSE OF STUDY

In 1974, the Chattooga River was designated a Wild and Scenic River for its “outstandingly remarkable” fish, wildlife, recreation, scenic, and historic values. The initial management plan (1976) divided the riverway into different geographic and management zones employing the wild and scenic river classifications and consequently closed the upper portion of the riverway above Highway 28 Bridge to boating. Subsequent revisions to the forest management plan maintained this restriction. The current revised Sumter National Forest Land and Resource Management Plan (LRMP) (USFS, 2004) continued the 1976 restriction on boating use upstream of Highway 28 Bridge. On April 15, 2005, American Whitewater filed an appeal of 2004 LRMP boating restriction. On April 28, 2005, the Forest Service in the decision on the appeal directed the Sumter National Forest to conduct a Visitor Capacity Analysis to reassess its decision to exclude boating as part of broader examination of visitor capacity issues on the upper Chattooga River.

For the Visitor Capacity Analysis, the Forest Service is employing a modified “Limits of Acceptable Change” (LAC) planning framework for evaluating visitor use and potential impacts on the environment. This report documents one component, the expert panel field assessment, of the Phase I Data Collection Efforts associated with the LAC process. Please refer to the *Upper Chattooga River Visitor Capacity Analysis Implementation Plan for Data Collection Methods* (USFS, October 2006) for more detail regarding Phase I Data Collection Efforts.

The purpose of the expert panel assessment was to gain information about boating and angling opportunities on the upper Chattooga River, with particular attention to boaters and anglers flow preferences for these flow-dependent activities. The assessment included two separate panels, a whitewater boater panel and an angler panel.

The objectives of the angler panel field assessment included the following:

- Describe angling opportunities on the upper Chattooga segments and compare them with other angling opportunities within the region, including the lower Chattooga River.
- Estimate acceptable and optimal flow ranges for different types of fishing activities.
- Identify key access points.
- Qualitatively describe safety concerns related to flows and access.
- Estimate likely demand for angling activities and available opportunities at different flows.
- Review flow information needs and the ability of existing gages to predict fishable flows.
- Compare angler flow preferences with the preferences of other recreational users.

The objectives of the boater panel field assessment included the following:

- Describe whitewater boating resources on the upper Chattooga and estimate typical trip durations, numbers of portages, likely “attraction” rapids, or other places where boaters are likely to stop or travel on land.
- Estimate acceptable and optimal flow ranges for different types of whitewater boating opportunities (e.g., for different skill levels, boat types, or types of boating).
- Identify key access points.
- Qualitatively describe safety concerns related to flows and access.
- Qualitatively describe and estimate likely demand for boating at different flows.
- Review flow information needs and the ability of existing gages to predict boatable flows.
- Compare boater flow preferences with the preferences of other recreational users.

To meet the objectives, the panelists conducted two days of field work on the upper Chattooga River on January 5 and 6, 2007. The panelists documented their experience with photos and GPS mapping, completed individual assessments about flows and safety, and discussed open-ended questions about the field assessments with other panelists. The focus of these expert panel assessments was to assess how flows affect these two highly flow-dependent activities.

The following sections describe the upper Chattooga River corridor study area, including the key characteristics and access for each reach studied, and a general overview of the hydrology of the upper Chattooga. Following the description of the upper Chattooga River corridor is a summary of the methodology employed for the expert panel assessment and a discussion of the flows that occurred within the upper river corridor during the study period. Finally, the results of the expert panel assessment are discussed, including both a summary of the angler panel and boater panel, and then the overall summary and conclusions of the expert panel assessment study.

2.0 DESCRIPTION OF THE CHATTOOGA RIVER CORRIDOR

The Chattooga River originates in the mountains of western North Carolina and forms a portion of the border between Georgia and South Carolina. The Chattooga River is located within Macon and Jackson Counties, North Carolina, and within Rabun County, Georgia, and Oconee County, South Carolina. The 57-mile, 15,432-acre corridor, along the upper reaches of the Chattooga designated as *Wild and Scenic* includes 40 miles designated as wild, 2 miles as scenic, and 15 miles as recreational¹. In

¹ Definition of classifications under the 1968 National Wild and Scenic Rivers Act (P.L. 90-542, as amended): *wild river areas* - those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted; *scenic river areas* - those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads; and *recreational river areas* - those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

the upper section of the Chattooga (above Highway 28 Bridge) the Wild and Scenic designation boundary extends about ¼ mile on both sides of the riverway and no motorized vehicles are permitted, other than at the four roadway crossings along the upper Chattooga at Grimshawes Bridge, Bull Pen Bridge, Burrells Ford Bridge, and Highway 28 Bridge.

The Chattooga River corridor is bordered by three National Forests: the Nantahala in North Carolina, Chattahoochee-Oconee in Georgia, and Sumter in South Carolina. In addition, a portion of the river is bordered by the 8,724-acre Ellicott Rock Wilderness. The upper portion of the riverway (within North Carolina) is located within the Highlands Ranger District of the Nantahala National Forest, the lower portion to the east of the river (South Carolina portion) is located within the Andrew Pickens Ranger District of the Sumter National Forest, and the western side of the river corridor (Georgia portion) is within the Tallulah Ranger District of the Chattahoochee-Oconee National Forest. Day-to-day management of the Chattooga River falls under the responsibility of the Sumter National Forest.

2.1 Upper Chattooga River Corridor

The study area for the expert panel assessment included the approximately 21.8-mile reach of the upper Chattooga River above the Highway 28 Bridge. Over the 21.8-mile stretch, the river drops about 1,215 feet from elevation 2,782 feet mean sea level (msl) to 1,567 feet msl, or about 56 feet per mile. For the purposes of the field assessment and this report, the study area was divided into three reaches: Chattooga Cliffs², Ellicott Rock, and Rock Gorge/Nicholson Field (see Figure 2-1).

2.1.1 Chattooga Cliffs Reach

The Chattooga Cliffs section extends about 5.3 miles from Grimshawes Bridge downriver to Bull Pen Bridge (see Figure 2-2). This section of the riverway is designated as wild, scenic and recreational under the wild and scenic classification. Over the 5.3 miles, the river drops approximately 385 feet, from about elevation 2,782 feet msl to 2,396 feet msl, or approximately 73 feet per mile. The portion of this reach from the confluence of Mill Creek to Bull Pen Bridge (the stretch that the expert boater panel ran) is about 3.3 miles and drops about 155 feet, or about 47 feet per mile.

The Chattooga River Trail follows the west side of the river, typically less than 1/3 mile away. The steep canyon walls, including vertical cliffs along the lower section and steep slopes along the upper section, as well as the thick understory vegetation, preclude easy access to the river from the trail. At Norton Mill Creek, the Chattooga River Trail approaches and parallels the Chattooga River for approximately ¼-mile and a number of short user-made trails provide access to the shoreline both upstream and downstream of the creek.

² Note: The expert panel assessment did not include the segment adjacent to 1.7 miles of private land immediately downstream of Grimshawes Bridge, and boaters put in at the confluence of Mill Creek and the Chattooga, see Section 6.0.

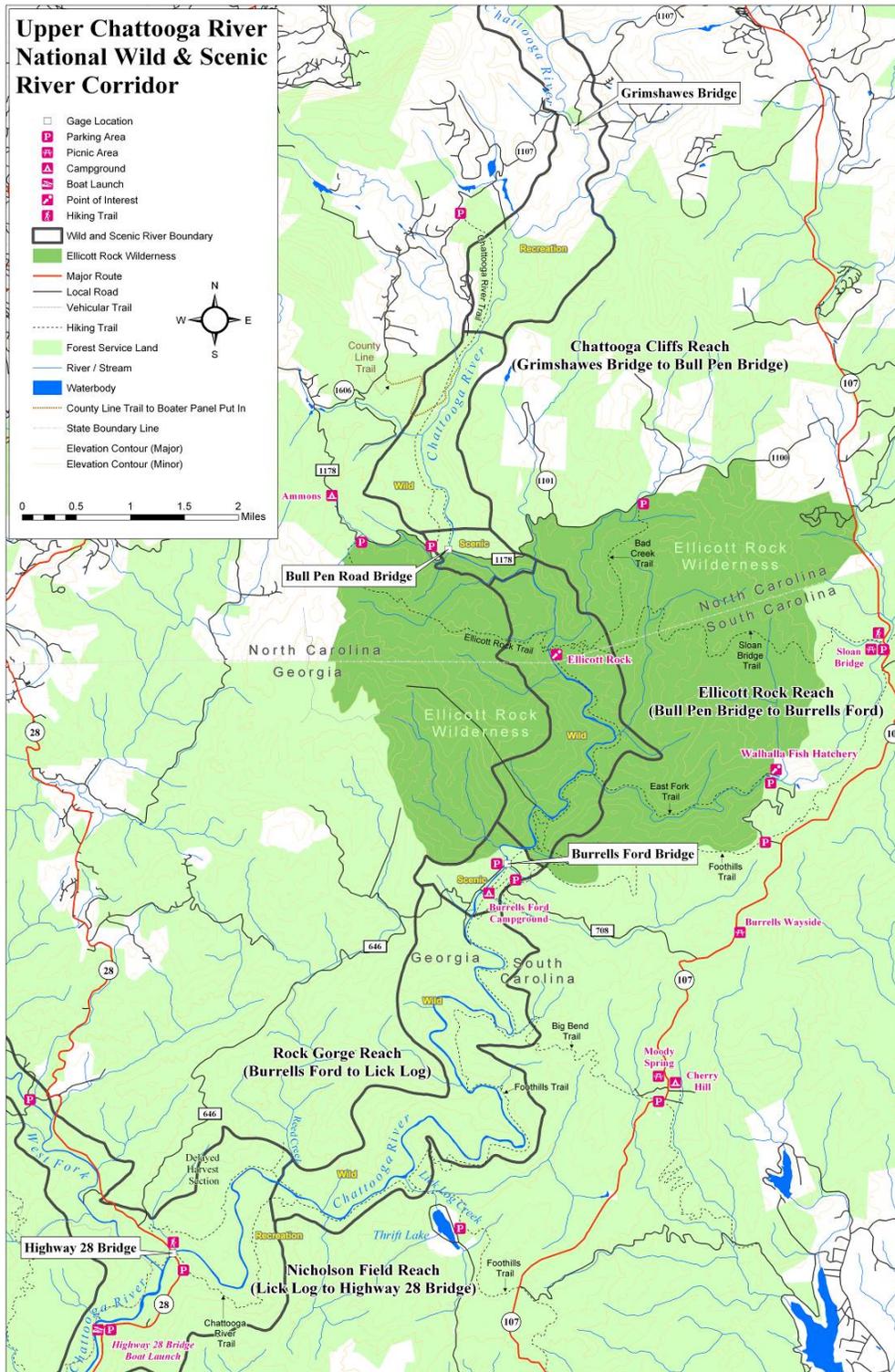


Figure 2-1. Upper Chattooga River Corridor

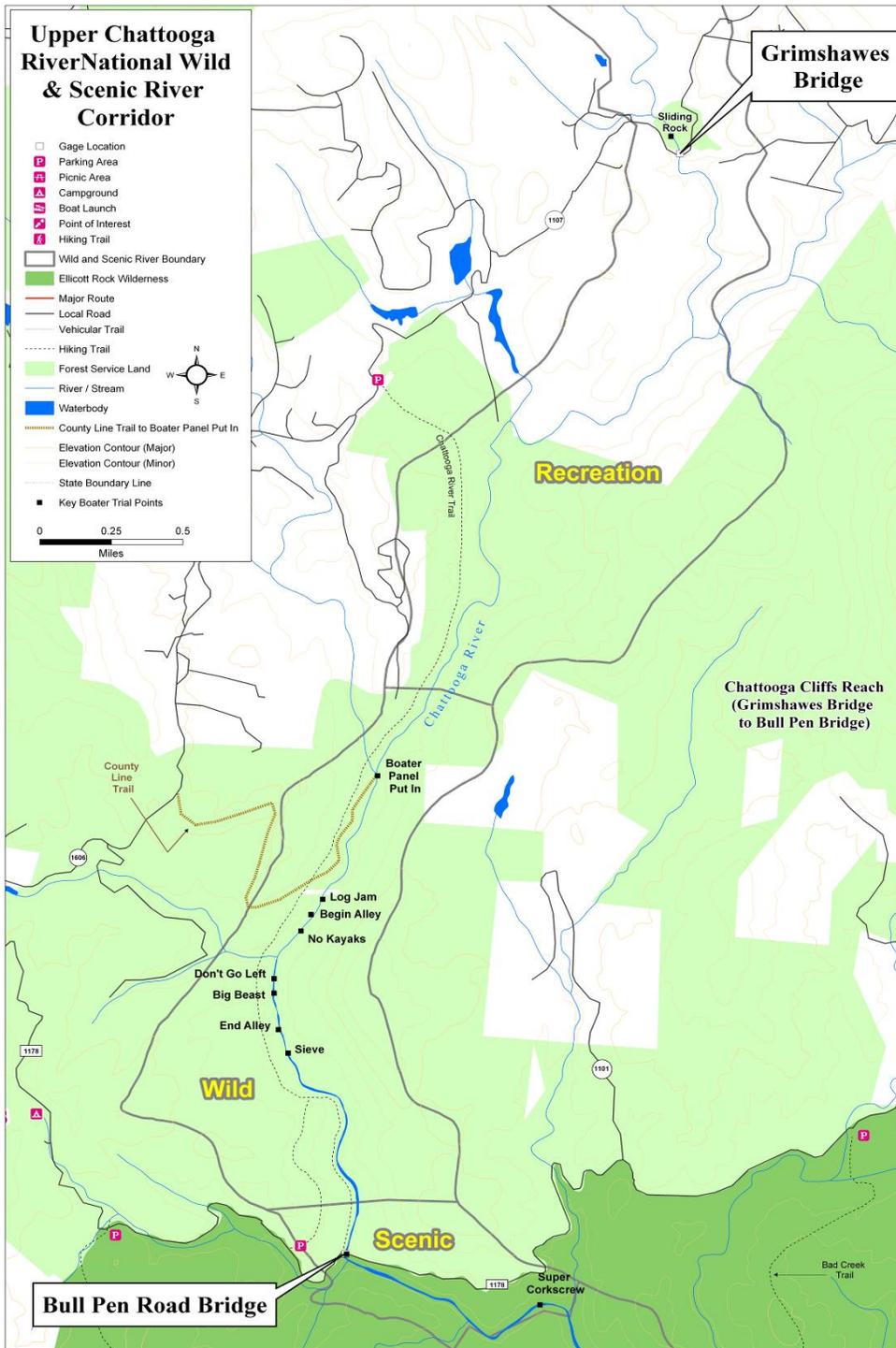


Figure 2-2. Chattooga Cliffs Reach

The upper section from Grimshawes Bridge to the Green Creek confluences is on private property and was not assessed in the field as part of this report. Access on Forest Service land is extremely limited between Green Creek and Norton Mill Creek. The trail in this area primarily follows ridgelines away from the river and the canyon wall exceeds 45 degrees in places. In July, 2006, the consultant team visited the area, including hiking the trails and much of the river from Green Creek to Bull Pen Bridge on Forest Service lands. They determined that the Norton Mill Creek access would be safer and would avoid creating a new trail to the river as part of the expert panel assessment. As part of establishing fieldwork protocol, Forest Service and the consulting team determined that the best access for the boater panel would be along the County Line trail, from Forest Road – 1606 approximately 1 ½ miles down an old logging road to the confluence of Norton Mill Creek and the Chattooga.

2.1.2 Ellicott Rock Reach

The Ellicott Rock reach section extends from Bull Pen Bridge about 5.3 miles downstream to Burrells Ford Bridge (see Figure 2-3). This section of the riverway is designated as wild and scenic under the wild and scenic classification. About 5.2 miles of this section of the riverway flows through the Ellicott Rock Wilderness Area. Over the 5.3 miles, the river drops approximately 345 feet, from about elevation 2,396 feet msl to 2,051 feet msl, or approximately 64 feet per mile. However, in the first 1 ½ miles, the river drops about 206 feet, or about 137 feet per mile.

No formal trail follows the upper 1 ¾ miles from Bull Pen Bridge to Ellicott Rock where most of the gradient occurs. Well-established trails provide access downstream of Ellicott Rock on the east side of the river.

2.1.3 Rock Gorge/ Nicholson Fields Reach

The Rock Gorge/Nicolson Fields reach extends from Burrells Ford Bridge downstream about 11.2 miles to Highway 28 Bridge (see Figure 2-4). This section of the river is designated as wild, scenic and recreational under the wild and scenic classification. Over the 11.2 mile reach, the river drops about 484 feet from elevation 2,051 feet msl to about 1,567 feet msl or about 43 feet per mile. For the about 7.4 miles between Burrells Ford Bridge and Licklog Creek, the river drops about 424 feet, from elevation 2,051 feet msl to 1,627 feet msl, with most of the gradient lost in the middle of the section. Over the 3.8 miles from Licklog Creek to the Highway 28 Bridge, the river drops another 60 feet, or about 16 feet per mile.

The Chattooga River Trail follows the east side of the river. In the middle section, where the major rapids occur such as Big Bend Falls, the trail is more than one hundred vertical feet above the river. Where the gradient is less steep along the upper and lower parts of the reach, the trail is close to the river. Well-established trails also provide access from the Highway 28 Bridge upstream along the west side of the river to Reed Creek.

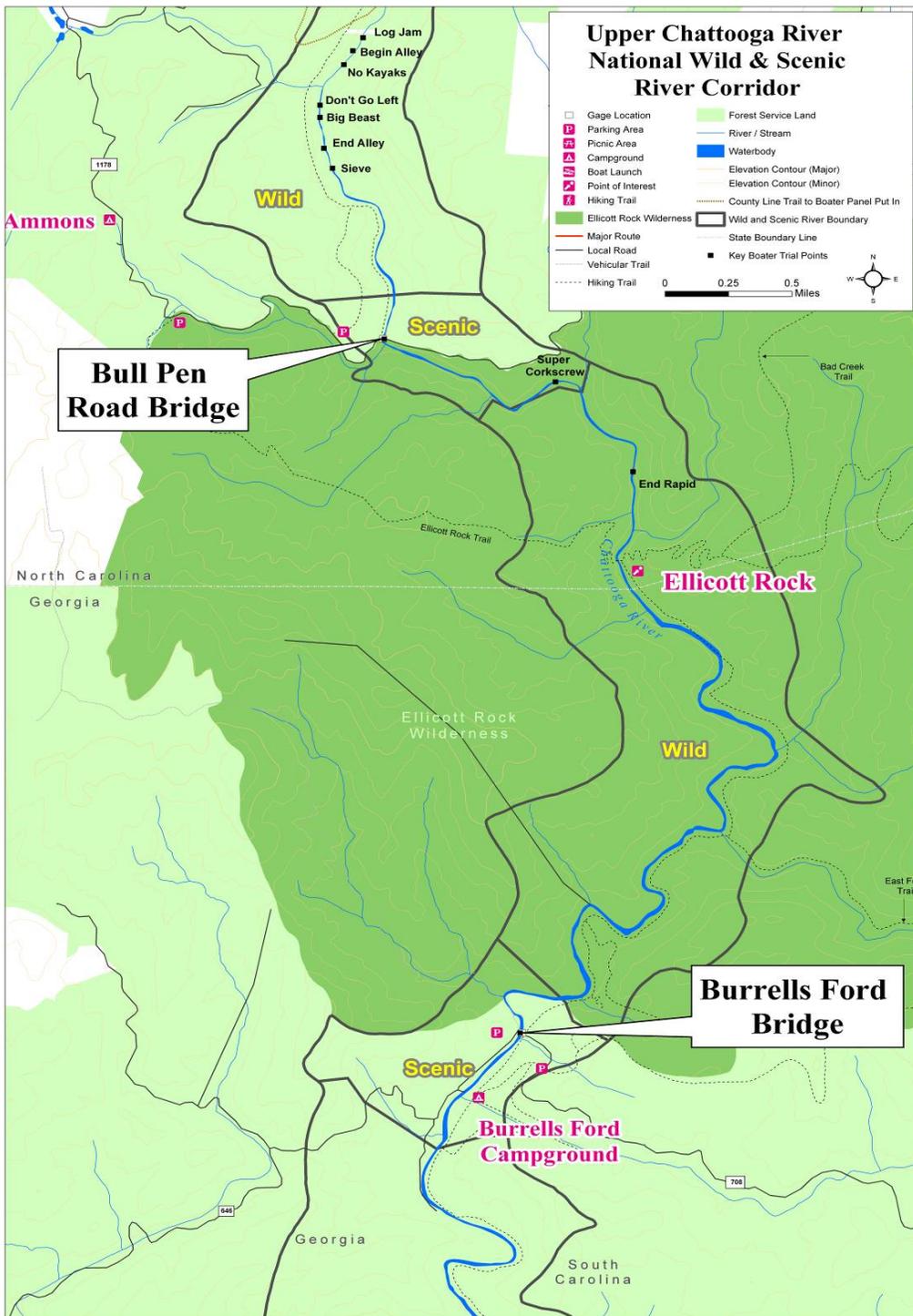


Figure 2-2. Ellicott Rock Reach

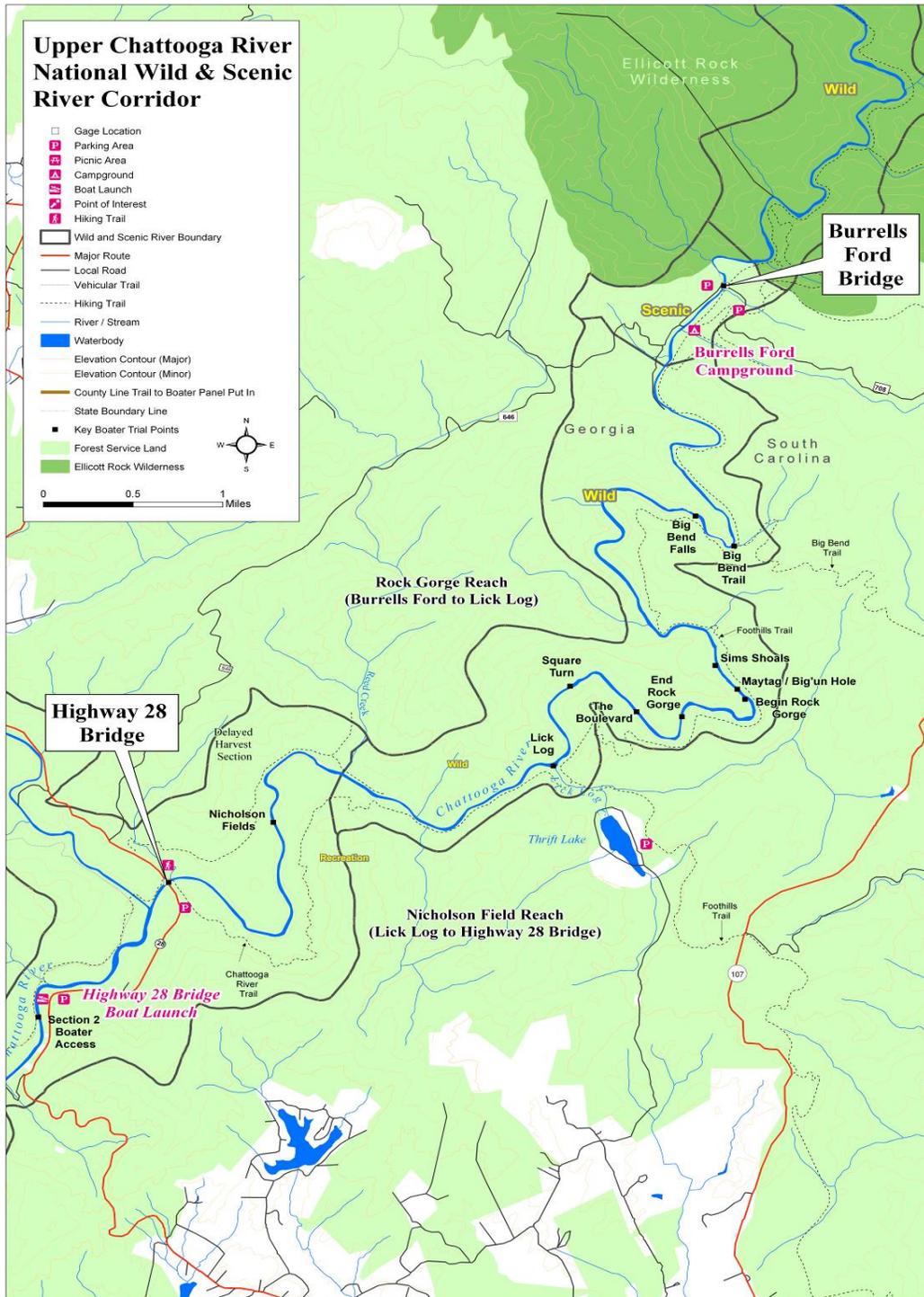


Figure 2-3. Rock Gorge/Nicholson Fields Reach

2.1.4 Section 4 Chattooga River

During study preparation, boaters and anglers suggested considering the study assessment results of the upper Chattooga River corridor (above Highway 28 Bridge) in the context with Section 4 on the lower Chattooga River, a popular Class IV+ run from the Highway 76 Bridge to the Tugaloo Lake Boat Ramp. This section of the Chattooga River has been boated regularly since the early 1960s and currently receives heavy private and commercial boating use. Boulders and ledges form most of the rapids. The run is within the Chattooga River canyon, but the river is wider, the canyon walls and the gradient are not as steep as those in the upper river. The most difficult rapids on Section 4 are typically associated with boulder sieves rather than large vertical drops. The rapids are generally spaced between long pools and swift water. The difficulty of some rapids increases with increased flows that create powerful hydraulics. All of the difficult rapids can be scouted and portaged.

2.2 Chattooga River Hydrology

The upper Chattooga is a free flowing, “flashy” river, where base flows are generally low as compared to peaks associated with storm events; flows from storm events generally rise and drop rapidly. Figure 3-1 provides the hydrograph based on Highway 76 gage data from July 2006 through January 2007 to provide an illustration of the flashy nature of the river, although this gage is over 20 miles downstream from the Highway 28 Bridge. Average base flows are typically lowest in August and September, averaging about 300 cubic feet per second (cfs)³. Base flows typically rise through the fall and peak around 800 cfs in late April and early March. In contrast, peak flows associated with storm events can occur any time during the year. Storm events regularly raise the river six times or more above base flows in a single day, and then tend to drop slightly less rapidly over the following days. The largest storm events since 1940 are typically associated with summer/fall tropical storms and hurricanes. Flows associated with these storms regularly exceed 10,000 cfs and have peaked over 30,000 cfs at the Highway 76 gage.

3.0 METHODOLOGY

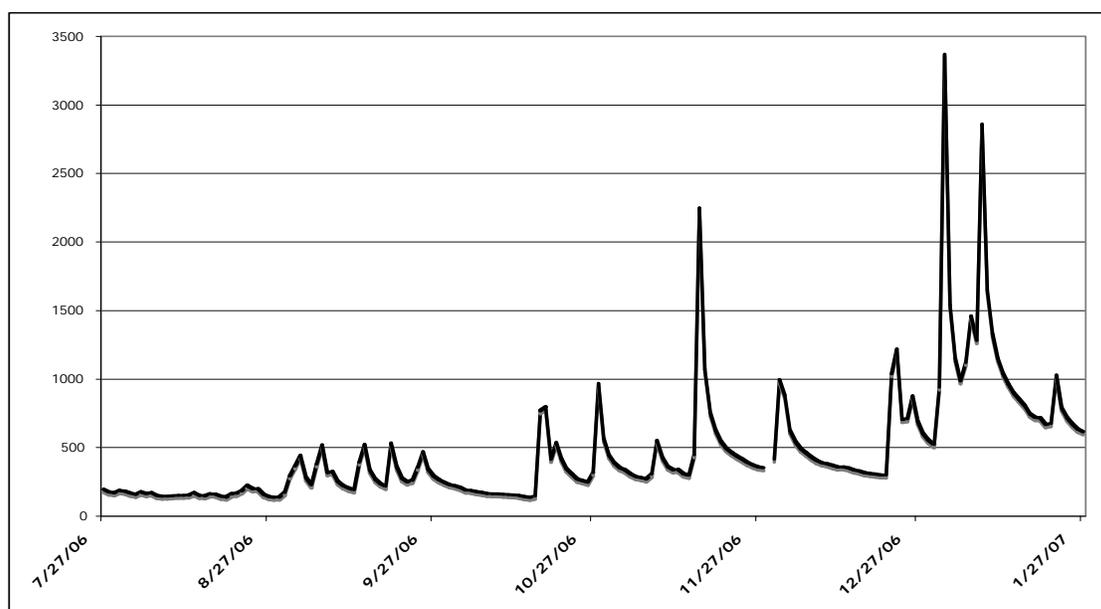
3.1 Pre-Assessment Scouting and Study Protocol Development

Representatives of Louis Berger Group, Inc. (Berger) and Confluence Research and Consulting (CRC) conducted an on-site visit of the study area during the summer of 2006 in order to develop the study plan for the expert panel field assessment. The site visit included assessing the primary access locations, walking some of the many trails along the upper Chattooga River corridor, and hiking much of the riverbed between Green Creek and Norton Mill Creek to identify safe and effective boater put-in for that reach. Following the site visit, Berger and CRC developed study protocols, including

³ All flows discussed in this section are measured at USGS gage No. 02177000, also known as the Highway 76 gage. Later in the report, hydrology information is also presented for Burrells Ford, in the middle of the Upper Chattooga study area.

panel member selection, field assessment logistics, mobilization measures, and safety protocols, for the field assessment that were incorporated and distributed to interested parties and panel members as part of the *Upper Chattooga River Visitor Capacity Analysis Implementation Plan for Data Collection Methods* (USFS, 2006).

Figure 3-1. Base Flows and Peak Flows at Highway 76 Gage
(Source: USGS Gage 2177000)



3.2 Panel Member Selection

Panel member selection was designed to identify a group of about 15 members per panel in order to provide the best opportunity to reach the target of 6 to 8 field assessment participants per panel (boater and angler). This larger pool of panel members was necessary as it was anticipated that not all members would be available to participate given the short mobilization time necessary to assess the target flows.

Panelists were asked to provide information about their experience and qualifications related to whitewater boating and angling and knowledge of the Chattooga River corridor (see *Implementation Plan*, USFS, 2006, for the expert panel nomination form). Selection of the panelists was based on the review of the following qualifications: years of experience, skill level, previous experience participating in flow studies, level of availability, and knowledge of the area and/or river. Most members of the panels had previously utilized the Chattooga River for several different recreational activities.

3.3 Flow Monitoring and Mobilization

The target flow for the initial field assessment was 800 cfs at the Highway 76 gage (about 20 miles downstream of Highway 28 Bridge). This flow was chosen based

on information provided by boaters and anglers familiar with the upper Chattooga. Berger and CRC monitored the base flows and approaching storm events. When winter base flows were approximately 500 cfs and a sizeable storm system was approaching, the decision was made to mobilize the expert panels. The panel members were notified and commitment was received from the panel members that would be participating in the assessment.

A total of 8 panel members from each group (angler and boater) were obtained, and a member of Berger and a member of CRC staff also participated in the boating assessment (see Appendix A for a list of panel members). The expert panel was mobilized on January 3, 2007, and the orientation meeting to review protocols and logistics was held on the evening January 4, 2007 at the Andrew Pickens Ranger District. The field assessment was conducted on January 5, 2007 for the Rock Gorge and Nicholson Fields reach and January 6, 2007 for the Chattooga Cliffs and Ellicott Rock reaches. Representatives of Berger and CRC facilitated and led the boater and angler panels during the field assessment. A support team from Berger and the Forest Service provided shuttles and logistical assistance.

3.4 Field Assessment Safety Measures

The boater panel followed standard protocol safety measures for boating reaches with higher gradient segments (AW, 2006; see *Implementation Plan*, USFS, 2006). Participating boaters were not encouraged to run every major rapid, particularly if scouting or establishing safety was likely to be complex or time-consuming, or boaters considered the rapid to have substantial safety concerns. Any participant could elect to portage any major drop, and all decisions were made by individual boaters. The boater panel members were all familiar with swiftwater rescue techniques and carried personal safety equipment (i.e., a throw rope, whistle, prussic loops or similar, break-down paddle and a pulley).

The angler panel was asked to follow typical angling safety measures (TMF, 2006; see *Implementation Plan*, USFS, 2006), and to pair together while fishing for safety reasons. Anglers Panel members were also asked to follow a “conservative” strategy and not attempt to wade in deep or swift water if there were safety concerns. Local emergency rescue personnel were notified of when the field assessment was to be conducted (i.e., when the panelists were on site). USFS, Berger and CRC staff carried radio or a satellite phone for emergency communication.

3.5 Field Assessment Data Collection Techniques

3.5.1 Individual Assessment and Group Discussion

Boater and angler panel participants were asked to assess specific characteristics of the river, as well as evaluate the quality of their experience by answering individual questions. Following completion of individual assessments, panelists participated in a group discussion based on general topic areas (see Appendix B). Following the

discussions within each panel, both panels also participated in a joint discussion (first day only). This joint meeting included a short summary of findings by each panel and offered the opportunity for panelists to ask clarifying questions of the findings or other panelists regarding those findings. In all discussions, the focus was on assessment findings rather than specific advocacy positions or discussion of “conflict” issues.

3.5.2 Video and Photo Documentation

Video cameras, still cameras, and GPS units were used to document locations, flow characteristics and on-site characteristics of the angling and boating experiences during the field assessment study period. The boater panel documented all of the major drops, portages, and access points. Panel members (anglers and boaters) also were asked to bring their own cameras to assist in the documentation of the field assessment event and asked that any such photos or video footage be provided to Berger and CRC after the field assessment is completed. See Appendix C for representative photos of the field assessment study.

3.5.3 Flow/Hydrology Documentation

Measurements and photos were taken of the staff gages at the bridge locations during the field assessment study period. In addition, USFS staff collected hydrology data from a stream gage located at Burrells Ford, which is in the middle of the upper river study area. USGS gage data from Highway 76 Bridge (USGS Gage No. 02177000) was also obtained during the study period from the USGS website. Information from both gages was used during the assessment as discussed in greater detail below.

4.0 STUDY PERIOD HYDROLOGY

Berger and CRC mobilized the panels for the field assessment based on close attention to flow and weather information from the area. A large storm event occurred on January 2nd and a moderate storm was predicted for January 5th and 6th. The large storm raised base flows at Highway 76 (the only on-line gage in the basin) to the defined “trigger” of 800 cfs, and the smaller storm maintained slightly higher flows during the field assessment (see below). On January 5, 2007, the weather was intermittent rain and fog with temperatures ranging in the high 50’s to low 60’s. Water temperatures were in the range of the upper 40’s to low 50’s.

The Forest Service is currently analyzing flow data from both Highway 76 (an online USGS gage) and Burrells Ford (a new gage established for the study which collects instantaneous data but is not on-line and must be downloaded periodically). Analysis eventually will establish “conversions” between these two gages, but the hydrology is complex.

Initial analyses for the period of record for which we have data (August 2006 through January 2007) show that flows at the Highway 76 gage and Burrells Ford gage are not necessarily easy to “convert” (knowing flows at one may not help predict flows at

the other). Some storm events produce flows that are closely correlated in time and relative magnitude, while other storms produce flows that are not well correlated, with peaks having a substantial time lag (6 to 12 hours) and variable magnitudes at Highway 76. In general, this is because the Burrells Ford gage measures a small watershed (approximately 47 square miles), while the watershed above Highway 76 gage is much larger (over 200 square miles) and includes other large tributaries. In addition, storm cells may only “hit” some parts of the basin.

This report does not focus on larger hydrology analyses, which will be addressed in a later report. Instead, this report focuses on the flows that were observed in the upper Chattooga during the assessment (at Burrells Ford), although we report evaluations of flows by the panelists based on whatever gages they know best.

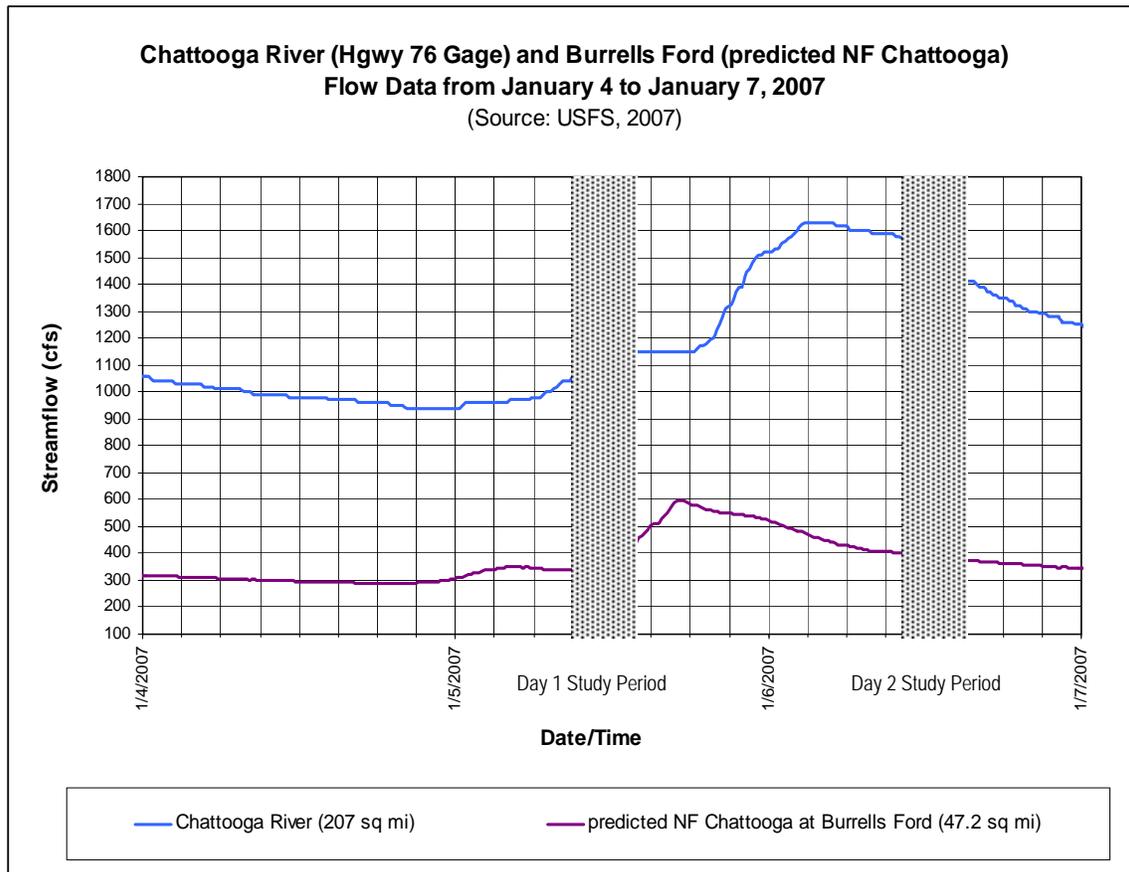
Most anglers are “calibrated” to stage levels at the Highway 76 gage; this gage has been available for years and is well correlated with the non-storm flows that most anglers fish. The boater panel, in contrast, made their evaluations relative to the Burrells Ford gage because they have no long term history of Upper Chattooga use related to the Highway 76 gage. With additional hydrology analysis, we expect to be able to “convert” Highway 76 information to Burrells Ford in storm and non-storm periods, but that is beyond the scope of this report. Here, we focus on what the two panels actually observed, as described below.

Figure 4-1 shows the estimated flows at Burrells Ford and Highway 76 during the assessment. The figure shows that daytime flows during the study period on the upper Chattooga River at Burrells Ford were generally similar (about 340 cfs rising to about 400 cfs on the first day, and about 400 cfs falling to about 375 cfs the second day).⁴ These are the flows that both groups of panelists assessed (at the same locations).

However, if one had only used the Highway 76 gage, flow data suggests panelists saw substantially higher flows on the second day compared to the first (1,060 cfs to 1,150 cfs for the first day and 1,560 cfs to 1,410 cfs the second). Based on time lag analyses, we believe that neither panel actually observed the short duration peak that was recorded at Highway 76 on the second day (and which traveled through the upper reaches of the river during the late afternoon and evening of the first day and was well downstream by the start of the second). Overall, an “equivalent” Highway 76 flow observed by the panelists during the second day of the assessment was about 1,200 cfs (2.3 feet).

⁴ All flow data is provisional. The Forest Service is still evaluating the flow data to determine flows occurring within the upper Chattooga River.

Figure 4-1. Predicted Upper Chattooga River Flow During Study Period_[DPW1]
(Source: USFS, 2007)



In the Phase 1 integrated report, more complete hydrology analysis will allow reported flow preferences from both groups to be compared on the same gage. Because those analyses are incomplete at the writing of this report, we present flow preferences of the angler and boater panel as reported during the field assessment only.

5.0 RESULTS OF ANGLER PANEL ASSESSMENT

5.1 Assessment of Flow and Fishing Opportunities during Study Period

Anglers and boaters conducted the assessment along the same stretches of river during the same days. For the first study day (January 5, 2007), the assessment included the Rock Gorge and Nicholson Fields reach sections of the river (from Burrells Ford Bridge down stream to Highway 28 Bridge). For the second day (January 6, 2007), anglers were asked to assess the Chattooga Cliffs Reach and Ellicott Rock reach stretches of river (from above Bull Pen Bridge and from Bull Pen Bridge down to Burrells Ford Bridge).

5.1.1 Rock Gorge and Nicholson Fields Reach

The anglers fished in pairs and were asked to fish along various sections between Highway 28 Bridge and Burrells Ford Bridge. Specific areas included: the delayed harvest section upstream from Highway 28 Bridge, including from Highway 28 Bridge upstream about 1 mile, from the lower end of Nicholson Fields on Georgia side to the mouth of Reed Creek, and the upper end of the delayed harvest section. The anglers also assessed the area near Simms Fields and fished the reach downstream from Burrells Ford. Based on previous experience, anglers felt that the Rock Gorge and Big Bend Falls areas were not safe to fish at these flows.

Most of the anglers chose to fly fish, although several were willing to discuss flows for spin and bait fishing as well. Most anglers fished with weighted nymphs (wet flies). Anglers chose this tackle because the water was somewhat turbid and the weighted flies were better able to reach fish that were holding deeper in the water. Wet flies were also more appropriate because there were no significant hatches during the study days.

Advantages and Disadvantages of Study Period Flow

At this flow, the angler panel found that the Burrells Ford area downstream to about the Big Bend Falls area was wadable. No angler accessed the Big Bend Falls area because high flows limit places where an angler can move longitudinally along the river. Similarly, anglers found that Sim Shoals area is difficult to wade at these flows, but was fishable from the bank. No angler accessed the Rock Gorge, but speculated based on previous experience that the top of Rock Gorge area would be marginal and the Rock Gorge itself would not be accessible at these flows. The anglers accessed and found that the reach from “Squareturn” and “Boulevard”⁵ down to Route 28 was wadable, but the crossings were difficult at high gradient areas. The lower gradient areas in this stretch were wider and shallower; allowing easier river crossing and movement between pools.

Based on the individual assessments, the anglers rated the flows for the first day based on a scale of 1 to 7 where: 1 is totally unacceptable, 4 is marginal, and 7 is totally acceptable (see Table 5-1). Generally, the angler panel members indicated that the flows were generally acceptable for all types of fishing, but better for spin fishing.

⁵ The name designations for the various on-river locations described here and elsewhere in this report were provided by the anglers and/or boaters and are labels in common use by the angler and/or boater communities and are not official names.

Table 5-1. Summary of Angler Flow assessment for Rock Gorge/Nicholson Fields (at about 375 cfs Burrells Ford)

Rating	Fly Fishing (n=6)	Spin Fishing (n=5)	Bait Fishing (n=4)	Overall Rating (n=4)
Average Rating	5.0	5.4	5.0	5.3
Lowest Rating	2	1	1	1
Highest Rating	7	7	7	7

The anglers in the debriefing reported that advantages of higher flows, such as the flow assessed, include better fish recovery time, and that fish are not as “spooky” as during low water periods (a particularly important advantage for anglers targeting brown trout). The slight turbidity of the water allowed anglers to wade closer to the fish. Fish were found in places not normally found and good runs were located. The anglers described the river as having more “character” at these flows as compared to low flows, which was described as having stronger currents with a full stream, and very little leafy debris in the water. The anglers stated that water temperatures supported good angling (49 degrees to 51 degrees).

The anglers found that disadvantages of the assessed flow include challenging wading and access in some areas and inaccessible areas, including the Rock Gorge, the area upstream of Sims Shoals, and near Big Bend Falls. The anglers stated that greater energy was required to stand in the river, which could result in anglers spending slightly less time fishing over the course of a day. Also, because of need to use more weight to get the flies down to the fish, there was potential for increased chances of snagging. The anglers noted the need to carefully choose crossing locations and that they may not be able to use all crossing locations at these flows. Several anglers stated that they would not take or recommend inexperienced anglers or those unfamiliar with the river fish at these flows. This can limit fishable terrain because the angler would need to stay on one side of the river or the other. In the delayed harvest reach, most anglers fish from the Georgia side at higher water levels such as these.

Generally, the anglers felt that flows such as those occurring during the study period were acceptable, but slightly higher than optimal for angling opportunities. In addition, at these flows, they were more suitable for those who had previous experience fishing the Chattooga River and/or that were more skilled and experienced anglers, primarily due to the need for greater energy and care associated with wading in the river at these flows.

5.1.2 Chattooga Cliffs Reach and Ellicott Rock Reach

In the morning, the angler panel members were asked to evaluate fishing above Bull Pen Bridge (Chattooga Cliffs reach). There was one panel member with a NC license in the panel group (only two volunteer nominees for the expert panel had a NC license, one could not attend the assessment during the study period). No panelist opted

to actually fish this reach. One of the panel members conducted a reconnaissance along about a ¾ mile stretch above Bull Pen Bridge, stating that there were several places to fish, but access from the trail to the river was difficult and the flows were generally too high to travel longitudinally along the river. To fish more than one location required hiking back up the bank to the trail and then dropping back down to the river.

In the afternoon, the anglers fished various sections of the stretch downstream from Bull Pen Bridge to Burrells Ford Bridge. Most fished within 1.5 miles of Burrells Ford Bridge, although all reported experience with the entire area (to at least the East Fork, and some up to Ellicott Rock) at a diversity of flows.

Advantages and Disadvantages of Study Period Flow

As with evaluations of the previous day’s flows, anglers generally preferred lower flows, but remarked how flows were still quite fishable in the lower gradient reaches. In general, these flows were acceptable but not optimal. However, those who fished Burrells Ford (downstream) the day before remarked that it is easier to fish upstream when flows are this high or higher. The catch rate on the second day was not as good as on the first, although anglers did not fish as long and there is no fish stocking upstream of Burrells Ford (where reproducing rainbow and brown trout are generally considered more challenging to fish). The anglers stated that at this flow, the gradient, flow and access at Bull Pen Bridge would make angling difficult, although the anglers noted that fishable water was available, especially for spin/bait anglers – just at specific locations rather than generally through the entire reach.

Based on the individual assessments, the anglers rated the flows for the second day based on a scale of 1 to 7 where: 1 is totally unacceptable, 4 is marginal, and 7 is totally acceptable (see Table 5-2). In general, results suggest flows were acceptable for all types of fishing, but better for spin and bait fishing.

Table 5-2. Summary of Angler Flow Assessment for Chattooga Cliffs and Ellicott Rock Reaches (at about 375 cfs Burrells Ford)

Rating	Fly Fishing (n=7)	Spin Fishing (n=2)	Bait Fishing (n=1)	Overall Rating (n=1)
Average Rating	5.7	7.0	6.0	6.0
Lowest Rating	4	7	-	-
Highest Rating	6	7	-	-

In discussing the advantages of the study period flows and conditions, anglers stated that water clarity was surprisingly good, most likely the result of a larger storm occurring a few days prior to the study. The anglers commented on the ability for the upper Chattooga to clear up after a storm. They also commented again, that slightly “stained” (or turbid) water is better than clear water, especially for catching brown trout.

Also, fish recovery times were reported to be better with these conditions (flow and turbidity) and the unseasonably warm weather for January provided great trout temperatures (air and water). The anglers felt there were fewer anglers when flows are high (which was seen as an advantage), as many anglers would prefer lower flows. The anglers felt that with enough time, it would be possible to find some good fishing water at these flows and that there is a challenge to fishing new “seams” that are not usually where fish are during more common low flows.

In terms of disadvantages of this flow, the anglers felt that the reach was more challenging in terms of access and wading and that some stretches were inaccessible (i.e., middle of the river, some crossings) at this higher flow level. The anglers discussed the need to be more experienced and comfortable wading and need to be more careful wading at these flows. Also, as stated in the previous day, the anglers felt that at this flow greater energy was required to stand in the river; and may result in anglers spending slightly less time fishing over the course of a day. Finally, because of need to use more weight to get the flies down to the fish, there was potential for increased chances of snagging.

Generally, the anglers felt that Ellicott Rock reach could be fished at this flow, but conditions for fishing opportunities were generally acceptable rather than optimal. They estimated that 10% to 20% more water would be too much for safe and effective angling for most anglers. As with the Rock Gorge / Nicholson Fields segment, the panel generally felt that optimum angling flows in the Burrells Ford area are below 840 cfs (2.0 feet) at Highway 76 gage. Even lower flows may be best in higher gradient parts of this reach (near Bullpen, above Ellicott Rock). However, the anglers stated that spin/bait anglers could handle higher flows better because they do not need to wade.

5.2 Attributes and Key Variables Associated with the Angling Experience

The anglers reported that generally, there are two types of angling experiences within the upper Chattooga River corridor: *front country* – those who primarily fish from the bridges or within a short distance from access areas; and *backcountry* - those who hike in and fish distances further away from the access areas. Generally, the backcountry anglers are seeking a more solitude and “wilderness” experience. The angler panel members stated that the stretch from Burrells Ford Bridge to Highway 28 Bridge is a better back county angling experience because there is more solitude and fewer people than the stretch between Ellicott Rock and Burrells Ford.

The angler panel member’s estimate of the optimal time for fly fishing are summarized below:

January	11:00 am – 3:00 pm
February	10:30 am – 4:00 pm
March	Daylight to Dark
April	Morning gap, mid-day, gap, good end of day
May	Gap increases
June	Early morning, late afternoon/early evening

July	Daybreak - shallows
August	Same as July
September	Early morning
October	All day
November	All day
December	11:00 am – 3:00 pm

The anglers panel members identified key attributes of the upper Chattooga River angling experience, including: solitude, scenery, no main road beside the river, quality of trout fishery, quality of the entire experience (uniqueness), few signs of human use, close location, low cost/high value east coast experience, year round fishing, “have to earn your way in to the backcountry,” classic riffle/pool type of river, ideal for trout, size is ideal/good scale (not too large, not too small), and biology – year round hatch (stonefly, mayfly, and caddisfly).

In terms of comparable streams, the panel stressed that the Chattooga had many unique characteristics and did not want name multiple comparable rivers. The angler panel members stated that they also did not know of another comparable stream in terms of management efforts between South Carolina, Georgia and North Carolina resource agencies and Trout Unlimited. Other potentially comparable west coast rivers identified included Hodgepark River (Wyoming) and Encampment River (Wyoming).

Anglers had some differences of opinion about which reaches in the upper Chattooga were the best reaches. However, there was general agreement that Burrells Ford Bridge to Highway 28 Bridge (downstream from Burrells Ford, Rock Gorge, and Nicholson Fields) has more solitude than Ellicott Rock to Burrells Ford (the designated Wilderness area).

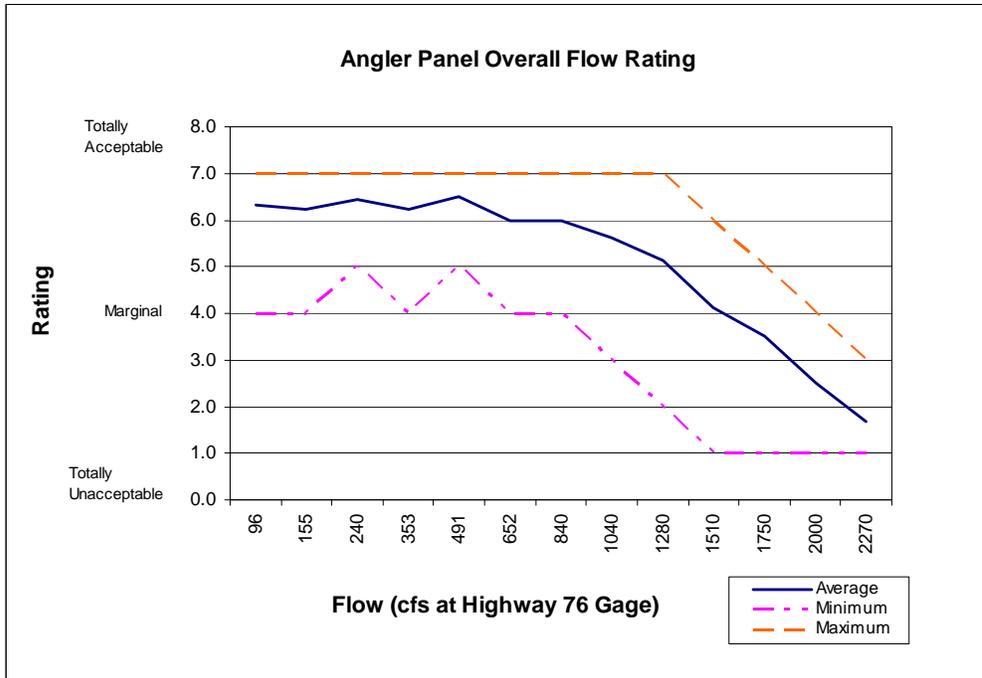
5.3 Summary of Flow Preferences for Angling Opportunities

Based on their history of use for all types of angling, anglers rated a range of flows on the same 7 point acceptability scale used for assessing the study flows. The anglers chose to rate all three segments collectively, and in relation to the Highway 76 gage. While they noted differences in the various reaches, there was general agreement that there are generally some locations within any of the reaches that can be fished at higher flows. Figure 5-1 shows average ratings (for the entire panel) per the Highway 76 USGS gage flow (in cfs). Most anglers were calibrated more towards the 76 gage flows than to cfs flows at the gages within the study area (study area gages have only been in place for less than 6 months). Generally, these individual estimates reflected the input during the discussion period, suggesting flows are optimal through about 1,000 cfs (about 2.2 feet on the 76 gage) and they become unacceptable (the average is below the marginal line) above 1,400 cfs (2.5 feet on the 76 gage).

Responses to “specified flow” questions provided similar information, with some differences for different types of fishing. Table 5-3 and Figure 5-2 provides a summary of the optimal specified flow ranges by type of fishing opportunity. In terms of flow

assessment, the optimal flow range (based on median of all ratings) for fly fishing was from a low of around 270 cfs (1.3 feet) to a high of about 840 cfs (2.0 feet); for spin fishing the optimal flow range was from a low of about 300 cfs (1.3 feet) to a high of 1,040 cfs (2.2 feet); and for bait fishing the optimal flow range was from a low of about 420 cfs (1.5 feet) to a high of about 1,350 cfs (2.4 feet).

Figure 5-1. Summary of Angler Panel Overall Flow Rating for Angling Opportunities on the Upper Chattooga River



Based on the angler panel group discussion, in terms of optimal flows, some anglers indicated that the low range of flows is typically not an issue, effects on angling opportunities is more related to temperatures during those periods rather than flows. If temperatures are too high (low flows in mid-summer), this can stress the fish, and catching them can cause mortality (most of the anglers panel members are catch and release fishermen). The angler panel members indicated that the high end of optimal fishing was about 2.0 to 2.5 (stage height at Highway 76 USGS gage) for fly fishing and slightly higher, about 3.0, for spin/bait fishing. Some of the variables identified that can affect optimal flow range are age, strength, experience, equipment, type of fishing and familiarity with river.

Figure 5-2. Summary of Angler Panel Optimal Flow Ranges

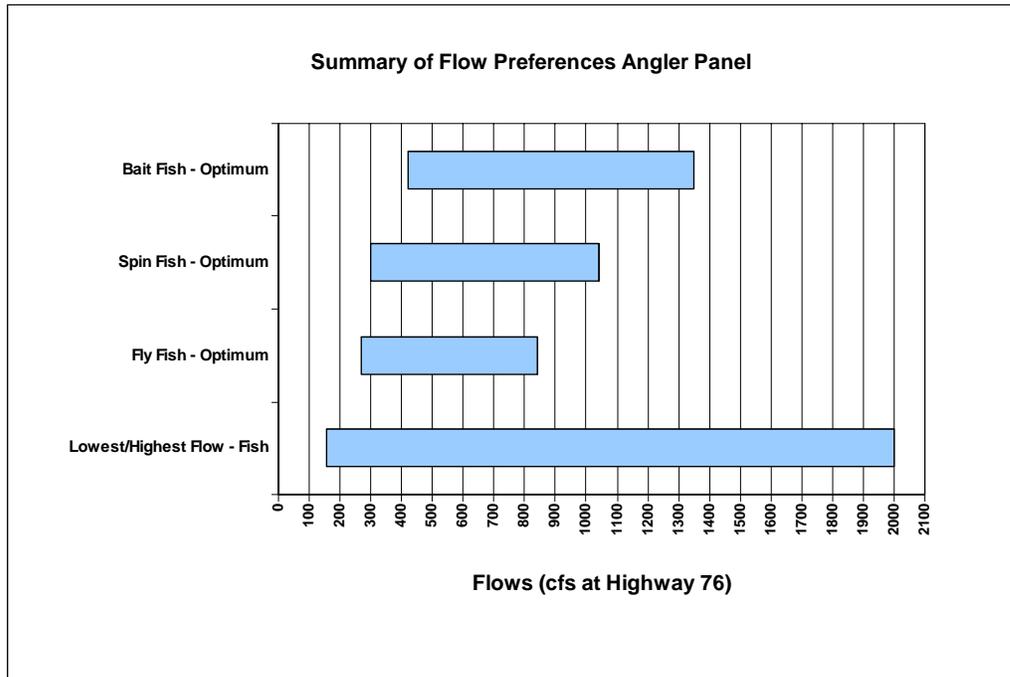


Table 5-3. Angler Panel Flow Ratings for Angling Opportunities
(Rated per flows at Highway 76 USGS Gage - No. 02177000)

Angling Opportunity	Hwy 76 Gage CFS ¹			Hwy 76 Gage Stage Height ¹		
	Median	Min	Max	Median	Min	Max
Fly Fish Low Flow	155	100	300	1.0	0.8	1.3
Fly Fish Optimal Flow - Low	270	96	420	1.3	0.8	1.5
Fly Fish Optimal Flow - High	840	400	1,040	2.0	1.5	2.2
Fly Fish High Flow	1,400	1,000	1,630	2.5	2.2	2.7
Spin Fish Low Flow	300	96	300	1.3	0.2	1.3
Spin Fish Optimal Flow - Low	300	96	700	1.3	0.8	1.9
Spin Fish Optimal Flow - High	1,040	652	1,510	2.2	1.8	2.6
Spin Fish High Flow	1,630	1,200	2,000	2.3	2.2	2.7
Bait Fish Low Flow	300	300	300	1.3	1.3	1.3
Bait Fish Optimal Flow - Low	420	240	600	1.5	1.2	1.7
Bait Fish Optimal Flow - High	1,350	700	2,000	2.4	1.9	3.0
Bait Fish High Flow	2,000	2,000	2,000	2.2	2.2	2.2

¹ Note: some anglers reported flow preferences in cfs and some reported them in stage.

Generally, the anglers reported that higher flows can cause some locations to become unfishable, but certain holes might improve. Anglers can not cross at all “normal” locations, have to be more selective, and it is harder to get down to the fish. Generally at about 840 cfs (2.0 feet) at Highway 76, one can fish virtually anywhere, but above this level, you have to “pick your spots.” The anglers stated that at lower flows fish are more “spooky,” and that brown trout can stay wary all day after a disturbance. The best time for catching brown trout includes: immediately prior to a storm, sunrise, sunset, when the water turns a coffee color (some turbidity), and during some hatches (e.g., green drake).

In terms of preferences for flows, some anglers like to fish a diversity of flows, while others prefer to fish the same “optimum” range. In terms of the turbidity, some see slight “color” as an advantage of slightly higher than normal flows. Extremely clear water at low flows can be challenging to fish, but provides the added pleasure of potentially “sight catching” – watching a fish take a fly. The anglers indicated that at the flows during the study trip, they would fish at this level multiple trips per season, with one angler indicating a little less frequently at a few times a season.

6.0 RESULTS OF BOATER PANEL ASSESSMENT

Boaters conducted the assessment for the same reaches as the anglers. For the first study day, the boaters paddled the Rock Gorge and Nicholson Fields sections of the river, from Burrells Ford Bridge downstream to Highway 28 Bridge. For the second day, the boaters paddled the Chattooga Cliffs reach, from Norton Mill Creek to Bull Pen Bridge and Ellicott Rock reach, from Bull Pen Bridge down to Burrells Ford Bridge.

6.1 Rock Gorge and Nicholson Fields Reaches

6.1.1 Description of Boating Run During Study Period

The boaters put-in at the Burrells Ford Bridge area at about 9:30 am and took out at the Highway 28 boat launch area about 2:30 pm for a total run time of about 5 hours. The group used the user-established trail adjacent to the southwest side of the Burrells Ford Bridge to access a small beach area for the put-in. Although the trails are informal, the put-in area is an established recreational use site for walking, angling and camping use along the river.

The upper approximately 2.5 miles of the run started as swift water and gradually increased in difficulty culminating in a few Class 3 ledge drops just upstream of Big Bend Falls. At this flow, these drops were easy to approach, scout and run from a kayak. The lead boater would occasionally step out to scout a drop for the group.

The group stopped on the river right above Big Bend Falls, at approximately Mile 3. The Big Bend Falls rapid is a river-wide waterfall made up of a series of smaller ledges dropping approximately 25 feet. The group scouted the falls from the river right.

A large log was wedged vertically at the bottom of the falls and all boaters opted to portage along the bedrock on the river right side of the falls.

Mile 4 included a number of class 3 to 4 read-and-run rapids. As with the section above Big Bend Falls, the group traded lead boater and when a larger drop required an initial scout, the lead boater would get out and give the others information.

At approximately Mile 5, and just after 11:00 am, the group reached four approximately Class 4 rapids above the Rock Gorge, some of which were named by boaters from the 1970s, including the first major rapid named “Rock in the Crack in the Hole in the Wall,”⁶ followed by two ledge drops that required scouting but do not appear to be named, and then the last drop that marked the entrance to the Rock Gorge named “Maytag.” The boaters ran all of these drops and set a simple safety at “Maytag” by placing one boater with a throw rope just downstream of the main route. All of the drops would be easy to portage with the exception of “Maytag.”

The Rock Gorge consists of a series of Class 4 rapids closely spaced in a narrow canyon. The group successfully ran all rapids. Following the Rock Gorge, and approximately 1 mile upstream of Lick Log Creek, the river returns to Class 1 and swift water. The group arrived at Lick Log Creek at approximately 1:00 pm. The Nicholson Field reach from Lick Log Creek to the Highway 28 boat launch area is approximately five miles long and consists entirely of swift water. The boaters took-out at the Highway 28 boat launch area at about 2:30 pm.

6.1.2 Assessment of Flow and Boating Opportunities During Study Period

Boatability

The boater panel characterized the Rock Gorge/Nicholson Fields stretch as a “creek run;” one that has high gradient and difficult rapids. The major rapids were characterized as Class 4, with the exception of Big Bend Falls (Class 5) and “Maytag” (Class 4 or 5 depending on flow). Table 6-1 provides a summary of the key boatability factors that were assessed by the boater panel for the Rock Gorge/Nicholson Fields reaches. The average number of times that boaters hit rocks or other obstacles, but did not stop in this section was about 11 times. The boaters reported being stopped from 0 to 4 times after hitting rocks or other obstacles. Most of the boaters portaged one time with one boater portaging twice. The boatability was rated overall 6.5, the whitewater challenge 5.5, and the overall rating was 5.2 on a scale of 1 being totally unacceptable to 7 being totally acceptable. None of the boaters reported having to get out to drag or pull their boat off rocks or other obstacles.

⁶ The name designations for the various on-river locations described here and elsewhere in this report were provided by the anglers and/or boaters and are labels in common use by the angler and/or boater communities and are not official names.

Table 6-1. Summary of Boater Panel Boatability Input for Rock Gorge/Nicholson Fields Reaches

Boatability Factor	Avg	Min	Max
Hits	10.7	4	20
Stops	0.6	0	4
Boat Drag	0.0	0	0
Portage	1.1	1	2
Scout Major Drops	3.1	2	4
Boatability	6.5	5	7
Whitewater Challenge	5.5	5	7
Overall Rating	6.2	6	7

Access

The boaters put-in at Burrells Ford Bridge, an easy access location with parking nearby and a short carry of equipment to a put-in location on the river. The boaters took-out at the Highway 28 Bridge parking lot (Section 1 put-in). The boaters suggested that they would prefer to avoid the flat water downstream of Licklog Creek. All of the kayakers would consider a take-out at Lick Log Creek by hiking the approximately 2/3-mile long trail to the parking area at Thrift Lake. In contrast, the one open boater (canoe) said he would prefer to float to the takeout at the Highway 28 Bridge parking lot or the Boater Access for the Section 1 instead of portaging his boat and equipment up hill to Thrift Lake.

Flows

The boaters characterized the flow during the assessment at the low end, but within the optimal range. The panel stated that lower flows (approximately 50 cfs less at Burrells Ford) would provide a good trip for intermediate boaters learning how to paddle creeks. The boaters agreed that higher flows, approximately 600 cfs at Burrells Ford and above, would become pushy and may be difficult to scout/portage some drops. During the follow-up discussion, the group estimated that the optimal flows for this reach would be from 350 to 600 cfs and the upper limit would be about 1,000 cfs.

Based on the individual assessments, the boat panel members rated the flows (cfs) for the Rock Gorge reach during the study period on a scale of 1 to 7 where: 1 is totally unacceptable, 4 is marginal, and 7 is totally acceptable. Figure 6-1 provides a summary of the ratings (average, minimum and maximum). The average ratings show that optimal boating flows range from 350 to 600 cfs at Burrells Ford.

The boaters were asked as part of the individual assessment to provide input on a variety of flow ranges, including lowest flows needed, to optimal flow ranges for a technical trip, a standard trip and a big water trip. A technical trip can be characterized as lower flows where the rapids have exposed rocks and other objective hazards and the safe routes require technical moves, such as eddy hopping across the river, to approach and navigate. A standard trip can be characterized as average flows, where most of the

objective hazards are covered, the primary routes are easy to identify, but the hydraulics, waves and force of the water do not push boaters off their line. A big water trip can be characterized as high water and flood conditions, where boaters have difficulty finding eddies for scouting and the force of the water can push the boater off-line.

Table 6-2 provides a summary of these ratings for the Rock Gorge/Nicholson Fields reach. The lowest flow indicated that was needed to boat this reach ranged from 175 to 300 cfs at Burrells Ford; the lowest optimal flow for a technical run was from 150 to 350 cfs; the lowest optimal flow for a standard trip ranged from 300 to 800 cfs; and for a big water trip the lowest optimal flow ranged from 350 to 1500 cfs. High end of the optimal flows for boating trips ranged from 750 to 2,000 cfs.

Figure 6-1. Boater Panel Flow Ratings for Rock Gorge/Nicholson Fields

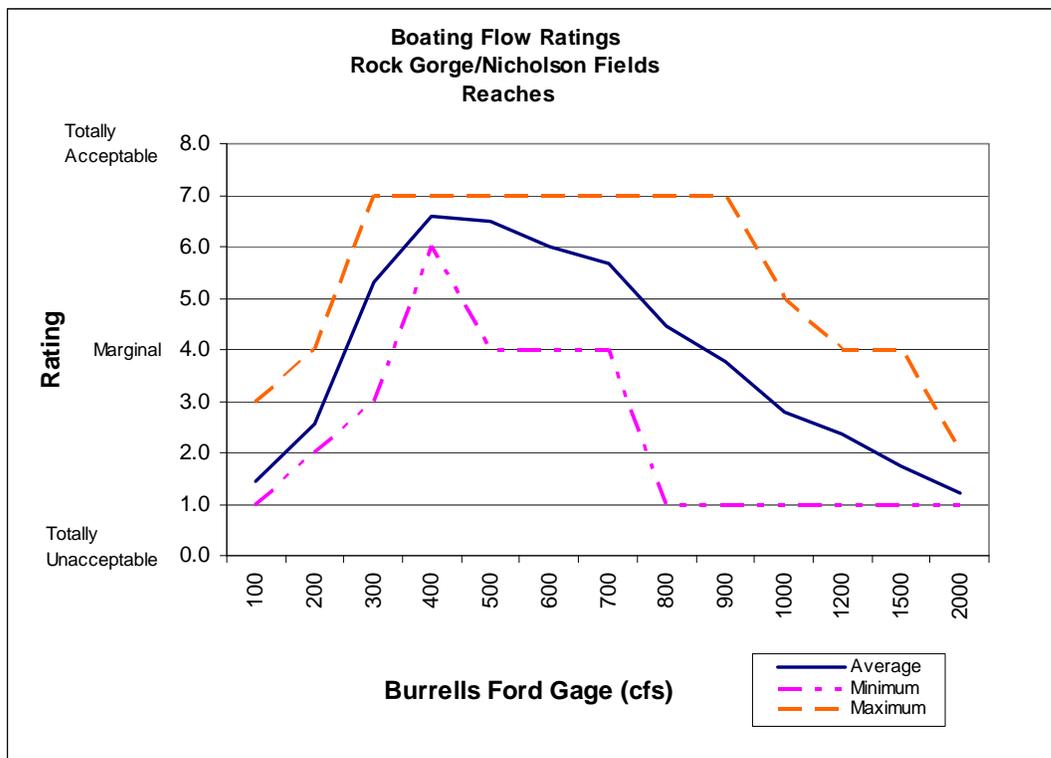


Table 6-2. Summary of Boater Panel Flow Ranges for Rock Gorge/Nicholson Fields (cfs at Burrells Ford)

Type of Boating Opportunity/Flow	Median	Lowest	Highest
Lowest Flow Needed	200	175	300
Technical Lowest Flow	250	175	325
Technical Optimal Low	263	150	350
Technical Optimal High	375	200	750
Standard Lowest Flow Needed	450	300	800
Standard Optimal Low	425	300	800
Standard Optimal High	625	400	1,250
Big Water Trip Lowest Flow	750	500	1,500
Big Water Trip Optimal Low	650	350	1,500
Big Water Trip Optimal High	1,000	500	2,000

Attributes, Advantages and Disadvantages of Study Flows on this Run

The boater panel characterized advantages of the Rock Gorge/Nicholson run at these flows to include: exploratory wilderness feel, safe, easy rescues, easy portages, and that the hydraulics were not very powerful. They stated that disadvantages of the flow include some shallow sections where the river is wide and slow, and the long flat water downstream of Rock Gorge. The boater panel members stated that important attributes of the run include: wilderness setting, aesthetics, little evidence of visitor use, beautiful canyon walls/cliffs, length (long), remote feel, and easy access.

The boaters considered the reach to be a very unique run, with some similarities to Section 4 (Route 76 Bridge to Tugaloo Lake) of the lower Chattooga River, although the rapids in the Rock Gorge reach are more difficult, only specialized rafts could boat the run (catarafts), and shuttles are long. The boaters also considered this run to have some similarities to the lower sections on Overflow Creek, with the Rock Gorge reach being considerably less difficult than Overflow.

In terms of use, the boater panel felt that the Rock Gorge reach would be used at these flows as a medium difficulty creek run by small private groups and high-end club trips. The boater panel also felt that the run may initially attract more boaters at first due to the novelty, but would probably level off to be run only 1 or 2 times per season by boaters at the most. The boaters in the panel estimated that they would paddle this section once every year or two. Of the many rivers the boaters have paddled, they placed this reach in their top 15 best runs.

6.2 Chattooga Cliffs Reach

6.2.1 Description of Boating Run During Study Period

The Chattooga Cliffs section extends about 5 miles from Grimshawes Bridge downriver to Bull Pen Bridge (see Figure 2-2). The upper section from Grimshawes Bridge to the Green Creek confluences is on private property and was not assessed in the field as part of this report. However, anecdotal information from boaters that ran the reach prior to the closure suggests that this section is narrow, with small ledge drops (Personal communication, from Kevin Colburn, AW provided to USFS in 2002 and 2006). The river is approximately 30 feet wide and best characterized as pool-drop, with long deep pools and swift water between larger ledges that create the rapids. The major rapid in this reach, located on the private land just upstream of the Forest Service boundary, is an approximately 18 foot vertical waterfall.

Access is extremely limited between Green Creek and Norton Mill Creek. The trail in this area primarily follows ridgelines away from the river and the canyon wall exceeds 45 degrees in places. The expert panels did not include this section because access would require forming a new trail, but the consulting staff hiked to the confluences of Green Creek and the Chattooga River and walked the riverbed approximately 1 mile down the river in July, 2006. The staff observed that rapids in this area are generally low gradient, with a number of 1-foot to 4-foot ledge drops, narrow slots and two small 2 small logjams.

The boaters put-in at the confluence of Norton Mill Creek and the Chattooga River at about 10:30 am and (boating both the Chattooga Cliffs and Ellicott Rock sections) took-out at Burrells Ford Bridge area about 3:30 for a total run time of about 5 hours on the second study day. The Chattooga Cliffs section had a run time of about 3 hours. The group shuttled equipment and vehicles to County Line Trailhead (arriving at about 9:30 am) and from the trailhead, the group portaged boats and equipment approximately 1.7 miles along an existing old logging road (County Line Road) to the confluence of Norton Mill Creek and the Chattooga River, about 3 miles downstream from Grimshawes Bridge. The Chattooga River at the put-in location of Norton Mill Creek is narrow, with thick shoreline vegetation, and steep muddy banks. The group launched at 10:30 am.

Approximately 1/2 mile downstream of the put-in, the group approached a river-wide logjam formed around two large boulders that created three narrow channels. The log jam appears to be from old floods and appears to function as a strainer for most floating debris coming down upper reaches. The group portaged over the log jam.

A small ledge defines the beginning of the whitewater immediately downstream of the logjam that continues approximately 1.2 miles down to Bull Pen Bridge. The upper 2/3- mile has the most difficult rapids. The river enters a narrow canyon defined by steep rocky cliffs overhung above by dense vegetation. The rapids are close together, constricted and easy to approach and scout at this flow. The rapids are generally Class 4

or easy Class 5, with one difficult sieve that may be boatable at higher flows. However, the narrow canyon in combination with the large group size (10 boaters) made portaging and scouting slow at times.

The first major rapid on this reach is a 6 foot constricted falls along an undercut rock that lands on shallow rocks. The rapid was easily portaged along the river left. The river enters a series of narrow canyons with Class 4 rapids known by the boaters as the “Alleyway.” In one rapid, a large wood strainer was lodged across the river and most of the group portaged on the river left. The group reached the Sieve rapid just before 12:00 noon. The group portaged on the river left, but a simpler route may be available at some flows on the river right down the large slab boulders that define the rapid. The portage was difficult, requiring simple rope rigging to move boats and people across the steep, wet rocks immediately adjacent to and above the Sieve rapid. All boaters launched at the bottom of the portage and dropped over a 6 foot ledge drop that marked the end of the most difficult rapids in the Chattooga Cliffs reach. The group reached Bull Pen Bridge at 1:00 pm, approximately 20 minutes after leaving the ledge drop.

6.2.2 Assessment of Flow and Boating Opportunities During Study Period

Boatability

The boater panel characterized the Chattooga Cliffs reach as an exploratory creek run. This reach would require smaller groups, ideally no more than 5 boaters per group, due to the difficulty of the drops and the confined, narrow canyon that limits a larger groups ability to group in eddies or along the shoreline. The group felt that there was plenty of water to run the reach during the study period. The boaters felt that this reach could not feasibly be rafted.

Table 6-3 provides a summary of the key boatability factors that were assessed by the boater panel for the Chattooga Cliffs reach. The average number of times that boaters hit rocks or other obstacles, but did not stop in this section was about 20 times. The boaters reported being stopped from 0 to 5 times after hitting rocks or other obstacles. All of the boaters portaged at least 2 times with one portaging up to 5 times. The boatability was rated overall 6.4, the whitewater challenge 6.7, and the overall rating was 6.4 on a scale of 1 being totally unacceptable to 7 being totally acceptable. Two of the boaters reported having to get out to drag or pull their boat off rocks or other obstacles 1 or 2 times. In terms of how often they would boat this section, the boaters responded with the majority stating once every year or two, to several stating a few times per season.

Table 6-3. Summary of Boater Panel Boatability Input for Chattooga Cliffs

Boatability Factor	Avg	Min	Max
Hits	20	10	50
Stops	0.7	0	5
Boat Drag	0.3	0	2
Portage	2.8	2	5
Scout Major Drops	4.2	2	7
Boatability	6.4	4	7
Whitewater Challenge	6.7	6	7
Overall Rating	6.4	4	7

Access

For the Chattooga Cliffs reach, the boater panel put-in at the confluence of Norton Mill Creek and the Chattooga River, about 3 miles downstream of Grimshawes Bridge. Access to this put-in includes a 1.7 mile portage on a trail that is formed from an abandoned logging road. The decision to put-in at this location was based on the restriction of access at the upper stretches due to private property and also the need to access the river through an existing trail so as not to create any new user-created trails as part of the expert panel assessment study. Berger and CRC scouted for access on Forest Service lands upstream of Norton Mill Creek during July, 2006 and found that access in to this stretch of the reach is limited. Although an existing trail runs along a major portion of this stretch of river, the trail is located along the ridge above the river and there are very steep cliffs and dense vegetation along much of this stretch of river. Although the boaters could have reached the confluence of Green Creek and the Chattooga, it would have required a difficult approach and creation of a new user trail. The take-out for the Chattooga Cliffs reach was Bull Pen Bridge, where there is easy vehicle access, limited parking and a short walk to the river.

Flows

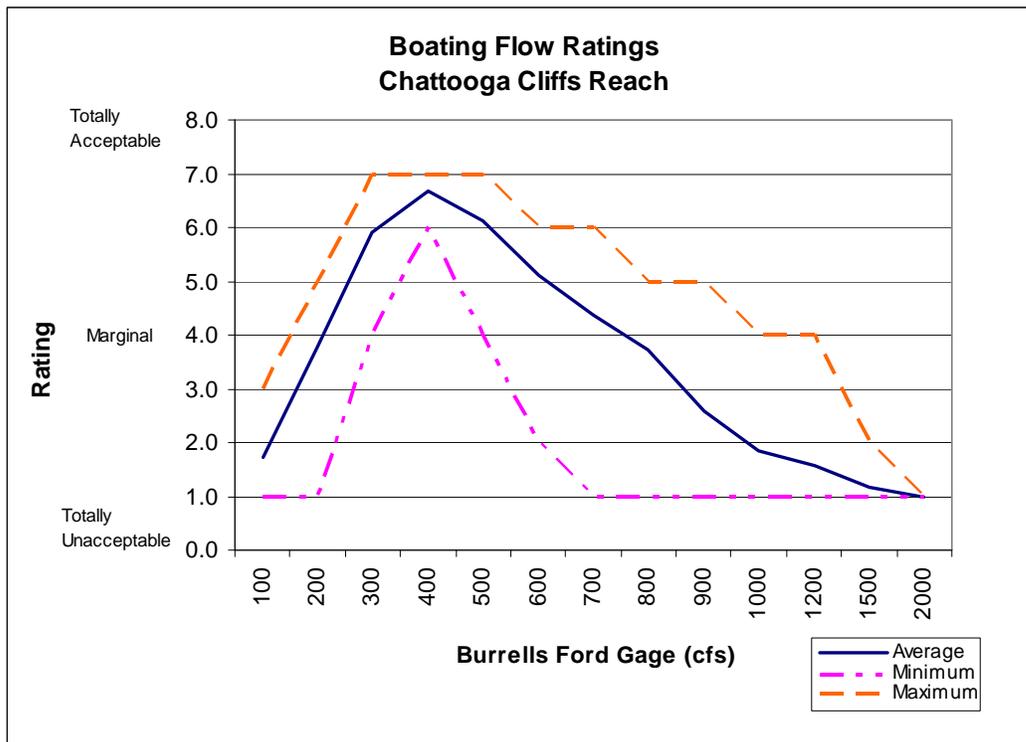
The boater panel found that flows a little higher (up to 450 cfs at Burrells Ford) may fill in rapids. However, much higher flows and they would become pushy and scary. Also, flows a little lower would be acceptable (250 cfs at Burrells Ford), but may start to uncover rock surface areas. Table 6-4 provides a summary of the ratings by the boater panel for the Chattooga Cliffs reach on lowest flows needed and optimal flow ranges for a technical trip, a standard trip and a big water trip. The lowest flow ranged from 175 to 300 cfs; the lowest optimal flow for a technical run was from 175 to 300 cfs; the lowest optimal flow for a standard trip ranged from 250 to 400 cfs; and for a big water trip the lowest optimal flow ranged from 300 to 700 cfs. Boaters estimated the high end of optimal flows for boating trips ranged from 500 to 1,000 cfs.

Table 6-4. Summary of Boater Panel Flow Ranges for Chattooga Cliffs Reach
(cfs at Burrells Ford)

Type of Boating Opportunity/Flow	Median	Lowest	Highest
Lowest Flow Needed	250	175	300
Technical Lowest Flow	250	200	300
Technical Optimal Low	250	175	300
Technical Optimal High	325	200	500
Standard Lowest Flow Needed	300	250	450
Standard Optimal Low	345	250	400
Standard Optimal High	450	400	700
Big Water Trip Lowest Flow	600	400	750
Big Water Trip Optimal Low	500	300	700
Big Water Trip Optimal High	750	450	1,000

Based on the individual assessments, the boat panel members rated the flows (cfs) for the Chattooga Cliffs reach during the study period on a scale of 1 to 7 where: 1 is totally unacceptable, 4 is marginal, and 7 is totally acceptable. Figure 6-2 provides a summary of the ratings (average, minimum and maximum). Based on the average of the boater panel ratings the optimal flow ratings above 6.0 (above acceptable) were in the range of 300 to 500 cfs at Burrells Ford.

Figure 6-2. Boater Panel Flow Ratings for Chattooga Cliffs Reach



Attributes, Advantages and Disadvantages of Study Flows on this Run

The boaters found that the advantages of the Chattooga Cliffs reach include: incredible aesthetics, narrow canyon, waterfalls, challenging rapids, expedition-style boating more than a typical whitewater trip, and to be physically challenging. The disadvantages of the reach included: high-energy portages, a long hike to the put-in, lots of work for a short section, challenging and potentially dangerous rapids.

The panel members stated there were no similar rivers with these characteristics in the region. The run is not similar to Section 4 of the Chattooga River because it is narrow, access is limited and the rapids are more difficult. The boaters found Chattooga Cliffs to be a unique slot canyon. The Whitewater River was identified as having a few intimate similar rapids and the Horse Pasture Run was identified to have similar expeditionary characteristics of a high-energy day. The boaters stated that if the boating ban was lifted and they could run this reach of river, they would anticipate paddling the Chattooga Cliffs 1 time per year at most. The boaters generally ranked this stretch as in the top 10 best runs of their experience.

6.3 Ellicott Rock Reach

6.3.1 Description of Boating Run During Study Period

Access to the put-in and take-out is easily achieved from Bull Pen Bridge and Burrells Ford Bridge, requiring only a short portage from the parking area along well-established paths to the put-in area. The boaters arrived at Bull Pen at about 1:30 pm (having boated downstream from the Chattooga Cliffs section) and took out at Burrells Ford Bridge for a run time of about 2 hours. A Class 5 drop at Bull Pen Bridge defines the end of the Chattooga Cliffs reach and the beginning of the Ellicott Rock reach. The two or so miles immediately below Bull Pen Bridge to Ellicott Rock is read-and-run, Class 4, with a series of ledge drops and boulder-filled rapids. The group traded lead and moved quickly through this section.

Approximately 2 miles into the Ellicott Rock reach, the group stopped and scouted Super Corkscrew on the river right, the only Class 5 rapid on the run with the exception of the rapid at Bull Pen Bridge. The rapid is a long series of off-set ledge drops with increasingly powerful hydraulics and a shallow, short run out. The portage is difficult along slippery rocks on the right shore, but manageable without setting up rope rigging. About half of the boaters portaged and half ran the drop.

The rapids below Super Corkscrew extending down to Ellicott Rock are similar to those above Super Corkscrew; the rapids are a combination of Class 3-4 ledges and boulder fields. The group moved quickly through this section, reaching Ellicott Rock at about 3:00 PM. Below Ellicott Rock, the rapids are Class 1 and 2 for the 3 miles down to Burrells Ford. The group took-out at Burrells Ford Bridge at about 3:30 pm.

6.3.2 Assessment of Flow and Boating Opportunities During Study Period

Boatability

The boaters characterized Ellicott Rock reach as a creek run, with Class 4 read-and-run rapids, and two Class 5 rapids, including the rapid at the put-in under Bull Pen Bridge, and Super Corkscrew, approximately 2 miles into the reach. The rapids are generally ledge drops and short boulder fields. The group felt that there was plenty of water to run the reach during the field assessment. The boaters guess that this reach could be run by technical rafts, such as catarafts, but that larger or traditional rafts would be impractical.

Table 6-5 provides a summary of the key boatability factors that were assessed by the boater panel for the Ellicott Rock reach. The average number of times that boaters hit rocks or other obstacles, but did not stop in this section was about 23 times. The boaters reported being stopped from 0 to 3 times after hitting rocks or other obstacles. Six of the boaters portaged at least 1 time up to one boater portaging 3 times. The boatability was rated overall 6.7, the whitewater challenge 6.6, and the overall rating was 6.7 on a scale of 1 being totally unacceptable to 7 being totally acceptable. Two of the boaters reported having to get out to drag or pull their boat off rocks or other obstacles one time.

Table 6-5. Summary of Boater Panel Boatability Input for Ellicott Rock Reach

Boatability Factor	Avg	Min	Max
Hits	23.3	10	75
Stops	0.6	0	3
Boat Drag	0.2	0	1
Portage	1.2	0	3
Scout Major Drops	3	2	6
Boatability	6.7	6	7
Whitewater Challenge	6.6	5	7
Overall Rating	6.7	6	7

Access

The put-in for the Ellicott Rock reach is easily achieved at the Bull Pen Bridge, which provides vehicular access and a short walk to the river from a limited parking area. The take-out location is at the Burrells Ford Bridge, which provides easy vehicular access, a limited parking area, and a short walk to the river.

Flows

The boaters stated that the flow was at the low end, but within the optimal range. Higher flows would improve the run with the optimal range from 340 to 600 cfs at Burrells Ford. The boaters stated it would be a “big-water” run above 600 cfs. Lower

flow levels would be acceptable down to 250 cfs, but would result in more potential to hit rocks and slow down the run in the swift water sections.

Based on the individual assessments, the boat panel members rated the flows (cfs) for the Ellicott Rock reach during the study period on a scale of 1 to 7 where: 1 is totally unacceptable, 4 is marginal, and 7 is totally acceptable. Figure 6-3 provides a summary of the ratings (average, minimum and maximum). Based on the average of the boater panel ratings the optimal flow ratings above 6.0 (above acceptable) were in the range of 300 to 600 cfs.

Figure 6-3. Boater Panel Flow Ratings for Ellicott Rock Reach

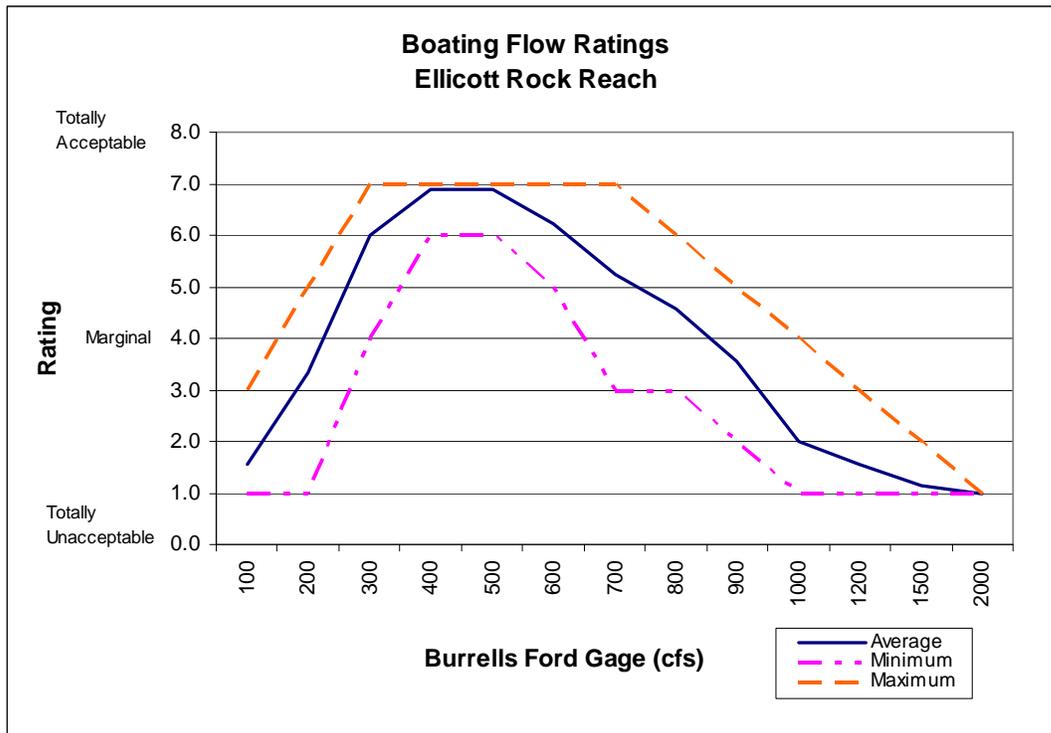


Table 6-6 provides a summary of the ratings by the boater panel for the Ellicott Rock reach on lowest flows needed and optimal flow ranges for a technical trip, a standard trip and a big water trip. The lowest flow indicated that was needed to boat this reach ranged from 200 to 275 cfs; the lowest optimal flow for a technical run was from 200 to 300 cfs; the lowest optimal flow for a standard trip ranged from 300 to 400 cfs; and for a big water trip the lowest optimal flow ranged from 400 to 900 cfs. High end of the optimal flows for boating trips ranged from 600 to 1,000 cfs.

Table 6-6. Summary of Boater Panel Flow Ranges for Ellicott Rock Reach
(cfs at Burrells Ford)

Type of Boating Opportunity/Flow	Median	Lowest	Highest
Lowest Flow Needed	225	200	275
Technical Lowest Flow	250	200	300
Technical Optimal Low	263	200	300
Technical Optimal High	338	250	600
Standard Lowest Flow Needed	375	250	400
Standard Optimal Low	350	300	400
Standard Optimal High	550	400	900
Big Water Trip Lowest Flow	650	350	900
Big Water Trip Optimal Low	550	400	900
Big Water Trip Optimal High	800	600	1,000

Attributes, Advantages and Disadvantages of Study Flow on this Run

The boaters stated that the advantages of the Ellicott Rock run included: lots of read-and-run Class 4 ledges and boulder gardens, continuous rapids, no portages required, few scouts, great scenery, available at a broad range of flows, and an easy shuttle. In terms of disadvantages, the boaters stated: “it’s illegal” and the scenery is not as good as other reaches in the upper Chattooga River once past the East Fork Chattooga River, which has a minor impact on the overall trip.

The boaters stated that overall the run is unique for its wilderness and other attributes, but somewhat similar runs include the Whitewater River, Big Creek (in the Smoky Mountains), and Upper West Fork. The run was not found to be similar to Section 4 of the Chattooga River because the rapids are more difficult and have larger vertical drops.

The boaters stated that if the boating ban was lifted and they could run this reach of river, most would utilize Ellicott Rock run multiple times per year. The boaters placed this reach in the top 5 best runs of their experience.

7.0 SUMMARY AND CONCLUSIONS

This section provides a summary of the key findings and conclusions of the expert panel assessment, including both the angler and boater assessment.

7.1 Summary of Key Findings

7.1.1 Angler Panel

- *Type of experience* - two general types of angling experiences: *front country* – those who primarily fish from the bridges or within a short distance from access areas; and

backcountry - those who hike in and fish distances further away from the access areas. Generally, the backcountry anglers are seeking a more solitude and “wilderness” experience.

- *Key attributes* - solitude, scenery, no main road beside the river, quality of trout fishery, quality of the entire experience (uniqueness), few signs of human use, close location, low cost/high value east coast experience, year round fishing, “have to earn your way in to the backcountry,” classic riffle/pool type of river, ideal for trout, size is ideal/good scale, and biology – year round hatch (stonefly, mayfly and caddisfly).
- *Best stretch of river* - the angler panel members stated that the stretch from Burrells Ford Bridge to Highway 28 Bridge is a better angling experience because there is more solitude and fewer people than the stretch between Ellicott Rock and Burrells Ford.
- *Overall use/regional draw* – one of the premier trout fisheries of the region.
- *Comparable river experiences* - the panel stressed that the Chattooga had many unique characteristics and did not want name multiple comparable rivers; no other comparable stream in terms of management efforts between SCDNR, GA, NC and TU.
- *Character* - classic riffle/pool type of river, ideal for trout, size is ideal/good scale (not too large, not too small).
- *Accessibility* – more challenging in terms of wading and access and that some stretches were inaccessible (i.e., Rock Gorge, upstream of Sims, Shoals area, and Big Bend Falls up about ¼ mile).
- *Advantages of higher flows (such as the flow assessed)* - fish recovery time is better, fish are not as spooky as during low water periods, the slight turbidity of the water allows anglers to stand closer to the fish, river had more “character” and very little debris (such as leafy debris) in the water; some holes might improve; most likely fewer anglers (many anglers prefer lower flows).
- *Disadvantages of higher flows (such as the flow assessed)* - more challenging in terms of wading and access; greater energy was required to stand in the river; because of need to use more weight to get the flies down to the fish, there was potential for increased chances of snagging; need to carefully choose crossing locations and may not be able to use all crossing locations at these flows; can cause some runs to become unfishable.
- *Flow preference assessment* – in terms of flow assessment, the angler panel members indicated that the optimal flow range (based on median of ratings) for fly fishing was from a low of around 270 cfs at Highway 76 (1.3 feet at the same gage) to a high of about 840 cfs (2.0 feet); for spin fishing the optimal flow range was from a low of

about 300 cfs (1.3 feet) to a high of 1,040 cfs (2.2 feet); and for bait fishing the optimal flow range was from a low of about 420 cfs (1.5 feet) to a high of about 1,350 cfs (2.4 feet). During the group discussion, the angler panel also indicated that the upper end of the acceptable ranges for angling opportunities were between 840 to 1,500 cfs (2.0 to 2.5 feet) per the Highway 76 gage. This is similar to the flows observed during the study period, which were clearly acceptable but not optimal. They also indicated that some fishing opportunities, primarily bait fishing, would still occur up to about 3.0 feet at the Highway 76 gage.

- *Variables affecting flow preferences* - some of the variables that can affect optimal flow range are age, strength, experience, equipment, type of fishing and familiarity with river.
- *Estimated type of use* - at the flows during the study trip, anglers indicated they would fish at this level multiple trips per season, with one angler indicating a little less frequently at a few times a season.

7.1.2 Summary of Boater Panel Assessment

Overall

- *Type of experience* – Class 4+ creek runs, wilderness setting, aesthetics, little evidence of visitor use, areas with beautiful canyon walls/cliffs, length of runs, remote feel, easy access (except Chattooga Cliffs).
- *Best stretch of river* - Ellicott Rock reach was the reach that boaters indicated that they would likely boat most often, as compared to the other reaches, due to the easy access, short shuttle, high quality and continuous read-and-run whitewater, unique scenery.
- *Overall use/regional draw* - generally would drive up to about 2-3 hours to reach a boating destination, a few said they would drive up to 5 hours for special circumstances. Estimated trips per season ranged from multiple trips in the Ellicott Rock reach section to less than 1 per season on the Chattooga Cliff region.
- *Comparable river experiences* – boaters identified some portions of the runs that had some elements that were comparable river experiences, including the lower Chattooga, Overflow, Whitewater River, Big Creek (in the Smoky Mountains), and Upper West Fork, and the Horse Pasture Run. Some similar attributes to Section 4 of the Chattooga River, but more difficult rapids, much more flatwater, more difficult shuttle and more remote.

Chattooga Cliffs Reach

- *Character* - an exploratory creek run, unique slot canyon, mostly Class 4+ with one Class V+ rapid; ranked this reach in the top 10 best runs of their experience.

- *Accessibility* - difficult put-in at the confluence of Norton Mill Creek and the Chattooga River, about 3 miles downstream from Grimshawes Bridge; access via 1.7 miles portage on an abandoned logging road; easy take-out at Bull Pen Bridge, vehicle access, limited parking and a short walk to the river; all rapids can be portaged along the rocky bank at assessment flows.
- *Flows preference assessment* - based on the median of the expert boater panel responses, the lowest flow needed was 250 cfs, optimal flows for a technical trip ranged from about 250 to 325 cfs, for a standard trip from about 345 cfs to 450 cfs, and for a big water trip from about 500 cfs to 750 cfs at Burrells Ford.
- *Advantages* - incredible aesthetics, narrow canyon, waterfalls, challenging rapids, expedition-style boating more than a typical whitewater trip, and physically challenging.
- *Disadvantages* - high-energy portages, a long hike to the put-in, lots of work for a short section, challenging and potentially dangerous.
- *Comparable runs* - no similar rivers with these characteristics in the region; the Whitewater River was identified as having a few “intimate” rapids with a similar feel and the Horse Pasture Run was identified to have similar expeditionary characteristics of a high-energy day.
- *Estimated type of use* - would utilize Chattooga Cliffs 1 time per year at most.

Ellicott Rock

- *Character* - creek run with Class 4 read-and-run rapids and two Class 5 rapids; ranked this reach in the top 5 best runs of their experience.
- *Accessibility* – easy put-in at Bull Pen Bridge, provides vehicular access, limited parking and a short walk to the river; easy take-out at Burrells Ford Bridge, provides vehicular access, limited parking, and a short walk to the river.
- *Flows preference assessment* - based on the median of the expert boater panel responses, the lowest flow needed was 225 cfs, optimal flows for a technical trip ranged from about 260 to 340 cfs, for a standard trip from about 350 cfs to 550 cfs, and for a big water trip from about 550 cfs to 800 cfs at Burrells Ford.
- *Advantages* – lots of read-and-run Class 4 ledges and boulder gardens, continuous rapids, no portages required, few scouts, great scenery, available at a broad range of flows, and an easy shuttle;

- *Disadvantages* - “it’s illegal,” long swift water section below Class 4, scenery below East Fork Chattooga is not as good as other reaches (consider only a minor disadvantage).
- *Comparable runs* - overall the run is unique for its wilderness and other attributes, but runs with somewhat similar attributes include the Whitewater River, Big Creek (in the Smoky Mountains), and Upper West Fork.
- *Estimated use* - most would utilize Ellicott Rock run multiple trips per year.

Rock Gorge/Nicholson Fields

- *Character* - a “creek run;” with high gradient and difficult rapids, rated Class 4 with one Class 5 rapid; ranked this reach in the top 15 runs of their experience.
- *Accessibility* – easy put-in at Burrells Ford Bridge, easy access, parking nearby, short walk to a put-in location on the river; take-out at the Highway 28 Bridge parking lot (Section 1 put-in), although kayakers suggested that they would take-out at Lick Log Creek and hike the approximately 2/3-mile long trail to the parking area at Thrift Lake; all rapids can be portaged along the rocky bank at assessment flows.
- *Flows preference assessment* – based on the median of the expert boater panel responses, the lowest flow needed was 200 cfs, optimal flows for a technical trip ranged from about 260 to 375 cfs, for a standard trip from about 425 cfs to 625 cfs, and for a big water trip from about 650 cfs to 1,000 cfs at Burrells Ford.
- *Advantages of assessed flow* - good flow for exploratory, safe, easy rescues, easy portages, and hydraulics not very powerful;
- *Disadvantages of assessed flow* - some shallow sections where the river is wide and slow, long flat water downstream of Rock Gorge.
- *Comparable runs* - some similarities to Section 4 (Route 76 Bridge to Tugaloo Lake) of the lower Chattooga River although somewhat more difficult; similar to the lower section on Overflow Creek, although much less difficult.
- *Estimated type of use* - would be used as a medium difficulty creek run by small private groups and high-end club trips; may initially attract more boaters at first due to the novelty, but would probably level off to be run only 1 or 2 times per season; would not work for commercial outfitters because of the difficult rapids and unpredictable flows.

7.1.3 Both Panels Overall Flow Assessment

- Tables 7-1 and 7-2 and Figures 7-1 and 7-2 provide a summary of the average ratings for flow preferences of the angler (per Highway 76 gage) and boater panel members (per Burrells Ford cfs) for specific types of angling and boating opportunities.

Table 7-1. Summary of Angler Flow Preferences
(cfs at Highway 76 Gage)

Angler Flow Preferences ¹	Hwy 76 cfs		Hwy Stage	
	Low ²	High ²	Low ²	High ²
Lowest/Highest Flow - Fish	155	2,000	1.0	2.2
Fly Fish - Optimum	270	840	1.3	2.0
Spin Fish - Optimum	300	1,040	1.3	2.2
Bait Fish - Optimum	420	1,350	1.5	2.4

¹ Anglers provided flow preference ratings per the Highway 76 stage heights and indicated in the group discussion that generally the upper range was about 2.0 to 2.5 (stage height at Highway 76 USGS gage) for fly fishing and slightly higher, about 3.0, for spin/bait fishing. Most anglers were geared more towards the 76 gage flows than to cfs flows at the gages within the study area (study area gages have only been in place for less than 6 months).

² Based on the median of angler panel members flow preference ratings.

Figure 7-1. Summary of Flow Preferences for Angler Panels (based on median)

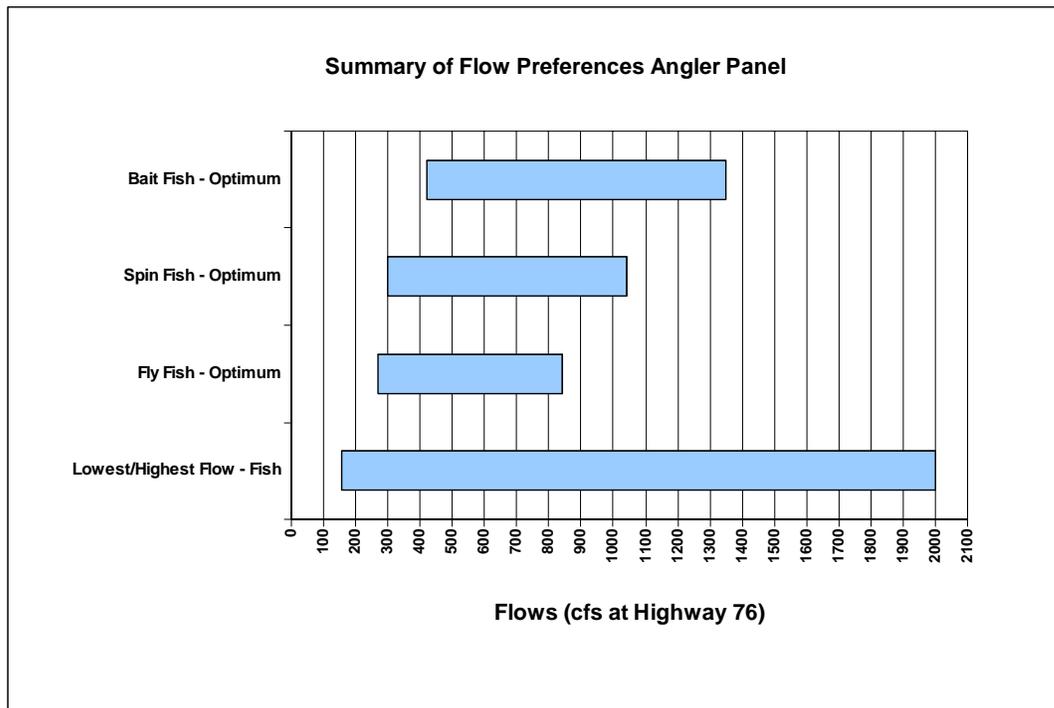
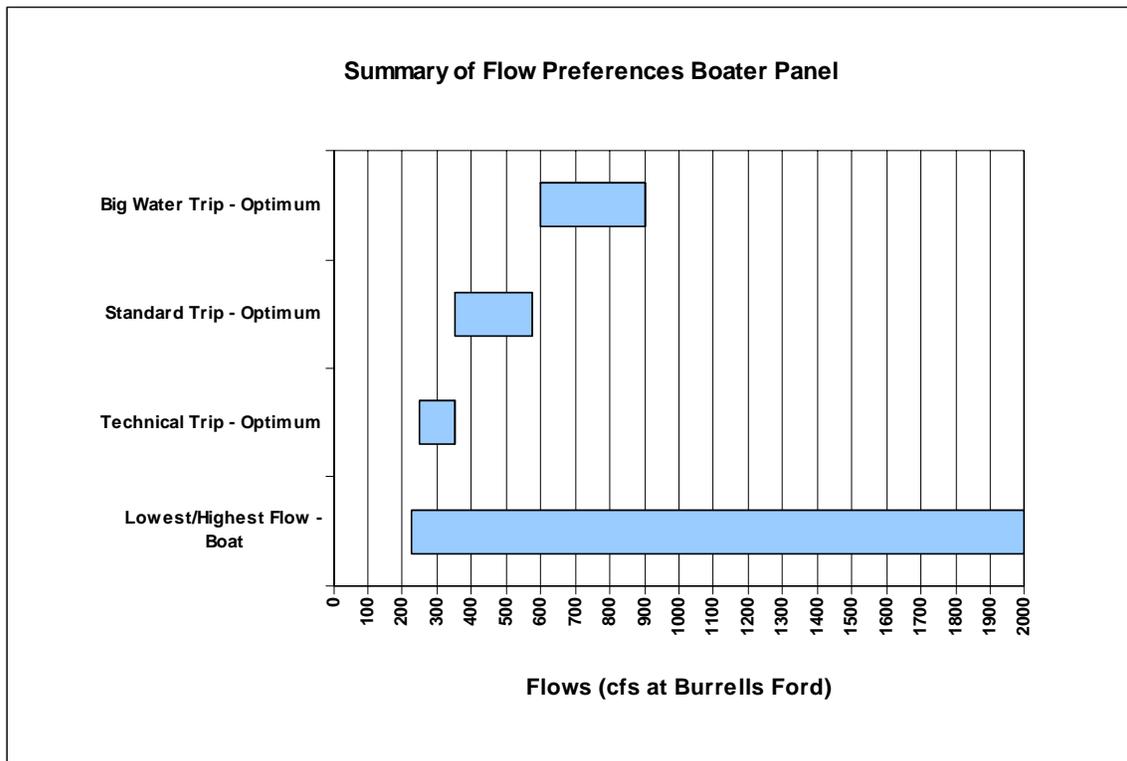


Table 7-2. Summary of Boater Flow Preferences
(cfs at Burrells Ford)

Boater Flow Preferences	Low²	High²
Lowest Flow - Boat	225	NA
Technical Trip - Optimum	250	350
Standard Trip - Optimum	350	575
Big Water Trip - Optimum	600	900

² Based on the median of boater panel members flow preference ratings.

Figure 7-2. Summary of Flow Preferences for Boater Panels



7.2 Conclusions

7.2.1 Type of Experience

- There was similarity in terms of type of experiences that both groups indicated were key attributes, such as the beautiful scenery, predominantly little evidence of visitor use, opportunities for solitude, challenging opportunities, and close location.

- Both groups stated that the Chattooga River provided a unique experience in terms of being able to have a more “wilderness type” experience in this (southeast) region.
- In terms of other comparable experiences within the region, based on input from the panel members, boaters reported to have a few comparable experiences/alternatives within the region, while the anglers felt there were none within the region. However, both boater and angler panels stated that the river provided unique experiences.

7.2.2 Accessibility

- Due to access issues on the upper Chattooga Cliffs reach (existing trail access would be 1.7 mile hike in to the river) and complexities of the run, boating use would be limited on this reach.
- Higher flows in the Chattooga Cliffs stretch would limit angling use as a result of difficulty with moving from spot to spot inside of the channel due to flows and difficulty outside of the channel (due to steep adjacent topography and dense vegetation) as compared to other stretches downstream where there are more areas of flat land and user trails along the riverway that allow for easier movement outside of the channel.
- Accessibility to other sections of the river (Ellicott Rock, Rock Gorge/Nicholson Field) are generally easy via vehicular access adjacent to the bridge areas (Bull Pen, Burrells Ford and Highway 28 Bridge) and short trail access to the river and hiking trails that intersect and/or run adjacent to the Chattooga River; Some mid-point locations in each reach would require long hikes for anglers to access the river.
- Boaters would primarily use bridge access locations for put-in and take-out with the exception of the put-in for the Chattooga Cliffs reach (using existing trails, access would be via the 1.7 mile Forest Service road due to private property being located upstream) and potentially a take-out at the Licks Log Creek trail, although this would entail about a 2/3 mile portage to the parking area.

7.2.3 Type of Use

- Type of use by boaters would likely be small groups, more technically experienced boaters; the assessment area reaches were not conducive to raft type trips, particularly in the Chattooga Cliffs reach.
- Estimated use for boaters would likely range from 1-3 trips per year for the Ellicott Rock reach, to more limited trips (less than 1 time per year) on the Chattooga Cliffs and Rock Gorge/Nicholson Fields reaches (1 to 2 times per season).
- Areas most heavily fished occur in the delayed harvest section where stocking occurs and between Burrells Ford Bridge and the East Fork Chattooga.

- Angling use of front country (areas around the bridges and more easily accessible from vehicular access near parking areas and major trailheads) is typically bait and spin type of fishing versus the backcountry (areas where people have to hike in a ways to reach the river) being more predominantly fly fishing, although there is some overlap.

7.2.4 Flow Data and Flow Preferences

- Flow information for the two key gages (Highway 76 and Burrells Ford) suggests hydrology in the river is complex. Additional data collection and analyses need to be completed before accurate conversions can be made between the two gages so that angler and boater evaluations can be compared on the most useful gage (Burrells Ford). However, the existing flow data is sufficient for describing flows observed during the assessment and a rough “equivalency” at Highway 76. During the study, both panels essentially observed flows about 350 to 400 cfs at Burrells Ford, and this appears to be roughly equivalent to about 1,100 to 1,200 cfs (2.2 to 2.3 feet) at the Highway 76 gage (during non-storm periods).
- Due to the nature of the flow data and the fact that the angler panel members were calibrated to Highway 76 gage while boaters were calibrated to the Burrells Ford gage, comparisons of their respective acceptable and optimal flow ranges are challenging until additional hydrology work is complete. However, it is clear that acceptable ranges for the two groups overlap.
- In general, the boater assessment showed that flows about 350 to 400 cfs at Burrells Ford are near the low end of the optimal range, but slightly lower flows would still provide acceptable boating opportunities. In contrast, the angler assessment showed that flows about 350 to 400 cfs at Burrells Ford are probably above the optimal range for fishing, but well within the acceptable range. The Phase 1 report will further define these overlapping ranges as hydrology analyses allow.

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APPENDIX A

LIST OF EXPERT PANEL MEMBERS

Angler Panel Members

Doug Adams
David Cannon
Jim Culp
Jimmy Harris
Mike Harvell
David Humphrey
John Stephens
Alex Watson

Boater Panel Members

Milt Aitken
Todd Corey
Shayne Day
Ken Holmes
Brian Jacobson
Don Kinser
Don Piper
Wade Vagias
Bo Shelby, CRC
Ben Ellis, Berger

APPENDIX B – EXPERT PANEL DISCUSSION TOPIC AREAS

BOATER PANEL DISCUSSION TOPIC AREAS

1. Characterize type of boating opportunity
2. Trip duration (by segment if more than one)
3. Access, rapids, and portages
4. Safety aspects
5. Flow levels and opportunities
6. Potential impacts from other user groups
7. Likely use levels
8. Flow information needs
9. Describe similar opportunities on other rivers
10. Management concerns

ANGLER PANEL DISCUSSION TOPIC AREAS

1. Characterize type of angling opportunities
2. Access and fishability
3. Turbidity and aesthetics
4. Fishing success
5. Flow levels and opportunities
6. Potential impacts from other user groups
7. Likely use levels
8. Flow information needs
9. Describe similar opportunities on other rivers
10. Management concerns

APPENDIX C – EXPERT PANEL FIELD ASSESSMENT PHOTOS

Day One – Rock Gorge/Nicholson Falls Reach



Figure 1. Boaters within Rock Gorge Reach. (Photo provided by Brian Jacobson.)



Figure 2. Angler downstream of Burrells Ford Campground in Rock Gorge Reach.



Figure 3. Boaters Portaging at Big Bend Falls. (Photo provided by Becky Johnson).

Day Two – Chattooga Cliffs and Ellicott Rock Reaches

Chattooga Cliffs Reach



Figure 4. Boater within Chattooga Cliffs Area. (Photo provided by Brian Jacobson.)



Figure 5. Boaters portaging around log jam within Chattooga Cliffs Reach.
(Photo provided by Todd Corey.)

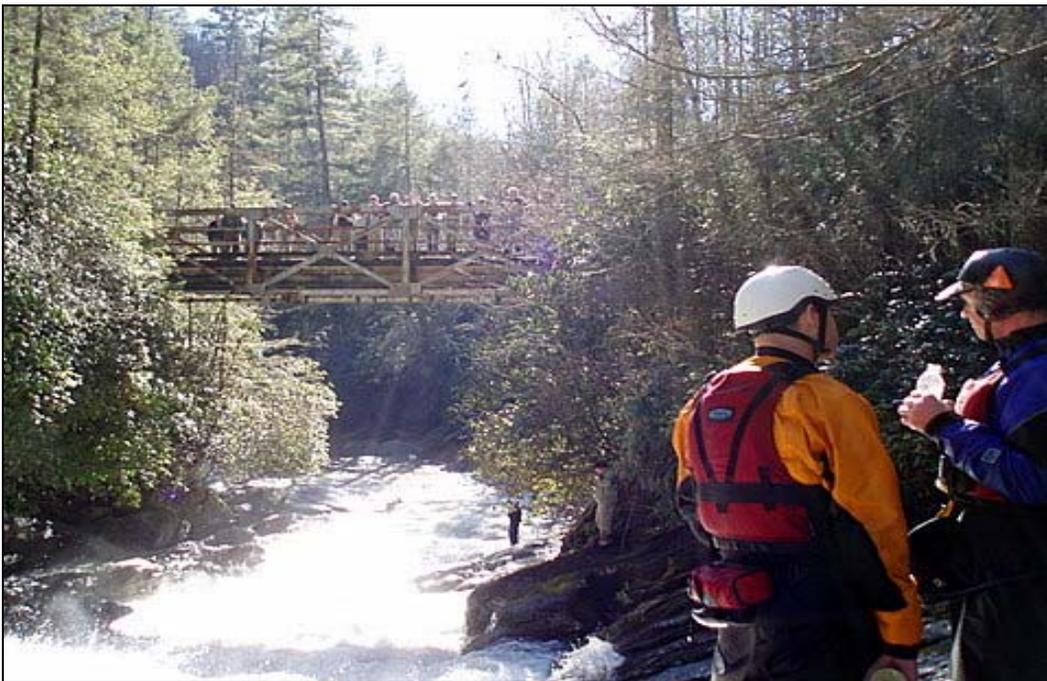


Figure 6. Observers at Bull Pen Bridge.



Figure 7. Boater at Bull Pen Bridge rapids. (Photo provided by Ken Holmes.)

Ellicott Rock Reach



Figure 8. Anglers upstream of Burrells Ford area in Ellicott Rock Reach.
(Photo provided by Doug Whittaker.)

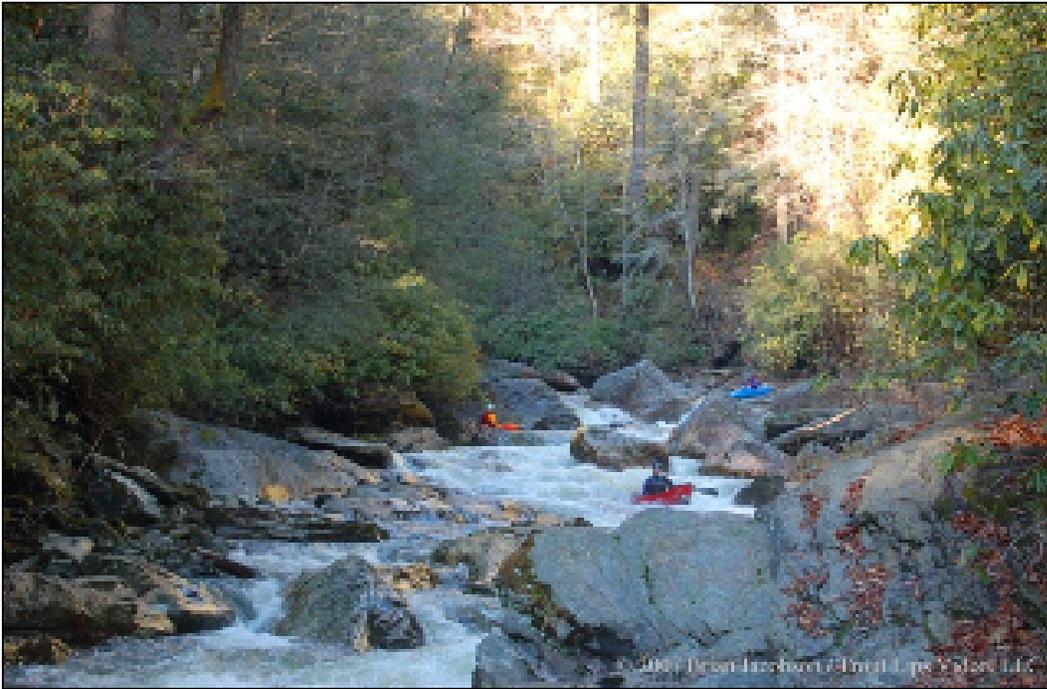


Figure 9. Boaters in Ellicott Rock Reach. (Photo provided by Brian Jacobson.)



Figure 10. Angler and Boaters at Ellicott Rock Reach. (Photo provided by Doug Whittaker.)

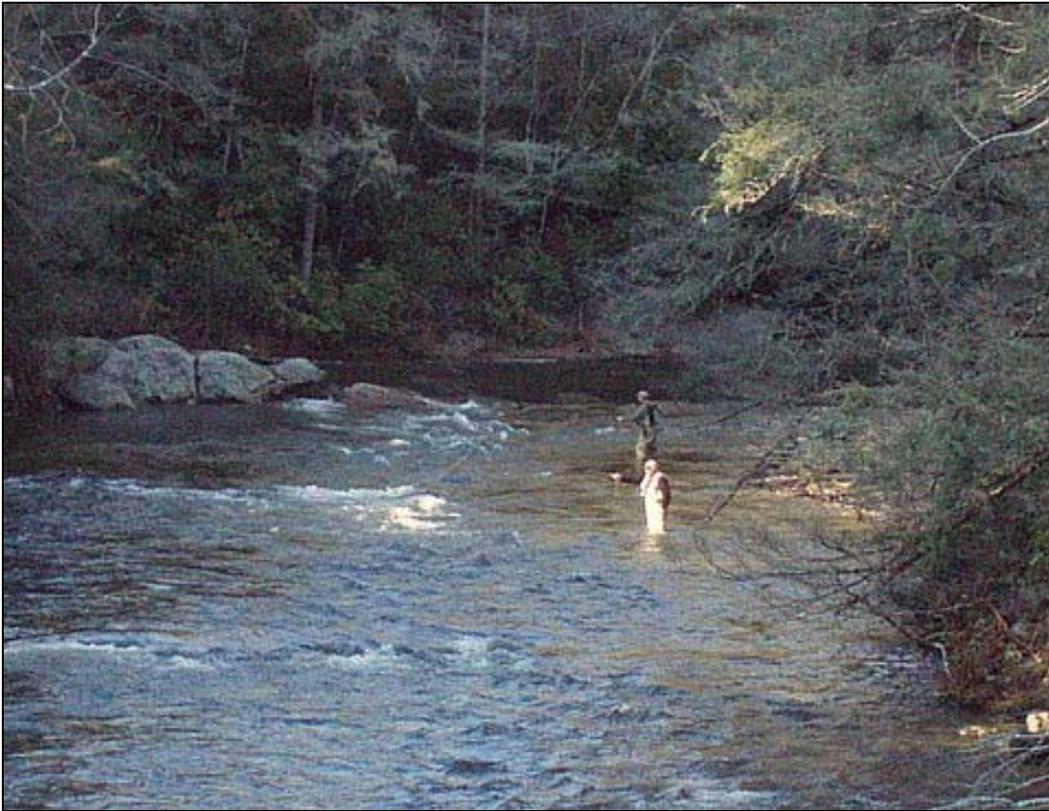


Figure 11. Anglers upstream of Burrells Ford Bridge in Ellicott Rock Reach.



Figure 12. Boaters upstream of Burrells Ford Bridge.